



Geotechnical  
Environmental  
Water Resources  
Ecological

## Remedial Design Document – Appendix D

### OU-1 Union Boulevard System Design

### Bay Shore/Brightwaters Former MGP Site

Operable Unit No. 2

Bay Shore, New York

AOC Index No. D1-0001-98-11

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## Professional Engineer's Certification

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I Brandon M. Nathe certify that I am currently a NYS registered professional engineer and that this Remedial Design Document was prepared in substantial accordance with applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).



April 20, 2011

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# Table of Contents

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<b>Abbreviations and Acronyms</b>	<b>iv</b>
<b>1. Introduction</b>	<b>1</b>
1.1 Design Document Organization	2
1.2 Technology Description	2
<b>2. Pre-Design Investigation</b>	<b>3</b>
2.1 Pre-Design Investigation Purpose	3
2.2 Scope of Work	3
2.3 Field Activities	3
2.3.1 Geophysical Survey	3
2.3.2 On-site Water Supply Well Sampling	3
2.3.3 Groundwater Sampling	4
2.3.4 Soil Sampling	5
2.3.5 Historical Well Decommissioning	5
2.3.6 Quality Assurance/Quality Control (QA/QC)	5
2.3.7 Deviations from the Work Plan	6
2.3.8 Historical Investigation Results	6
2.3.9 Conceptual Site Model	6
<b>3. Remedial Goals and Performance Monitoring</b>	<b>8</b>
3.1 Remedial Goals	8
3.2 System Location	8
<b>4. System Requirements</b>	<b>9</b>
4.1 Injection Well Depths	9
4.2 Design Approach	9
4.3 Groundwater Volumetric Flow Rate	9
4.4 Average Contaminant Mass Loading	10
4.5 Oxygen Demand	12
<b>5. System Design</b>	<b>14</b>
5.1 System Details	14
5.2 System Equipment Capacity	14
5.3 Injection Pressure	15
5.4 Summary	15
<b>6. Performance Monitoring</b>	<b>16</b>
6.1 Groundwater Monitoring	16
<b>References</b>	<b>17</b>

## Tables

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- 1 Groundwater Analytical Results
- 2 Soil Analytical Results
- 3 Historic Groundwater Analytical Results
- 4 Historic Soil Analytical Results

## Figures

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- 1 Site Location Map
- 2 Site Plan
- 3 Oxygen Injection System Cross Section

## Appendices

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- A Design Drawings (electronic only)
- B Boring Logs

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## Abbreviations and Acronyms

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A <sub>T</sub>	Cross-sectional Area
AWQS	Ambient Water Quality Standards
BTEX	Benzene, Toluene, Ethylbenzene, and Xylene
COC	Contaminant of Concern
DNAPL	Dense Non-Aqueous Phase Liquids
ELAP	Environmental Laboratory Approval Program
EPA	United States Environmental Protection Agency
FS	Factor of Safety
GEI	GEI Consultants, Inc.
H2M	H2M Labs, Inc.
LNAPL	Light Non-Aqueous Phase Liquids
MGP	Manufactured Gas Plant
MTBE	Methyl Tert-Butyl Ether
n <sub>e</sub>	Effective porosity
NYCRR	New York Codes, Rules, and Regulations
NYSDEC	New York State Department of Environmental Conservation
O <sub>Demand</sub>	Oxygen Demand
OM&M	Operations, Maintenance, and Monitoring
OU	Operable Unit
PAH	Polycyclic Aromatic Hydrocarbon
PID	Photoionization Detector
QA/QC	Quality Assurance/Quality Control
RDD	Remedial Design Document
SCOs	Soil Cleanup Objective
SOP	Standard Operating Procedure
SVOCs	Semivolatile Organic Compounds
TAL	Total Analyte List
TOC	Total Organic Carbon
USTs	Underground Storage Tanks
v <sub>x</sub>	Groundwater velocity
VOCs	Volatile Organic Compounds
W <sub>o</sub>	Daily Organic Contaminant Load
W <sub>m</sub>	Daily Metal Contribution
W <sub>t</sub>	Daily Total Contaminant Load

## Abbreviations and Acronyms (cont.)

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### MEASUREMENTS

ft bgs	Feet Below Ground Surface
ft/day	Feet per Day
lb/day	Pounds per Day
lb/f <sup>3</sup>	Pounds per cubic feet
mg/kg	Milligrams per kilograms
mg/L	Milligrams per Liter
ppm	Parts per million
psf	Pounds per Square Foot
psi	Pounds per Square Inch
°R	Degrees Rankine
SCFH	Standard Cubic Feet per Hour
ug/L	Micrograms per liter

# 1. Introduction

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GEI Consultants, Inc. (GEI) has prepared this Design Report on behalf of National Grid. This Design Report presents the requirements and configuration of the oxygen injection system that will operate at the 1591/1575 Union Boulevard Properties (Former Expo Tires) in Operable Unit No. 1 (OU-1) of the Bay Shore/Brightwaters Former Manufactured Gas Plant (MGP) site located in Bay Shore, New York. A site location map is provided as **Figure 1**. The treatment line will be an extension of the existing OU-1 Union Boulevard oxygen injection system (hereinafter referred to as the “System”). The extension to the OU-1 Union Boulevard system represents a portion of the complete remedial design detailed in the *Remedial Design Document, Operable Unit No. 2, Bay Shore/Brightwaters Former MGP Site, Bay Shore, Suffolk County, New York* (RDD), prepared by GEI, dated January 2009 (GEI 2009). This Design Report is submitted as Appendix D of the Operable Unit No. 2 (OU-2) RDD. The construction of the system will be implemented as dictated in the Design Drawings, which are included in **Appendix A**.

This report also presents the results of the pre-design investigation that was completed on the property between August and September 2010. The scope of work for this investigation was presented in the work plan titled *Pre-Design Investigation Work Plan for the 1591/1575 Union Boulevard Properties (former Expo Tires Property)* dated July 30, 2010 (GEI 2010a).

The use of oxygen injection technology to treat the OU-2 groundwater plume is a portion of the remedy that was detailed in the Voluntary Cleanup Program Decision Document issued by the New York State Department of Environmental Conservation (NYSDEC) in July of 2008 (NYSDEC 2008). The 1591/1575 Union Boulevard property was identified as a location requiring an oxygen injection treatment line. The system will inject oxygen into the groundwater at the eastern extent of OU-1 to treat dissolved impacts located east of the subsurface barrier wall. The injected oxygen will facilitate and promote the bioremediation of the MGP-related impacts dissolved in groundwater.

The system will also be expanded to treat gasoline impacts found during the pre-design investigation. The impacts are related to the historical use of the property and not from the former MGP operations. The property was formally gas and service station. The extent of the impacts was delineated during additional delineation work on the property. The scope of work was outlined in the *Work Plan for Additional Delineation, 1591 Union Boulevard Property (Former Expo Tires Property), Operable Unit 1*, dated February 4, 2011 (GEI 2011). This work was completed in March 2011. The results of the delineation will be provided under a separate cover.

A site plan showing the proposed system layout is included as **Figure 2**.

## 1.1 Design Document Organization

This Design Document has been organized as follows:

- Section 1, the introduction, provides a summary of the Design Report and a description of the technology.
- Section 2 presents the results of the pre-design investigation.
- Section 3 presents the remedial goals and monitoring criteria of the system.
- Section 4 presents the system requirements.
- Section 5 presents the calculations used in the design of the system.
- Section 6 presents the performance monitoring that will be completed as part of system start-up.
- Section 7 provides the list of references

## 1.2 Technology Description

Enhanced bioremediation using oxygen injection consists of injecting oxygen gas into groundwater to increase the concentration of dissolved oxygen, and enhance aerobic biodegradation of contaminants of concern (COCs) by indigenous aerobic microorganisms.

The technology utilizes equipment to generate 90 to 95-percent pure oxygen gas by removing the nitrogen component from the ambient air. The oxygen is then injected in pulsed intervals into the subsurface through a series of injection wells at low flow rates. The low flow rates and pulsed injection intervals are cycled to provide maximum transfer of vapor-phase oxygen to dissolved-phase oxygen. The process is dissimilar from air sparging in which the objective is to maintain the injected air in the vapor phase using high flow rates, which strip the COCs from the groundwater for collection in the vadose zone. Slowly injecting oxygen at 90 to 95 percent purity can increase dissolved oxygen concentrations to approximately 40 milligrams per liter (mg/L); whereas, air injected under sparge processes yields a maximum dissolved oxygen concentration of approximately 9 mg/L, and also requires subsequent collection and treatment.



## **2. Pre-Design Investigation**

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### **2.1 Pre-Design Investigation Purpose**

The purpose of the pre-design investigation program was to further define the extent of soil and groundwater contamination associated with the former MGP site, and to collect soil and groundwater data needed to perform remedial actions required under the NYSDEC *Voluntary Cleanup Program Decision Document* (NYSDEC 2008).

### **2.2 Scope of Work**

The scope of work included:

- Conducting a survey to locate utilities and investigate subsurface structures.
- Advancing soil and groundwater probes to collect subsurface soil and groundwater samples.
- Collecting groundwater samples from the inactive, on-site water supply well.
- Decommissioning the on-site, water supply well and historical, inactive monitoring wells.

### **2.3 Field Activities**

All work described was performed in accordance the work plan titled *Pre-Design Investigation Work Plan for the 1591/1575 Union Boulevard Properties (former Expo Tires Property)* dated July 30, 2010 (GEI 2010a).

#### **2.3.1 Geophysical Survey**

Prior to all on-site invasive field activities, a geophysical survey using ground penetrating radar was conducted across the entire property, including the interior of the existing building. The survey was conducted to identify utility locations and potential subsurface structures (i.e., cesspools, floor drains, former drainage structures, etc.).

#### **2.3.2 On-site Water Supply Well Sampling**

Water sample ETGP-PVT was collected on September 8, 2010, from the inactive, on-site water supply well located on the 1591 Union Boulevard property and transported to H2M Labs, Inc. (H2M) for analyses by United States Environmental Protection Agency (EPA) Method 8260B for volatile organic compounds (VOCs) and methyl tert-butyl ether (MTBE), EPA Method 8270C for semivolatile organic compounds (SVOCs), and EPA Method 6010/7470A series for total analyte list (TAL) metals. The results of analysis are presented

in **Table 2**. Total VOC and total SVOC concentrations were detected at 4 and 15 micrograms per liter ( $\mu\text{g/L}$ ), respectively.

### **2.3.3 Groundwater Sampling**

A total of 13 temporary groundwater probes (ETGP-06 through ETGP-18) were completed to a minimum depth of 70 feet below ground surface (ft bgs) with the exception of ETGP-16, which was completed to a depth of 20 ft bgs. Groundwater probe locations are depicted in **Figure 2**. Analytical samples were collected between 70 and 10 ft bgs at approximate 10-foot intervals from each location with the exception of ETGP-16. Groundwater samples were collected using low-flow techniques, and analyzed for VOCs and MTBE by EPA Method 8260B, SVOCs by EPA Method 8270C, and TAL metals by EPA Method 6010/7470A series. The data is presented in **Table 1** and are compared against the New York State Ambient Water Quality Standards and Guidance Values (AWQS) for GA groundwater.

Groundwater probes ETGP-08 and ETGP-09 were advanced in the area of the former gasoline underground storage tanks (USTs). Total VOC concentrations detected in ETGP-08 at 7-11 ft bgs and 16-20 ft bgs ranged from 1,099  $\mu\text{g/L}$  to 105  $\mu\text{g/L}$ , respectively. VOCs were detected in the groundwater at ETGP-09 from 7 ft bgs to 70 ft bgs; however, it is likely that some vertical cross contamination occurred during the sampling event. Ideally, groundwater probes should not be advanced through impacted soils, as those impacts are likely to be pulled down when the probe is advanced through a shallow contaminated zone, and driven to depth. Any future groundwater probes will be located outside of areas with shallow groundwater and/or soil impacts. Although no visual impacts were observed in the shallow soils at soil boring ETSB-09, there were elevated concentrations of VOCs present in the groundwater. The total VOC detections in ETGP-09 were 11,800  $\mu\text{g/L}$  (7-11 ft bgs) and 2,141  $\mu\text{g/L}$  (26-30 ft bgs).

The vertical extent of impacted groundwater ranged from the water table to 70 ft bgs at the western portion of the property and from the water table to an approximate maximum depth of 30 ft bgs at the eastern portion of the property, as depicted in the cross section presented in **Figure 3**. These groundwater impacts will be treated by the planned extension of the OU-1 Union Boulevard oxygen injection system.

The impacts at the western portion of the property primarily consisted of benzene, toluene, ethylbenzene, and xylenes (BTEX) and total polycyclic aromatic hydrocarbons (PAHs), which are consistent with existing groundwater impacts within OU-2 related to the former MGP operations. Groundwater impacts on the eastern portion of the property contained primarily VOCs, including n-heptane, n-hexane, isopropyl benzene, n-propylbenzene, 1,3,5-

trimethylbenzene, and 1,2,4- trimethylbenzene, which are typical constituents related to gasoline contamination.

### **2.3.4 Soil Sampling**

A total of 13 soil borings (ETSB-06 through ETSB-18) were completed to a minimum depth of 70 ft bgs with the exception of ETSB-16, which was completed to a depth of 20 ft bgs. The soil boring locations are depicted in **Figure 2**, and logs are provided in **Appendix B**. Three analytical samples were collected from each soil boring location with the exception of ETSB-16. Sampling intervals were selected from the most impacted zones based on the presence of visual impacts, odors, and photoionization detector (PID) soil screening results. The soil samples were analyzed for VOCs by EPA Method 8260B, SVOCs by EPA Method 8270C, and lead by EPA Method 6010B. Additionally, ETSB-10 through ETSB-14 were analyzed by EPA Method 9060 for total organic carbon (TOC). The data are presented in **Table 2** and are compared against the Commercial Use Soil Cleanup Objectives (SCOs) in New York Code of Rules and Regulations, Chapter IV, Part 375-6(6 NYCRR 375-6). Concentrations of VOCs and SVOCs were not detected above the Commercial Use SCOs in any of the samples collected at the property. The highest concentrations of total VOCs were detected at ETSB-08 (134 milligrams per kilogram [mg/kg]) and ETSB-09 (421 mg/kg), both of which are located downgradient from the former gasoline underground storage tank area. The primary VOC constituents are n-heptane, 1, 3, 5-trimethylbenzene, 1,2,4-trimethylbenzene, 2,2,4-trimethylpentane, and ethanol, which are typical of gasoline sources.

### **2.3.5 Historical Well Decommissioning**

Three historical, inactive monitoring wells and an inactive, on-site water supply were decommissioned. The monitoring wells located in the southeast corner of the 1591 Union Boulevard property were related to the historical gas station operation. The wells were installed by a previous consultant and well construction details were unknown. Prior to decommissioning, each of the three historical groundwater monitoring wells were checked for the presence of light non-aqueous phase liquids (LNAPL) and dense non-aqueous phase liquids (DNAPL); none were detected. The wells were then grouted in-place in accordance with the NYSDEC guidance.

### **2.3.6 Quality Assurance/Quality Control (QA/QC)**

QA/QC samples were collected as part of the investigation. One set of QA/QC samples, consisting of a matrix spike, matrix spike duplicate, field duplicate, and field blank were collected and analyzed for every 20 environmental samples collected in the field. Trip blanks were analyzed for each shipment of volatile organics samples.

The analytical samples were submitted to H2M, a New York State Environmental Laboratory

Approval Program (ELAP)-certified laboratory. The analytical results were then validated by qualified data validation professionals in accordance with EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review dated January 2005 and the EPA Region II Standard Operating Procedure (SOP) for the Validation of Organic Data acquired using SW-846 8260B and 8270C, modified to accommodate the SW-846 methodologies.

### **2.3.7 Deviations from the Work Plan**

The three permanent soil vapor points specified within the work plan were not installed. The intent of the soil vapor points was to monitor for the potential of soil vapor intrusion into the on-site building. The building located on the property has been demolished; therefore, the soil vapor points were not required.

### **2.3.8 Historical Investigation Results**

Historic groundwater and soil data from a field investigation conducted in 2004 are presented in **Table 3** and **Table 4**, respectively. Soil borings and groundwater probes ETSB-01/ETGP-01 through ETSB-05/ETGP-05 were completed in the area adjacent to 1591 Union Boulevard in June and July of 2004, and the boring logs are provided in **Appendix B**. The results of this investigation were submitted in a previous report titled *Supplemental Field Program Report, Taylor Rental and Areas Adjacent to Expo Tires Property, Bay Shore/Brightwaters Former Manufactured Gas Plant Site, Bay Shore, New York, AOC Index No. D1-0001-98-11*, dated January 26, 2005 (GEI 2005).

This data was reviewed for the design of the system. BTEX and PAH concentrations in groundwater were generally consistent with what was observed during the 2011 pre-design investigation along the western portion of the site. The majority of the impacts in ETGP-03, ETGP-04, and ETGP-05 were observed between the water table and 40 feet bgs. The pre-design investigation indicated that elevated concentrations of constituents consistent with gasoline impacts were present in ETGP-01 and ETGP-02, located on the eastern portion of the site. The constituents detected were n-heptane, n-hexane, isopropyl benzene, n-propylbenzene, 1,3,5-trimethylbenzene, and 1,2,4-trimethylbenzene. These constituents were not analyzed for during the investigation that took place in 2004 since that investigation was focused on soil and/or groundwater impacts associated with the former MGP operations. Because of the difference in analyte lists, this historic data was not included within the cross section in **Figure 3**, but they are included for reference in **Appendix B**.

### **2.3.9 Conceptual Site Model**

Elevated concentrations of BTEX and PAHs in groundwater exist from approximately 8 to 70 ft bgs on the western-half of the property. The extent of impacted groundwater in this

area is consistent with what has been previously identified in historical investigations and with groundwater impacts within OU-2 related to the former MGP operations. Shallow groundwater impacts related to a historic gasoline spill were also observed at the eastern portion of the site between the water table and 30 ft bgs. These impacts will be further delineated during an additional field investigation. In addition, the impacts detected as a result of likely vertical cross-contamination will also be verified through sampling of the monitoring wells (installed in March 2011) in that same area. The oxygen injection system presented within this design report will treat impacted groundwater related to the former MGP operations as well as the historic gasoline impacts. A cross section presenting the extent of the impacted groundwater is provided as **Figure 3**. The system will be designed so that it can be expanded based on the results of the additional delineation. These results will be incorporated into the final design of the system prior to installation.

## **3. Remedial Goals and Performance Monitoring**

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### **3.1 Remedial Goals**

The objective of the OU-1 Union Boulevard system expansion is to provide treatment to the eastern extent of the OU-2 groundwater plume. The planned oxygen injection line will treat groundwater impacts associated with the former MGP located east of the subsurface barrier wall. The treatment line will also be extended further to the east to treat gasoline impacts from the historical use of the 1591 Union Boulevard property.

National Grid proposes to implement and maintain the system until the following performance-based goals are met.

- The remedy implemented at OU-1 controls the source of the groundwater contamination; and,
- Groundwater concentrations of contaminants of concern meet the Ambient Groundwater Quality Standards and Guidance Values for a Class GA aquifer in OU-2; or,
- Continued operation of the systems produces diminishing returns as indicated by periodic groundwater monitoring upgradient and downgradient of the oxygen injection treatment systems.

### **3.2 System Location**

The system will be installed along the southern portion of the property as depicted in **Figure 2**.

## 4. System Requirements

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### 4.1 Injection Well Depths

Injection wells will be located at three depth intervals to provide complete treatment of the impacted groundwater. Injection wells will be screened at shallow (20-25 ft bgs), intermediate (32-40 ft bgs), and deep (55-61 ft bgs) depth intervals. Each injection well will be installed with a 1 foot well screen and 1 foot sump. The injection well screen locations are presented in **Figure 3**, and specific design details are presented in the Design Drawings provided in **Appendix A**.

### 4.2 Design Approach

The calculations presented below will determine the oxygen requirements based on the average contaminant mass loading in the area of treatment. The final design will include the minimum oxygen requirement and appropriate well spacing to meet the objective of the remedy.

### 4.3 Groundwater Volumetric Flow Rate

In order to determine the total volume of groundwater that will require daily treatment, it is first necessary to estimate the cross sectional area of the flow path. The following assumptions were used to calculate the cross sectional area.

- The total length of the treatment zone is approximately 235 ft.
- The average depth of groundwater, given seasonal variations, is approximately 8 ft bgs.
- The average depth of groundwater impacts observed in the treatment zone is approximately 50 ft bgs.

Using this information, it is possible to calculate the cross-sectional area ( $A_T$ ), to receive treatment.

#### EQUATION 4.1

$$A_T := 235\text{ft} \cdot (50\text{ft} - 8\text{ft})$$

$$A_T = 9.87 \times 10^3 \text{ft}^2$$

In order to calculate the volumetric flow rate, additional information about the subsurface is needed. The required information was taken from the 2009 OU-2 RDD and is summarized below:

- The average horizontal groundwater velocity ( $v_x$ ) for the site is assumed at 2.0 feet per day (ft/day).
- The effective porosity ( $n_e$ ) for the site is assumed to be 0.30.

The information from the 2009 RDD and the cross sectional area determined in equation 4.1 make it possible to calculate the daily volumetric flow of water through the treatment zone.

#### EQUATION 4.2

$$v_x := 2 \frac{\text{ft}}{\text{day}}$$

$$n_e := 0.30$$

(Equation 4.24 in Fetter)

$$Q := v_x \cdot n_e \cdot A_T$$

$$\text{GPD} := Q \cdot 7.481 \frac{\text{gal}}{\text{ft}^3}$$

$$\text{GPD} := 4.43 \cdot 10^4 \frac{\text{gal}}{\text{day}}$$

Equation 4.2 concludes that approximately 44,300 gallons per day of groundwater will pass through the vertical treatment zone.

#### 4.4 Average Contaminant Mass Loading

The contaminant load of organic compounds (total VOCs plus total SVOCs) observed in the groundwater passing through the treatment zone ranges from non-detect to 23.307 mg/L. The maximum value was used to represent the organic contaminant load for the treatment zone.

Using the groundwater volumetric flow rate determined in Equation 4.2 and the average contaminant mass loading, it is possible to calculate the daily organic contaminant load ( $W_o$ ) moving through the system.



**Equation 4.3a**

$$W_{.o} := 23.307 \frac{\text{mg}}{\text{L}} \cdot 1 \cdot \frac{\text{kg}}{1000000 \text{mg}} \cdot 9.82 \frac{\text{m}}{\text{sec}^2} \cdot 1 \cdot \frac{\text{lb}}{4.44 \text{kg}} \cdot \frac{\text{m}}{\text{sec}^2} \cdot 1 \cdot \frac{\text{L}}{.264 \text{gal}} \cdot \text{GPD}$$

$$W_{.o} = 8.65 \frac{\text{lb}}{\text{day}}$$

As a check, 23.307 mg/L will be written in an equivalent form as 23.307 parts per million (ppm), and the value of  $W_o$  can then be solved using an alternate approach.

**Equation 4.3b**

$$W_{.o} := \left( \frac{23.307}{10^6} \right) \cdot \text{GPD} \cdot 8.34 \frac{\text{lb}}{\text{gal}}$$

$$W_{.o} = 8.612 \frac{\text{lb}}{\text{day}}$$

Equation 4.3a and 4.3b conclude that the daily organic contaminant load,  $W_o$ , that passes through the treatment zone is approximately 8.65 pounds per day (lb/day).

Dissolved metal concentrations observed during the pre-design investigation ranged from 47.7 to 170.6 mg/L with an average of 103 mg/L in the treatment zone (ETGP-06, ETGP-07, ETGP-08 and ETGP-09). It is assumed that 50 percent of the dissolved metals will contribute to the oxygen demand. Therefore, 50-percent of the average concentration of dissolved metals will contribute to the daily total contaminant load ( $W_t$ ).

Following a similar approach to Equation 4.3, it is possible to calculate the contribution of dissolved metals on contaminant load, daily metal contribution ( $W_m$ ), likely to react with the provided dissolved phase oxygen.

**Equation 4.4a**

$$W_m := (0.5) \cdot 103 \frac{\text{mg}}{\text{L}} \cdot 1 \cdot \frac{\text{kg}}{1000000 \text{mg}} \cdot 9.82 \frac{\text{m}}{\text{sec}^2} \cdot 1 \cdot \frac{\text{lb}}{4.44 \text{kg}} \cdot \frac{\text{m}}{\text{sec}^2} \cdot 1 \cdot \frac{\text{L}}{.264 \text{gal}} \cdot \text{GPD}$$

$$W_m = 19.114 \frac{\text{lb}}{\text{day}}$$

In order to verify the results of Equation 4.4a, the average dissolved metal concentration will be converted to ppm and the equation will be solved using an alternative method.

#### Equation 4.4b

$$W_m := (0.5) \cdot \left( \frac{103}{10^6} \right) \text{GPD} \cdot 8.34 \frac{\text{lb}}{\text{gal}}$$

$$W_m = 19.027 \frac{\text{lb}}{\text{day}}$$

The results of equation 4.4a and 4.4b show that the contribution of dissolved metal,  $W_m$ , is equal to approximately 19.1 lb/day.

The total contaminant load,  $W_t$ , is the summation of the two contributing loads,  $W_o$  and  $W_m$ .

#### Equation 4.5

$$W_t := W_o + W_m$$

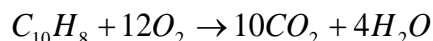
$$W_t = 27.765 \frac{\text{lb}}{\text{day}}$$

Equation 4.5 concludes that the system will need to provide sufficient oxygen to treat a total contaminant load of 27.8 lb/day.

## 4.5 Oxygen Demand

As determined in equation 4.5, the total contaminant load,  $W_t$ , entering the treatment zone is approximately 27.8 lb/day. The ratio of total contaminant load,  $W_t$ , to the amount of oxygen needed to treat it, is estimated from the reaction of oxygen with an organic compound contaminant. For simplicity of calculation, naphthalene was chosen for this purpose based on its comparatively high concentration in the groundwater and its high demand for oxygen when biodegrading under aerobic conditions.

### Aerobic Biodegradation of Naphthalene



As noted in the reaction above, 12 mol of oxygen are required for the oxidation of 1 mol of naphthalene. This information can then be used to create a ratio of molecular weights for the reaction.

### EQUATION 4.6

$$O_2 := 12 \text{mol} \cdot \left( 2 \cdot 16 \frac{\text{lb} \cdot \text{mol}}{\text{mol}} \right)$$

$$O_2 = 384 \text{ lb}$$

$$\text{Nap} := 1 \cdot \text{lb} \cdot \text{mol} \cdot \left[ \left( 10 \cdot 12 \cdot \frac{\text{lb}}{\text{lb} \cdot \text{mol}} \right) + \left( 8 \cdot 1 \cdot \frac{\text{lb}}{\text{lb} \cdot \text{mol}} \right) \right]$$

$$\text{Nap} = 128 \text{ lb}$$

$$\text{Ratio} := \frac{O_2}{\text{Nap}}$$

$$\text{Ratio} = 3$$

Equation 4.6 concludes that 3 pounds of oxygen are required to effectively biodegrade 1 pound of contaminant. However, a small percentage of injected oxygen will likely not enter the dissolved phase or will be consumed by other organic processes. In order to account for this loss of oxygen, a factor of safety (FS) of 2 will be applied in the final step of calculating the oxygen demand ( $O_{\text{Demand}}$ ) for the system.

### Equation 4.7

$$\text{FS} := 2$$

$$O_{\text{Demand}} := W_t \cdot \text{Ratio} \cdot \text{FS}$$

$$O_{\text{Demand}} = 166.589 \cdot \frac{\text{lb}}{\text{day}}$$

Equation 4.7 concludes that the oxygen system must inject approximately 167 lbs per day to biodegrade the daily contaminant load.

## 5. System Design

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### 5.1 System Details

An injection point spacing of 20 ft will be used for wells screened at the same depth. This spacing was selected based on the observed radius of influence of similar systems already in operation on different sections of OU-1 and OU-2 with similar hydrogeology.

### 5.2 System Equipment Capacity

The oxygen generating equipment must be able to provide the required  $O_{\text{Demand}}$  calculated in Section 4. The systems generation capacity is rated in terms of Standard Cubic Feet per Hour (SCFH), which is the number of cubic feet of air, at standard temperature and pressure, injected in an hour. Standard temperature and pressure is generally 2,117 pounds per square foot (psf), and 520 degrees Rankine ( $^{\circ}\text{R}$ ). In order to determine the minimum system rating, it is necessary to convert the daily  $O_{\text{Demand}}$  into a flow rate in SCFH. It will also be necessary to account for the system filtering the ambient air to an approximately 95% pure oxygen gas.

#### Equation 5.1

$$n := O_{\text{Demand}} \cdot 1 \cdot \text{lb} \cdot \frac{\text{mol}}{32 \cdot \text{lb}} \cdot 1 \text{day}$$

$$P := 2117 \frac{\text{lb}}{\text{ft}^2}$$

$$T = 520\text{R}$$

$$R_{\text{air}} := 1545.4 \text{ft} \cdot \frac{\text{lb}}{\text{lb} \cdot \text{mol} \cdot \text{R}}$$

$$V_{\text{O}} := \frac{\left( \frac{n \cdot R_{\text{air}} \cdot T}{P} \right)}{24 \text{hr}} \cdot .95$$

(Equation 1-29 in Fechner-Levy)

$$V_{\text{O}} = 86.673 \cdot \frac{\text{ft}^3}{\text{hr}}$$

Equation 5.1 concludes that the minimum rating for the new system extension located on the former Expo Tires must be at least 87 SCFH. The new system must support this rating in addition to the 90 SCFH requirement of the existing OU-1 Union Boulevard System. The new system must be capable of supplying 177 SCFH.

### 5.3 Injection Pressure

In order to inject oxygen gas into the subsurface, the system will be required to displace the groundwater that will accumulate in the injection wells. To displace the groundwater the injection pressure of the oxygen gas in the wells must be greater than the hydrostatic pressure head of the groundwater.

Given that the unit weight of water is generally taken to be 62.4 pounds per cubic foot (lb/ft<sup>3</sup>), the groundwater table is at 8 ft bgs, and that the deepest injection point possible will be 61 ft bgs, the minimum injection pressure that will be required for the system can be calculated.

#### Equation 5.2

$$P_{.Inj} := (61\text{-ft} - 8\text{-ft}) \cdot 62.4 \frac{\text{lb}}{\text{ft}^3} \cdot \frac{1\text{-ft}^2}{144\text{in}^2}$$

$$P_{.Inj} = 22.967 \frac{\text{lb}}{\text{in}^2}$$

The results of equation 5.2 conclude that the system must be able to generate a minimum pressure of approximately 23 pounds per square inch (psi) at each well in order to inject oxygen into the subsurface.

### 5.4 Summary

The key elements of the design for the OU-1 Union Boulevard oxygen injection system expansion are summarized below:

- The total volume of groundwater that will pass through the oxygen injection system is approximately 44,300 gallons per day.
- The total combined contaminant loading that will require treatment in a day is approximately 27.8 lbs/day.
- In order to treat the daily flux of contaminants at the site, the oxygen injection system must be capable of delivering oxygen gas with an average purity of 95 percent at a rate of 177 SCFH.
- The system must be able to generate pressure greater than 23 psi in the wells in order to inject oxygen into the subsurface.

## 6. Performance Monitoring

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Soil vapor, ambient air, and groundwater were monitored for each of the systems that were installed as part of the RDD. The sampling rationale and frequency were conducted in accordance with the Operations, Maintenance, and Monitoring (OM&M) Plan, which was included as Appendix E of the RDD. This included sampling targeted monitoring wells and soil vapor points near the point of injection during each system's start-up phase, and at regular intervals during system operation. National Grid requested permission from the NYSDEC to reduce the sampling frequency from monthly to quarterly in a letter dated April 7, 2010 (GEI 2010b), and the request was granted by the NYSDEC on April 28, 2010.

A significant amount of soil vapor data was collected during the 2007 *Hydrologic Study* (GEI, 2007) and during the start-up period of the systems associated with the RDD. To date, there has been no evidence to suggest that the oxygen injection systems have any influence on soil vapor concentrations in the vicinity of the oxygen injection systems. Based on these conclusions, soil vapor sampling has not been proposed as part of the performance monitoring of this system. Soil vapor sampling will continue to be sampled at various locations throughout OU-2 on a quarterly basis.

### 6.1 Groundwater Monitoring

Four additional groundwater monitoring well clusters will be installed to monitor system performance. Monitoring well cluster BMW-35 will be used as an upgradient monitoring point of the eastern portion of the system. Monitoring well clusters OU2MW-50, OU2MW-51 and OU2MW-58 will be installed to monitor downgradient groundwater concentrations to determine system effectiveness. The monitoring well locations are shown in **Figure 2**. These well clusters will be sampled prior to start-up of the system and at quarterly intervals during system operation, consistent with the other OU-2 groundwater treatment systems. The analytical results and field measurements will be used in evaluating the performance of the groundwater treatment system. Specifically, the data collected is focused on monitoring the aerobic environments created by the system; the bioactivity of the aquifer; and the ability of the bioactivity to reduce dissolved phase MGP-related constituent concentrations in the area. National Grid will present the results of future sampling events in the quarterly groundwater monitoring reports.

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## Tables

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Table 1  
Groundwater Analytical Results - OU-1 Union Boulevard System Design  
Remedial Design Document - Appendix D  
Bay Shore/Brightwaters Former MGP Site  
Bay Shore, New York

Sample Name: Sample Interval: Sample Date:	NYS AWQS	ETGP-06 (7-11) 9/1/2010	ETGP-06 (12-16) 9/1/2010	ETGP-06 (16-20) 9/1/2010	ETGP-06 (26-30) 9/1/2010	ETGP-06 (26-30) 9/9/2010	ETGP-06 (36-40) 9/1/2010	ETGP-06 (46-50) 9/1/2010	ETGP-06 (66-70) 9/1/2010	Duplicate of: ETGP-06 (66-70) 9/1/2010	ETGP-07 (7-11) 8/9/2010	ETGP-07 (12-16) 8/12/2010	ETGP-07 (16-20) 8/12/2010
<b>BTEX (ug/L)</b>													
Benzene	1	2 J	29	69	86	NA	120	230 D	10 U	10 U	34	45	370 D
Toluene	5	10 U	4 J	20	7 J	NA	20	6 J	10 U	10 U	10 U	1 J	6 J
Ethylbenzene	5	38	220 D	1000 D	230 D	NA	250 D	520 D	10 U	10 U	110	150	1300 D
Xylene, m,p-	5	12	17	230	49	NA	110	200	10 U	10 U	19	21	120
Xylene, o-	5	45	190	330 D	84	NA	93	200 D	10 U	10 U	75	94	540 D
Total BTEX	NE	97	460	1649	456	NA	593	1156	ND	ND	238	311	2336
<b>Other VOCs (ug/L)</b>													
Acetaldehyde	8*	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	50*	10 U	10 U	10 U	10 U	3 J	NA	10 U	2 J	10 U	10 U	1 J	2 J
Allyl chloride	5	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	50*	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	50*	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	5	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butadiene, 1,3-	NE	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butanone, 2-	50*	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon disulfide	60*	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	5	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	5	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	5	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform	7	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloromethane	5	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorotoluene	5	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cryofluorane	NE	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cyclohexane	NE	4 J	4 J	9 J	8 J	NA	4 J	3 J	10 U	10 U	2 J	3 J	19
Dibromochloromethane	50*	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibromoethane, 1,2-	0.0006	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,2-	3	10 U	10 U	10 U	10 U	NA	1 J	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,3-	3	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,4-	3	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorodifluoromethane	5	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethane, 1,1-	5	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethane, 1,2-	0.6	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethene, 1,1-	0.07	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethene, cis-1,2-	5	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropane, 1,2-	1	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropene, cis-1,3	NE	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropene, trans-1,3	NE	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dioxane, 1,4-	NE	500 U	500 U	500 U	500 U	NA	500 U	500 U	500 U	500 U	500 U	500 U	500 U
Ethanol	NE	500 U	500 U	500 U	500 U	NA	500 U	500 U	500 U	500 U	500 U	500 U	500 U
Heptane, n-	NE	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	0.5	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexane, n-	NE	3 J	5 J	3 J	2 J	NA	10 U	2 J	10 U	10 U	10 U	10 U	5 J
Hexanone, 2-	50*	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isopropyl benzene	5	13	49	88	17	NA	6 J	16	10 U	10 U	9 J	14	90
Methyl tert-butyl ether	10*	10 U	10 U	10 U	10 U	NA	10 U	3 J	10 U	10 U	10 U	10 U	10 U
Methyl-2-pentanone, 4-	NE	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride	5	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10*	310 D	1400 D	2100 D	1200 D	NA	1500 D	860 D	10 U	10 U	340 D	390 D	2200 D
Propanol, 2-	NE	500 U	500 U	500 U	500 U	NA	500 U	500 U	500 U	500 U	500 U	500 U	500 U
Propylbenzene, n-	5	5 J	19	33	5 J	NA	4 J	8 J	10 U	10 U	2 J	4 J	27
Styrene	5	10 U	10 U	10 U	4 J	NA	8 J	10	10 U	10 U	10 U	10 U	10 U

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Tetrachloroethane, 1,1,1,2-	5	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethane, 1,1,2,2-	5	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	5	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrahydrofuran	50*	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trans-1,2-dichloroethene	5	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloro-1,2,2-trifluoroethane, 1,1,2-	5	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorobenzene, 1,2,4-	5	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethane, 1,1,1-	5	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethane, 1,1,2-	1	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	5	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane	5	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trimethylbenzene 1,3,5-/P-ethyltoluene	NE	91	140	320	74	NA	50	43	10 U	10 U	58	61	230
Trimethylbenzene, 1,2,4-	5	140	300 D	380 D	85	NA	87	46	10 U	10 U	74	100	420 D
Trimethylpentane, 2,2,4-	NE	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl acetate	NE	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	2	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total VOCs	NE	663	2377	4582	1854	NA	2253	2149	ND	ND	724	885	5334
<b>Non-carcinogenic PAHs (ug/L)</b>													
Acenaphthene	20*	11	66	120 DJ	NA	38	24	17	10 U	10 U	10	12	110 DJ
Acenaphthylene	NE	2 J	3 J	11	NA	22	320 DJ	58	10 U	10 U	2 J	2 J	16
Anthracene	50*	10 U	4 J	11	NA	15	13	4 J	10 U	10 U	1 J	10 U	5 J
Benzo[g,h,i]perylene	NE	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	50*	10 U	10 U	3 J	NA	2 J	3 J	10 U	10 U	10 U	10 U	10 U	10 U
Fluorene	50*	5 J	32	65	NA	39	68	16	10 U	10 U	5 J	5 J	37
Methylnaphthalene, 2-	NE	4 J	47	13	NA	10 U	15	2 J	10 U	10 U	22	33	340 DJ
Naphthalene	10*	180 D	920 D	1600 D	NA	10 U	1200 D	680 D	10 U	10 U	190 D	290 D	1700 D
Phenanthrene	50*	1 J	18	95 DJ	NA	49	86 DJ	25	10 U	10 U	7 J	4 J	31
Pyrene	50*	10 U	1 J	4 J	NA	5 J	3 J	10 U	10 U	10 U	10 U	10 U	10 U
<b>Carcinogenic PAHs (ug/L)</b>													
Benzo[a]anthracene	0.002*	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[a]pyrene	ND	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[b]fluoranthene	0.002*	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[k]fluoranthene	0.002*	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	0.002*	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenz[a,h]anthracene	NE	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno[1,2,3-cd]pyrene	0.002*	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
<b>Total PAHs (ug/L)</b>													
Total PAHs	NE	203	1091	1922	NA	170	1732	802	ND	ND	237	346	2239
<b>Other SVOCs (ug/L)</b>													
Bis(2-chloroethoxy)methane	5	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethyl)ether	1	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	5	2 BJ	2 BJ	2 BJ	NA	10 U	3 BJ	1 BJ	10 U	1 BJ	10 U	10 U	2 J
Bis(chloroisopropyl)ether	5	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromophenyl phenyl ether, 4-	NE	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butyl benzyl phthalate	50*	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbazole	NE	10 U	3 J	3 J	NA	2 J	3 J	1 J	10 U	10 U	10 U	10 U	7 J
Chloro-3-methylphenol, 4-	NE	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroaniline, 4-	5	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloronaphthalene, 2-	10*	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorophenol, 2-	NE	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorophenyl phenyl ether, 4-	NE	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	NE	10 U	4 J	7 J	NA	7 J	12	3 J	10 U	10 U	1 J	1 J	5 J
Dichlorobenzene, 1,2-	3	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

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Dichlorobenzene, 1,3-	3	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,4-	3	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzidine, 3,3-	5	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorophenol, 2,4-	5	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Diethyl phthalate	50*	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethyl phthalate	50*	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethylphenol, 2,4-	50*	10 U	10 U	10 U	NA	2 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-butyl phthalate	50	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dinitro-2-methylphenol, 4,6-	NE	25 U	25 U	25 U	NA	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Dinitrophenol, 2,4-	10*	25 U	25 U	25 U	NA	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Dinitrotoluene, 2,4-	5	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dinitrotoluene, 2,6-	5	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-octyl phthalate	50*	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	0.04	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	0.5	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	5	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	5	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	50*	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylphenol, 2-	1	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylphenol, 4-	1	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitroaniline, 2-	5	25 U	25 U	25 U	NA	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitroaniline, 3-	5	25 U	25 U	25 U	NA	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitroaniline, 4-	5	25 U	25 U	25 U	NA	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitrobenzene	0.4	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrophenol, 2-	NE	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrophenol, 4-	NE	25 U	25 U	25 U	NA	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitrosodi-n-propylamine, N-	NE	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrosodiphenylamine, N-	50*	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	1	25 U	25 U	25 U	NA	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Phenol	1	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorobenzene, 1,2,4-	5	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorophenol, 2,4,5-	NE	25 U	25 U	25 U	NA	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Trichlorophenol, 2,4,6-	NE	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total SVOCs	NE	205	1100	1934	NA	181	1750	807	ND	1	238	347	2253
<b>Total Metals (ug/L)</b>													
Aluminum	NE	995	198 B	124 B	738	NA	1830	4210	2000	1720	136 B	200 B	597
Antimony	3	2.9 U	2.9 U	2.9 U	2.9 U	NA	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U
Arsenic	25	2.7 U	7.2 B	6.7 B	2.7 U	NA	3.1 B	5.4 B	9.5 B	7.9 B	2.5 U	2.5 U	2.5 U
Barium	1000	39.0 B	21.3 B	9.7 B	28.8 B	NA	30.8 B	48.2 B	28.8 B	26.2 B	38.5 B	44.4 B	45.5 B
Beryllium	3*	0.16 U	0.16 U	0.16 U	0.16 U	NA	0.16 U	0.30 B	0.30 B	0.30 B	0.17 U	0.17 U	0.17 U
Cadmium	5	0.25 U	0.25 U	0.25 U	0.25 U	NA	0.25 U	0.25 U	0.25 U	0.25 U	0.33 U	0.33 U	0.33 U
Calcium	NE	46800	28300	36000	55100	NA	56900	32600	8800	8730	31600	30500	62500
Chromium	50	9.4 B	3.2 B	2.2 B	14.2	NA	27.2	55.6	16.2	14.3	2.3 U	2.9 B	12.4
Cobalt	NE	1.3 U	1.3 U	1.3 U	1.7 B	NA	2.3 B	4.6 B	6.1 B	5.9 B	7.3 B	13.4 B	1.8 B
Copper	200	3.1 U	3.1 U	3.1 U	3.1 U	NA	4.6 B	16.5 B	7.0 B	3.1 U	1.4 B	1.4 B	5.3 B
Iron	300	13900	9920	2230	4450	NA	8180	17100	24600	24100	13900	15900	6830
Lead	25	13.6	2.3 B	4.0	3.7	NA	9.9	14.7	9.3	9.0	2 B	3.2	2.4 B
Magnesium	35000*	4650 B	5090	9320	15000	NA	15000	9840	3160 B	3170 B	4200 B	4260 B	15000
Manganese	300	325	153	39.0	242	NA	270	524	336	335	1600	2280	799
Mercury	0.7	0.10 UN	0.10 UN	0.10 UN	0.10 UN	NA	0.10 UN	0.10 UN	0.10 UN	0.10 UN	0.14 B	0.14 B	0.13 B
Nickel	100	2.0 B	1.3 U	1.3 U	4.4 B	NA	8.0 B	15.2 B	8.7 B	8.4 B	6 B	11.6 B	5.2 B
Potassium	NE	4330 B	2890 B	2770 B	3710 B	NA	4620 B	3880 B	1620 B	1540 B	3540 B	3300 B	5010
Selenium	10	3.2 U	3.2 U	3.5 B	3.2 U	NA	3.2 U	3.2 U	3.2 U	3.2 U	2.8 U	2.8 U	2.8 U
Silver	50	0.43 UN	0.43 UN	0.43 UN	0.43 UN	NA	0.43 UN	0.43 UN	0.43 UN	0.43 UN	0.32 UN	0.32 UN	0.32 UN
Sodium	20000	12300	16400	20100	46900	NA	51400	51200	25000	24700	8840	7890	30100
Thallium	0.5*	3.6 U	3.6 U	3.6 U	3.6 U	NA	3.6 U	3.6 U	3.6 U	3.6 U	3 U	3 U	3 U

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 Groundwater Analytical Results - OU-1 Union Boulevard System Design  
 Remedial Design Document - Appendix D  
 Bay Shore/Brightwaters Former MGP Site  
 Bay Shore, New York

Sample Name: Sample Interval: Sample Date:	ETGP-07 (26-30) 8/12/2010	ETGP-07 (36-40) 8/12/2010	ETGP-07 (46-50) 8/12/2010	ETGP-07 (66-70) 8/12/2010	Duplicate of: ETGP-07 (66-70) 8/12/2010	ETGP-08 (7-11) 9/8/2010	ETGP-08 (12-16) 9/8/2010	ETGP-08 (16-20) 9/8/2010	ETGP-08 (26-30) 9/8/2010	ETGP-08 (36-40) 9/8/2010	ETGP-08 (46-50) 9/8/2010	ETGP-08 (66-70) 9/8/2010
<b>BTEX (ug/L)</b>												
Benzene	5200 D	220 D	51	6 J	7 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Toluene	530 D	33	3 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	3900 D	210 D	22	4 J	4 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Xylene, m,p-	1400 D	120	6 J	1 J	2 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Xylene, o-	710 D	180	3 J	10 U	1 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total BTEX	11740	763	85	11	14	ND	ND	ND	ND	ND	ND	ND
<b>Other VOCs (ug/L)</b>												
Acetaldehyde	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	2 J	4 J	1 J	2 J	2 BJ	10 U	9 J	6 J	10 U	3 J	3 J	10 U
Allyl chloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butadiene, 1,3-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butanone, 2-	1 J	10 U	10 U	10 U	10 U	10 U	4 J	3 J	10 U	10 U	10 U	10 U
Carbon disulfide	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cryofluorane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cyclohexane	19	8 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibromoethane, 1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,2-	1 J	1 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,3-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorodifluoromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethane, 1,1-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethane, 1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethene, 1,1-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethene, cis-1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropane, 1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropene, cis-1,3	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropene, trans-1,3	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dioxane, 1,4-	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U
Ethanol	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U
Heptane, n-	10 U	10 U	10 U	10 U	10 U	320 D	98	57	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexane, n-	8 J	1 J	10 U	10 U	10 U	330 D	71	30	10 U	10 U	10 U	10 U
Hexanone, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isopropyl benzene	66	10	10 U	10 U	10 U	12	1 J	10 U	10 U	10 U	10 U	10 U
Methyl tert-butyl ether	10 U	10 U	7 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl-2-pentanone, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	5200 D	770 D	28	7 J	8 J	5 J	10 U	10 U	10 U	10 U	10 U	10 U
Propanol, 2-	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U
Propylbenzene, n-	18	2 J	10 U	10 U	10 U	62	7 J	2 J	10 U	10 U	10 U	10 U
Styrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

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 Remedial Design Document - Appendix D  
 Bay Shore/Brightwaters Former MGP Site  
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Sample Name: Sample Interval: Sample Date:	ETGP-07 (26-30) 8/12/2010	ETGP-07 (36-40) 8/12/2010	ETGP-07 (46-50) 8/12/2010	ETGP-07 (66-70) 8/12/2010	Duplicate of: ETGP-07 (66-70) 8/12/2010	ETGP-08 (7-11) 9/8/2010	ETGP-08 (12-16) 9/8/2010	ETGP-08 (16-20) 9/8/2010	ETGP-08 (26-30) 9/8/2010	ETGP-08 (36-40) 9/8/2010	ETGP-08 (46-50) 9/8/2010	ETGP-08 (66-70) 9/8/2010
Tetrachloroethane, 1,1,1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethane, 1,1,2,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrahydrofuran	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trans-1,2-dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloro-1,2,2-trifluoroethane, 1,1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorobenzene, 1,2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethane, 1,1,1-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethane, 1,1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trimethylbenzene 1,3,5-/P-ethyltoluene	320	49	10 U	10 U	10 U	180	20	4 J	10 U	10 U	10 U	10 U
Trimethylbenzene, 1,2,4-	160 DJ	54	10 U	10 U	10 U	190 D	18	3 J	10 U	10 U	10 U	10 U
Trimethylpentane, 2,2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl acetate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total VOCs	17535	1662	121	20	24	1099	228	105	ND	3	3	ND
<b>Non-carcinogenic PAHs (ug/L)</b>												
Acenaphthene	170 DJ	94 DJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	8 J	60	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Anthracene	9 J	8 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[g,h,i]perylene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	2 J	3 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluorene	51	44	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylnaphthalene, 2-	540 DJ	7 J	10 U	10 U	10 U	10 U	10 U	2 J	10 U	10 U	10 U	10 U
Naphthalene	4900 D	310 D	10 U	6 J	6 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Phenanthrene	68	49	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pyrene	2 J	3 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
<b>Carcinogenic PAHs (ug/L)</b>												
Benz[a]anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[a]pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[b]fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[k]fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenz[a,h]anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno[1,2,3-cd]pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total PAHs (ug/L)	5750	578	ND	6	6	ND	ND	2	ND	ND	ND	ND
<b>Other SVOCs (ug/L)</b>												
Bis(2-chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethyl)ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	3 J	6 J	4 J	4 J	7 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(chloroisopropyl)ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromophenyl phenyl ether, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butyl benzyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbazole	7 J	1 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloro-3-methylphenol, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroaniline, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloronaphthalene, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorophenol, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorophenyl phenyl ether, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	9 J	9 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

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Sample Name: Sample Interval: Sample Date:	ETGP-07 (26-30) 8/12/2010	ETGP-07 (36-40) 8/12/2010	ETGP-07 (46-50) 8/12/2010	ETGP-07 (66-70) 8/12/2010	Duplicate of: ETGP-07 (66-70) 8/12/2010	ETGP-08 (7-11) 9/8/2010	ETGP-08 (12-16) 9/8/2010	ETGP-08 (16-20) 9/8/2010	ETGP-08 (26-30) 9/8/2010	ETGP-08 (36-40) 9/8/2010	ETGP-08 (46-50) 9/8/2010	ETGP-08 (66-70) 9/8/2010
Dichlorobenzene, 1,3-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzidine, 3,3'-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorophenol, 2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Diethyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethylphenol, 2,4-	10 U	5 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-butyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dinitro-2-methylphenol, 4,6-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Dinitrophenol, 2,4-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Dinitrotoluene, 2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dinitrotoluene, 2,6-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-octyl phthalate	10 U	10 U	1 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylphenol, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylphenol, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitroaniline, 2-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitroaniline, 3-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitroaniline, 4-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrophenol, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrophenol, 4-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitrosodi-n-propylamine, N-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrosodiphenylamine, N-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Phenol	3 J	3 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorobenzene, 1,2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorophenol, 2,4,5-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Trichlorophenol, 2,4,6-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total SVOCs	5772	602	5	10	13	ND	ND	2	ND	ND	ND	ND
<b>Total Metals (ug/L)</b>												
Aluminum	303	2380	5870	17100	18100	886 N	518 N	4390 N	6080 N	11100 N	12700 N	10500 N
Antimony	2.9 U	2.9 U	2.9 U	3.9 B	5 B	2.9 U	2.9 U	3.0 B	2.9 U	3.1 B	2.9 U	2.9 U
Arsenic	2.5 U	2.5 U	4 B	34	33.8	2.7 U	2.7 U	2.7 U	4.5 B	7.7 B	9.3 B	7.7 B
Barium	40.6 B	51.9 B	54.2 B	117 B	117 B	26.7 B	16.7 B	56.2 B	87.5 B	101 B	98.2 B	67.7 B
Beryllium	0.17 U	0.17 U	0.44 B	1.6 B	1.5 B	0.16 U	0.16 U	0.20 B	0.30 B	0.60 B	0.80 B	0.80 B
Cadmium	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Calcium	67500	61300	28100	14200	14200	58900	24800	44500	24500	23500	11600	8680
Chromium	12.1	51.6	94	252	232	8.5 B	7.3 B	66.9	97.7	173	193	98.4
Cobalt	1.4 U	3.5 B	6.2 B	24.2 B	24.3 B	1.3 U	3.9 B	8.7 B	8.6 B	14.9 B	20.4 B	10.0 B
Copper	4.2 B	16.4 B	30.3	85.3	81.7	3.1 U	3.1 U	19.9 B	32.6	58.7	66.2	51.9
Iron	6090	13700	27100	96300	94800	3180	3820	22400	26500	46500	51800	44300
Lead	1.3 U	7.6	16.8	51.5	48.4	9.3	7.6	14.4	21.5	33.3	35.5	32.0
Magnesium	16000	14300	7340	6850	7010	4620 B	3000 B	6000	3900 B	5280	5280	3700 B
Manganese	219	515	866	979	959	77.9	160	456	1670	4700	2220	448
Mercury	0.16 B	0.14 B	0.14 B	0.14 B	0.16 B	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Nickel	4.7 B	18 B	31.8 B	77.6	74.9	1.3 U	5.2 B	21.5 B	30.3 B	51.6	58.7	31.4 B
Potassium	5740	5540	4880 B	4340 B	4590 B	4210 B	2130 B	4730 B	7050	5730	5720	3180 B
Selenium	2.8 U	2.8 U	2.8 U	4.5 B	2.8 U	3.2 U	3.2 U	3.2 U	3.2 U	6.7	3.2 U	3.2 U
Silver	0.32 UN	0.32 UN	0.32 UN	0.32 UN	0.32 UN	0.43 UN	0.43 UN	0.43 UN	0.43 UN	0.43 UN	0.43 UN	0.43 UN
Sodium	50400	52300	34300	30200	30200	19200	13200	38400	61200	47000	30400	8310
Thallium	3 U	3 U	3 U	3 U	3 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U

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 Groundwater Analytical Results - OU-1 Union Boulevard System Design  
 Remedial Design Document - Appendix D  
 Bay Shore/Brightwaters Former MGP Site  
 Bay Shore, New York

Sample Name: Sample Interval: Sample Date:	Duplicate of: ETGP-08 (66-70) 9/8/2010	ETGP-09 (7-11) 9/9/2010	ETGP-09 (12-16) 9/9/2010	ETGP-09 (16-20) 9/9/2010	ETGP-09 (26-30) 9/9/2010	ETGP-09 (36-40) 9/9/2010	ETGP-09 (46-50) 9/9/2010	ETGP-09 (66-70) 9/9/2010	ETGP-10 (7-11) 9/7/2010	ETGP-10 (16-20) 9/7/2010	ETGP-10 (26-30) 9/7/2010	ETGP-10 (36-40) 9/7/2010	
<b>BTEX (ug/L)</b>													
Benzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	63	99	74	370 D
Toluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	9 J	4 J	11	20
Ethylbenzene	10 U	6 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	410 D	260 D	310 D	420 D
Xylene, m,p-	10 U	59	3 J	10 U	10 U	10 U	10 U	10 U	10 U	79	38	72	89
Xylene, o-	10 U	5 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	140	71	95	140
Total BTEX	ND	70	3	ND	ND	ND	ND	ND	ND	701	472	562	1039
<b>Other VOCs (ug/L)</b>													
Acetaldehyde	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	10 U	10 U	10	10	6 J	6 J	5 J	7 J	10 U	10 U	10 U	2 J	4 J
Allyl chloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butadiene, 1,3-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butanone, 2-	10 U	10 U	12	8 J	4 J	5 J	4 J	3 J	10 U	10 U	10 U	10 U	10 U
Carbon disulfide	10 U	10 U	10 U	1 J	2 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cryofluorane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cyclohexane	10 U	520 D	10 U	10 U	10 U	10 U	10 U	10 U	8 J	7 J	8 J	2 J	
Dibromochloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibromoethane, 1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,3-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorodifluoromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethane, 1,1-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethane, 1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethene, 1,1-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethene, cis-1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropane, 1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropene, cis-1,3	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropene, trans-1,3	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dioxane, 1,4-	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U
Ethanol	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U
Heptane, n-	10 U	1700 D	1600 D	1500 D	1400 D	1000 D	870 D	110	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexane, n-	10 U	4000 D	2500 D	1200 D	590 D	490 D	710 D	72	2 J	3 J	4 J	2 J	
Hexanone, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isopropyl benzene	10 U	150	23	8 J	2 J	2 J	4 J	2 J	67	18	19	8 J	
Methyl tert-butyl ether	10 U	10 U	10 U	10 U	10 U	3 J	2 J	10 U	10 U	10 U	10 U	10 U	10 U
Methyl-2-pentanone, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10 U	150	10	3 J	10 U	10 U	2 J	2 J	1400 D	800 D	1700 D	860 D	
Propanol, 2-	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U
Propylbenzene, n-	10 U	410 D	150	60	17	18	29	13	32	6 J	7 J	3 J	
Styrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2 J	6 J	9 J	

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Tetrachloroethane, 1,1,1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethane, 1,1,2,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrahydrofuran	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trans-1,2-dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloro-1,2,2-trifluoroethane, 1,1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorobenzene, 1,2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethane, 1,1,1-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethane, 1,1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trimethylbenzene 1,3,5-/P-ethyltoluene	10 U	1900 D	340 D	160	51	48	87	18	280	69	98	45
Trimethylbenzene, 1,2,4-	10 U	2900 D	540 D	160 DJ	69	65	130	23	440 D	74	110	47
Trimethylpentane, 2,2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl acetate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total VOCs	ND	11800	5188	3110	2141	1637	1843	250	2930	1451	2516	2019
<b>Non-carcinogenic PAHs (ug/L)</b>												
Acenaphthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	13	30	15
Acenaphthylene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	180 D	13
Anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	3 J	11	6 J
Benzo[g,h,i]perylene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 J	3 J	3 J	10 U
Fluorene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	6 J	66	35
Methylnaphthalene, 2-	10 U	25	10 U	7 J	10 U	10 U	2 J	10 U	10 U	10 U	39	10 U
Naphthalene	10 U	11	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Phenanthrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	79	21
Pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	6 J	5 J	4 J	10 U
<b>Carcinogenic PAHs (ug/L)</b>												
Benzo[a]anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[a]pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[b]fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[k]fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenz[a,h]anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno[1,2,3-cd]pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
<b>Total PAHs (ug/L)</b>												
Total PAHs	ND	36	ND	7	ND	ND	2	ND	7	30	412	90
<b>Other SVOCs (ug/L)</b>												
Bis(2-chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethyl)ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(chloroisopropyl)ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromophenyl phenyl ether, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butyl benzyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	3 J	1 J
Chloro-3-methylphenol, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroaniline, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloronaphthalene, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorophenol, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorophenyl phenyl ether, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	11	4 J
Dichlorobenzene, 1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U



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Dichlorobenzene, 1,3-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzidine, 3,3'-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorophenol, 2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Diethyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethylphenol, 2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-butyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dinitro-2-methylphenol, 4,6-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Dinitrophenol, 2,4-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Dinitrotoluene, 2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dinitrotoluene, 2,6-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-octyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylphenol, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylphenol, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitroaniline, 2-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitroaniline, 3-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitroaniline, 4-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrophenol, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrophenol, 4-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitrosodi-n-propylamine, N-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrosodiphenylamine, N-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Phenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2 J	10 U	7 J
Trichlorobenzene, 1,2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorophenol, 2,4,5-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Trichlorophenol, 2,4,6-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total SVOCs	ND	36	ND	7	ND	ND	2	ND	7	32	426	102
<b>Total Metals (ug/L)</b>												
Aluminum	13900 N	1460	551	5140 N	10900 N	6520 N	1130 N	5240	496 N	1570	2020	1980
Antimony	3.5 B	2.9 U	2.9 U	2.9 U	3.5 B	2.9 B	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U
Arsenic	17.1	2.7 U	2.7 U	2.7 U	4.2 B	3.7 B	2.7 U	2.7 U	5.4 B	4.9 B	2.7 U	2.7 U
Barium	88.1 B	9.8 B	25.3 B	58.9 B	90.5 B	68.0 B	32.8 B	46.4 B	11.8 B	30.8 B	34.6 B	51.1 B
Beryllium	1.0 B	0.16 U	0.16 U	0.30 B	0.60 B	0.40 B	0.16 U	0.40 B	0.16 U	0.16 U	0.16 U	0.20 B
Cadmium	0.24 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Calcium	9480	29200	27400	20200	12900	13900	16200	6870	42800	62000	57800	52600
Chromium	133	4.5 B*	6.5 B*	111	251	126	16.8	51.7 *	11.6	25.3	29.9	24.6
Cobalt	13.3 B	1.3 U	1.3 U	7.1 B	13.4 B	17.7 B	13.8 B	5.4 B	1.3 U	2.2 B	2.5 B	3.3 B
Copper	66.2	3.1 U	3.1 U	26.4	60.5	32.0	3.2 B	25.6	3.1 U	8.7 B	10.3 B	10.2 B
Iron	54700	1480	4060	25500	52100	31500	10900	25200	4290	8330	9880	9360
Lead	35.9	19.9	10	19.5	29.5	24.9	11.1	19.0	4.3	6.6	4.6	5.8
Magnesium	4350 B	3040 B	3340 B	3190 B	3940 B	5250	6450	2840 B	11300	16400	16100	11000
Manganese	557	51.7	156	1190	4090	4940	3950	377	61.9	225	263	1820
Mercury	0.10 U	0.10 UN	0.10 UN	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 UN	0.10 UN	0.10 UN
Nickel	42.1	2.0 B	2.5 B	21.7 B	45.6	36.1 B	17.7 B	21.5 B	4.1 B	9.4 B	12.6 B	10.2 B
Potassium	3780 B	10500	8310	7210	5370	6090	2920 B	3330 B	2680 B	3920 B	4170 B	5850
Selenium	4.2 U	3.2 U	3.2 U	4.3 B	3.2 U	3.2 U	4.2 B	3.2 U	3.2 U	3.2 U	3.8 B	3.2 U
Silver	0.50 UN	0.43 UN	0.43 UN	0.43 UN	0.43 UN	0.43 UN	0.43 UN	0.43 UN	0.43 UN	0.43 UN	0.43 UN	0.43 UN
Sodium	8780	35300	60000	51300	34200	28500	21500	7590	22400	57400	49300	53900
Thallium	5.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U

Table 1  
Groundwater Analytical Results - OU-1 Union Boulevard System Design  
Remedial Design Document - Appendix D  
Bay Shore/Brightwaters Former MGP Site  
Bay Shore, New York

Sample Name: Sample Interval: Sample Date:	ETGP-10 (46-50) 9/7/2010	ETGP-10 (66-70) 9/7/2010	ETGP-11 (7-11) 8/31/2010	ETGP-11 (16-20) 8/31/2010	ETGP-11 (26-30) 8/31/2010	ETGP-11 (36-40) 8/31/2010	ETGP-11 (46-50) 8/31/2010	ETGP-11 (66-70) 8/31/2010	ETGP-12 (7-11) 8/9/2010	ETGP-12 (16-20) 8/9/2010	ETGP-12 (26-30) 8/9/2010	ETGP-12 (36-40) 8/9/2010
<b>BTEX (ug/L)</b>												
Benzene	10 U	10 U	4 J	660	160	170	180	10 U	4 J	5 J	420 D	1 J
Toluene	10 U	10 U	10 U	100	26	39	4 J	10 U	10 U	10 U	4 J	10 U
Ethylbenzene	10 U	10 U	28	4200	1100	260	10 U	2 J	10	5 J	45	10 U
Xylene, m,p-	10 U	10 U	8	1200	220	83	98	10 U	6 J	1 J	12	10 U
Xylene, o-	10 U	10 U	10	1000	270	100	160	10 U	16	6 J	16	10 U
Total BTEX	ND	ND	50	7160	1776	652	442	2	36	17	497	1
<b>Other VOCs (ug/L)</b>												
Acetaldehyde	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	2 J	6 J	10 U	10 U	2 J	10 U	3 J	10 U	2 J	2 J	1 J	1 J
Allyl chloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U	10 U
Butadiene, 1,3-	10 U	10 U	R	R	R	10 UJ	R	10 U	10 U	10 U	10 U	10 U
Butanone, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon disulfide	10 U	10 U	10 UJ	10 UJ	10 UJ	1 J	10 UJ	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloromethane	10 U	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U	10 U
Chlorotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cryofluorane	10 U	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U	10 U
Cyclohexane	10 U	10 U	10 U	6	13	4 J	8	10 U	1 J	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibromoethane, 1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,2-	10 U	10 U	10 U	10 U	1 J	2 J	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,3-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorodifluoromethane	10 U	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U	10 U
Dichloroethane, 1,1-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethane, 1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethene, 1,1-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethene, cis-1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropane, 1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropene, cis-1,3	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropene, trans-1,3	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dioxane, 1,4-	500 U	500 U	R	R	R	R	R	500 U	500 U	500 U	500 U	500 U
Ethanol	500 U	500 U	R	R	R	R	R	500 U	500 U	500 U	500 U	500 U
Heptane, n-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U	10 U
Hexane, n-	10 U	10 U	10 U	4 J	8	1 J	2 J	10 U	10 U	10 U	10 U	10 U
Hexanone, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isopropyl benzene	10 U	10 U	2 J	160 J	65 J	12 J	16 J	10 U	6 J	3 J	10 U	10 U
Methyl tert-butyl ether	6 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl-2-pentanone, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10 U	1 J	90	4700	2500 D	690	670	4 J	140	19	91	10 U
Propanol, 2-	500 U	500 U	R	R	R	R	R	500 U	500 U	500 U	500 U	500 U
Propylbenzene, n-	10 U	10 U	10 UJ	48 J	21 J	3 J	10 UJ	10 U	2 J	10 U	10 U	10 U
Styrene	10 U	10 U	10 U	10 U	12	7	11	10 U	10 U	10 U	10 U	10 U

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Groundwater Analytical Results - OU-1 Union Boulevard System Design  
Remedial Design Document - Appendix D  
Bay Shore/Brightwaters Former MGP Site  
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Sample Name: Sample Interval: Sample Date:	ETGP-10 (46-50) 9/7/2010	ETGP-10 (66-70) 9/7/2010	ETGP-11 (7-11) 8/31/2010	ETGP-11 (16-20) 8/31/2010	ETGP-11 (26-30) 8/31/2010	ETGP-11 (36-40) 8/31/2010	ETGP-11 (46-50) 8/31/2010	ETGP-11 (66-70) 8/31/2010	ETGP-12 (7-11) 8/9/2010	ETGP-12 (16-20) 8/9/2010	ETGP-12 (26-30) 8/9/2010	ETGP-12 (36-40) 8/9/2010
Tetrachloroethane, 1,1,1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethane, 1,1,2,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrahydrofuran	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trans-1,2-dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloro-1,2,2-trifluoroethane, 1,1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorobenzene, 1,2,4-	10 U	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U	10 U
Trichloroethane, 1,1,1-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethane, 1,1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane	10 U	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U	10 U
Trimethylbenzene 1,3,5-/P-ethyltoluene	10 U	10 U	7	550	300	54	59	10 U	30	6 J	5 J	10 U
Trimethylbenzene, 1,2,4-	10 U	10 U	7	380	170	69	78	10 U	73	27	7 J	10 U
Trimethylpentane, 2,2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl acetate	10 U	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	10 U	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U	10 U
Total VOCs	8	7	156	13008	4868	1495	1289	6	290	74	601	2
<b>Non-carcinogenic PAHs (ug/L)</b>												
Acenaphthene	10 U	10 U	10 U	160 J	150 J	40	17	10 U	12	9 J	15	10 U
Acenaphthylene	10 U	10 U	10 U	2 J	19	100	100	10 U	3 J	3 J	30	10 U
Anthracene	10 U	10 U	10 U	14	9	9	8	10 U	10 U	10 U	3 J	10 U
Benzo[g,h,i]perylene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U	7	3 J	3 J	2 J	10 U	10 U	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U	53	48	36	34	10 U	5 J	3 J	10 U	10 U
Methylnaphthalene, 2-	10 U	10 U	4 J	510 J	51	25	10 U	10 U	26	10 U	6 J	10 U
Naphthalene	10 U	10 U	27	5200	2600	690	620	3 J	62	8 J	44	10 U
Phenanthrene	10 U	10 U	1 J	110 J	70	73	69	10 U	3 J	2 J	23	10 U
Pyrene	10 U	10 U	10 U	9	5	4 J	3 J	10 U	10 U	10 U	2 J	10 U
<b>Carcinogenic PAHs (ug/L)</b>												
Benzo[a]anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[a]pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[b]fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[k]fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenz[a,h]anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno[1,2,3-cd]pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total PAHs	ND	ND	32	6065	2955	980	853	3	111	25	123	ND
<b>Other SVOCs (ug/L)</b>												
Bis(2-chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethyl)ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	3 J	1 J	10 U	10 U	4 J
Bis(chloroisopropyl)ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromophenyl phenyl ether, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butyl benzyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	16	5	2 J	1 J	10 U	10 U	10 U	10 U	10 U
Chloro-3-methylphenol, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroaniline, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloronaphthalene, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorophenol, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorophenyl phenyl ether, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	10 U	10 U	10 U	7	7	6	6	10 U	1 J	1 J	3 J	10 U
Dichlorobenzene, 1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

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Sample Name: Sample Interval: Sample Date:	ETGP-10 (46-50) 9/7/2010	ETGP-10 (66-70) 9/7/2010	ETGP-11 (7-11) 8/31/2010	ETGP-11 (16-20) 8/31/2010	ETGP-11 (26-30) 8/31/2010	ETGP-11 (36-40) 8/31/2010	ETGP-11 (46-50) 8/31/2010	ETGP-11 (66-70) 8/31/2010	ETGP-12 (7-11) 8/9/2010	ETGP-12 (16-20) 8/9/2010	ETGP-12 (26-30) 8/9/2010	ETGP-12 (36-40) 8/9/2010
Dichlorobenzene, 1,3-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzidine, 3,3-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorophenol, 2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U	10 U	10 U
Diethyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethylphenol, 2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-butyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dinitro-2-methylphenol, 4,6-	25 U	25 U	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ	25 U	25 U	25 U	25 U	25 U
Dinitrophenol, 2,4-	25 U	25 U	25 UJ	25 UJ	25 UJ	25 UJ	25 U	25 U	25 U	25 U	25 U	25 U
Dinitrotoluene, 2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dinitrotoluene, 2,6-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-octyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylphenol, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylphenol, 4-	10 U	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U	10 U
Nitroaniline, 2-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitroaniline, 3-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitroaniline, 4-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrophenol, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrophenol, 4-	25 U	25 U	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ	25 U	25 U	25 U	25 U	25 U
Nitrosodi-n-propylamine, N-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrosodiphenylamine, N-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Phenol	10 U	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	<b>2 J</b>	10 U
Trichlorobenzene, 1,2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorophenol, 2,4,5-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Trichlorophenol, 2,4,6-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total SVOCs	ND	ND	<b>32</b>	<b>6088</b>	<b>2967</b>	<b>988</b>	<b>860</b>	<b>6</b>	<b>113</b>	<b>26</b>	<b>128</b>	<b>4</b>
<b>Total Metals (ug/L)</b>												
Aluminum	<b>1660</b>	<b>2200</b>	<b>709</b>	<b>3770</b>	<b>6460</b>	<b>12000</b>	<b>7930</b>	<b>2970</b>	<b>35.6 B</b>	<b>24.8 B</b>	<b>31.1 B</b>	<b>1150</b>
Antimony	2.9 U	<b>3.8 B</b>	2.9 U	2.9 U	2.9 U	<b>3.4 J</b>	2.9 U	<b>2.9 B</b>	2.9 U	2.9 U	2.9 U	2.9 U
Arsenic	2.7 U	<b>9.9 B</b>	<b>5.4 J</b>	<b>10.7</b>	<b>4.4 J</b>	<b>8.3 J</b>	<b>6.3 J</b>	<b>4.6 B</b>	<b>5.4 B</b>	<b>6.1 B</b>	2.5 U	2.5 U
Barium	<b>41.6 B</b>	<b>23.8 B</b>	<b>27.3 J</b>	<b>37.1 J</b>	<b>70.5 J</b>	<b>116 J</b>	<b>83.5 J</b>	<b>42.5 B</b>	<b>11.9 B</b>	<b>13.7 B</b>	<b>28.5 B</b>	<b>45.9 B</b>
Beryllium	<b>0.20 B</b>	<b>0.50 B</b>	0.30 UJ	0.54 UJ	0.78 UJ	1.2 UJ	0.95 UJ	<b>0.30 B</b>	0.17 U	0.17 U	0.17 U	0.17 U
Cadmium	0.25 U	0.25 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.25 U	0.33 U	0.33 U	0.33 U	0.33 U
Calcium	<b>10600</b>	<b>8870</b>	<b>30200</b>	<b>45100</b>	<b>63300</b>	<b>65300</b>	<b>61600</b>	<b>9770</b>	<b>33900</b>	<b>37300</b>	<b>24400</b>	<b>15300</b>
Chromium	<b>18.4</b>	<b>17.2</b>	<b>6.8 J</b>	<b>92.0</b>	<b>160</b>	<b>311</b>	<b>235</b>	<b>60.8</b>	2.3 U	2.3 U	2.3 U	<b>20.2</b>
Cobalt	<b>2.4 B</b>	<b>9.1 B</b>	<b>1.4 J</b>	<b>3.1 J</b>	<b>5.9 J</b>	<b>10.9 J</b>	<b>8.2 J</b>	<b>7.9 B</b>	<b>4.8 B</b>	<b>6 B</b>	<b>1.7 B</b>	<b>1.7 B</b>
Copper	<b>6.3 B</b>	<b>4.4 B</b>	<b>1.9 J</b>	<b>30.0</b>	<b>39.2</b>	<b>76.9</b>	<b>56.9</b>	<b>11.8 B</b>	<b>3 B</b>	<b>2.1 B</b>	<b>1.7 B</b>	<b>7.2 B</b>
Iron	<b>8280</b>	<b>32100</b>	<b>3920</b>	<b>17200</b>	<b>28900</b>	<b>55900</b>	<b>41800</b>	<b>39500</b>	<b>26000</b>	<b>24100</b>	<b>3100</b>	<b>6180</b>
Lead	<b>10.5</b>	<b>18.9</b>	<b>2.2 J</b>	<b>12.3</b>	<b>16.4</b>	<b>31.3</b>	<b>23.9</b>	<b>32.4</b>	<b>3.6</b>	<b>3.3</b>	<b>1.3 U</b>	<b>3.5</b>
Magnesium	<b>3270 B</b>	<b>3020 B</b>	<b>3190 J</b>	<b>11600</b>	<b>17100</b>	<b>17700</b>	<b>15800</b>	<b>3050 B</b>	<b>4620 B</b>	<b>4610 B</b>	<b>4050 B</b>	<b>2970 B</b>
Manganese	<b>707</b>	<b>337</b>	<b>133</b>	<b>141</b>	<b>325</b>	<b>595</b>	<b>679</b>	<b>439</b>	<b>392</b>	<b>433</b>	<b>598</b>	<b>1510</b>
Mercury	0.10 UN	0.10 UN	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 UN	<b>0.14 B</b>	<b>0.11 B</b>	<b>0.13 B</b>	<b>0.13 B</b>
Nickel	<b>10.4 B</b>	<b>18.5 B</b>	<b>2.4 J</b>	<b>17.3 J</b>	<b>32.0 J</b>	<b>59.5</b>	<b>47.1</b>	<b>16.4 B</b>	<b>4.9 B</b>	<b>6.3 B</b>	<b>3.1 B</b>	<b>9.7 B</b>
Potassium	<b>2730 B</b>	<b>1590 B</b>	<b>3640 J</b>	<b>4120 J</b>	<b>6040</b>	<b>7540</b>	<b>7000</b>	<b>2130 B</b>	<b>3060 B</b>	<b>3620 B</b>	<b>5330</b>	<b>6220</b>
Selenium	3.2 U	3.2 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	3.2 U	2.8 U	2.8 U	2.8 U	2.8 U
Silver	0.43 UN	0.43 UN	0.32 UJ	0.44 UJ	0.35 UJ	0.58 UJ	0.52 UJ	0.43 UN	0.32 UN	0.32 UN	0.32 UN	<b>0.33 BN</b>
Sodium	<b>42500</b>	<b>23900</b>	<b>21500</b>	<b>26400</b>	<b>54600</b>	<b>53300</b>	<b>50500</b>	<b>25100</b>	<b>10600</b>	<b>13400</b>	<b>37000</b>	<b>29600</b>
Thallium	3.6 U	3.6 U	3.0 U	3.0 U	3.0 U	<b>3.7 J</b>	3.0 U	3.6 U	3 U	3 U	3 U	3 U

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Groundwater Analytical Results - OU-1 Union Boulevard System Design  
Remedial Design Document - Appendix D  
Bay Shore/Brightwaters Former MGP Site  
Bay Shore, New York

Sample Name: Sample Interval: Sample Date:	ETGP-12 (46-50) 8/9/2010	ETGP-12 (66-70) 8/9/2010	ETGP-13 (7-11) 9/7/2010	ETGP-13 (16-20) 9/7/2010	ETGP-13 (26-30) 9/7/2010	ETGP-13 (36-40) 9/7/2010	ETGP-13 (46-50) 9/7/2010	ETGP-13 (66-70) 9/7/2010	ETGP-14 (7-11) 8/12/2010	ETGP-14 (16-20) 8/13/2010	ETGP-14 (26-30) 8/13/2010	ETGP-14 (36-40) 8/13/2010
<b>BTEX (ug/L)</b>												
Benzene	6 J	9 J	10 U	66	10 U	10 U	10 U	10 U	10 U	3 J	10 U	10 U
Toluene	10 U	10 U	10 U	8 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U	11	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Xylene, m,p-	10 U	10 U	10 U	19	10 U	10 U	10 U	10 U	10 U	1 J	10 U	10 U
Xylene, o-	10 U	10 U	10 U	120	10 U	10 U	10 U	10 U	10 U	4 J	10 U	10 U
Total BTEX	6	9	ND	224	ND	ND	ND	ND	ND	8	ND	ND
<b>Other VOCs (ug/L)</b>												
Acetaldehyde	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	1 J	1 J	2 J	10 U	10 U	10 U	10 U	10 U	10 U	1 BJ	10 U	10 U
Allyl chloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butadiene, 1,3-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butanone, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon disulfide	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform	10 U	10 U	3 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cryofluorane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cyclohexane	10 U	10 U	10 U	21	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibromoethane, 1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,3-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 J	10 U	10 U
Dichlorodifluoromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethane, 1,1-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethane, 1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethene, 1,1-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethene, cis-1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropane, 1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropene, cis-1,3	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropene, trans-1,3	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dioxane, 1,4-	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U
Ethanol	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U
Heptane, n-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexane, n-	10 U	10 U	10 U	6 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexanone, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isopropyl benzene	10 U	10 U	10 U	26	10 U	10 U	10 U	10 U	10 U	2 J	10 U	10 U
Methyl tert-butyl ether	10 U	10 U	10 U	10 U	10 U	10 U	3 J	10 U	10 U	10 U	10 U	10 U
Methyl-2-pentanone, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	3 J	920 D	10 U	10 U	10 U	10 U	10 U	53	10 U	10 U
Propanol, 2-	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U
Propylbenzene, n-	10 U	10 U	10 U	3 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Styrene	10 U	10 U	10 U	5 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

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Remedial Design Document - Appendix D  
Bay Shore/Brightwaters Former MGP Site  
Bay Shore, New York

Sample Name: Sample Interval: Sample Date:	ETGP-12 (46-50) 8/9/2010	ETGP-12 (66-70) 8/9/2010	ETGP-13 (7-11) 9/7/2010	ETGP-13 (16-20) 9/7/2010	ETGP-13 (26-30) 9/7/2010	ETGP-13 (36-40) 9/7/2010	ETGP-13 (46-50) 9/7/2010	ETGP-13 (66-70) 9/7/2010	ETGP-14 (7-11) 8/12/2010	ETGP-14 (16-20) 8/13/2010	ETGP-14 (26-30) 8/13/2010	ETGP-14 (36-40) 8/13/2010
Tetrachloroethane, 1,1,1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethane, 1,1,2,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrahydrofuran	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trans-1,2-dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloro-1,2,2-trifluoroethane, 1,1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorobenzene, 1,2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethane, 1,1,1-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethane, 1,1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trimethylbenzene 1,3,5-/P-ethyltoluene	10 U	10 U	10 U	39	10 U	10 U	10 U	10 U	10 U	2 J	10 U	10 U
Trimethylbenzene, 1,2,4-	10 U	10 U	10 U	74	10 U	10 U	10 U	10 U	10 U	12	10 U	10 U
Trimethylpentane, 2,2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl acetate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total VOCs	7	10	8	1318	ND	ND	3	ND	1	78	ND	ND
<b>Non-carcinogenic PAHs (ug/L)</b>												
Acenaphthene	10 U	10 U	10 U	30	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	48	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[g,h,i]perylene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U	1 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylnaphthalene, 2-	10 U	10 U	10 U	6 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	240 D	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Phenanthrene	10 U	10 U	10 U	2 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
<b>Carcinogenic PAHs (ug/L)</b>												
Benz[a]anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[a]pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[b]fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[k]fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenz[a,h]anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno[1,2,3-cd]pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
<b>Total PAHs (ug/L)</b>												
Total PAHs	ND	ND	ND	327	ND	ND	ND	ND	ND	ND	ND	ND
<b>Other SVOCs (ug/L)</b>												
Bis(2-chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethyl)ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	10	8 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2 J	2 J	4 J
Bis(chloroisopropyl)ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromophenyl phenyl ether, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butyl benzyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloro-3-methylphenol, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroaniline, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloronaphthalene, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorophenol, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorophenyl phenyl ether, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	10 U	10 U	10 U	3 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

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Sample Name: Sample Interval: Sample Date:	ETGP-12 (46-50) 8/9/2010	ETGP-12 (66-70) 8/9/2010	ETGP-13 (7-11) 9/7/2010	ETGP-13 (16-20) 9/7/2010	ETGP-13 (26-30) 9/7/2010	ETGP-13 (36-40) 9/7/2010	ETGP-13 (46-50) 9/7/2010	ETGP-13 (66-70) 9/7/2010	ETGP-14 (7-11) 8/12/2010	ETGP-14 (16-20) 8/13/2010	ETGP-14 (26-30) 8/13/2010	ETGP-14 (36-40) 8/13/2010
Dichlorobenzene, 1,3-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzidine, 3,3'-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorophenol, 2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Diethyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethylphenol, 2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-butyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dinitro-2-methylphenol, 4,6-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Dinitrophenol, 2,4-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Dinitrotoluene, 2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dinitrotoluene, 2,6-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-octyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylphenol, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylphenol, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitroaniline, 2-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitroaniline, 3-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitroaniline, 4-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrophenol, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrophenol, 4-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitrosodi-n-propylamine, N-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrosodiphenylamine, N-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Phenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorobenzene, 1,2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorophenol, 2,4,5-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Trichlorophenol, 2,4,6-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total SVOCs	10	8	ND	330	ND	ND	ND	ND	ND	2	2	4
<b>Total Metals (ug/L)</b>												
Aluminum	3650	16100	158 BN	170 BN	260 N	1310 N	2800 N	8440 N	711	157 B	177 B	547
Antimony	3.2 B	2.9 U	2.9 B	2.9 U	2.9 U	2.9 U	2.9 U	4.2 B	2.9 U	2.9 U	2.9 U	2.9 U
Arsenic	4.1 B	17.1	2.7 U	2.7 U	2.7 U	2.7 U	2.7 U	10.8	2.5 U	2.5 U	2.5 U	2.5 U
Barium	47.8 B	112 B	11.1 B	39.7 B	38.2 B	31.8 B	46.8 B	54.2 B	18.9 B	35.6 B	32.5 B	54.7 B
Beryllium	0.38 B	1.7 B	0.16 U	0.16 U	0.16 U	0.16 U	0.20 B	0.60 B	0.17 U	0.17 U	0.17 U	0.17 U
Cadmium	0.33 U	0.33 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.33 U	0.33 U	0.33 U	0.33 U
Calcium	12900	12900	18700	62700	24800	17400	17400	9470	24700	47300	28900	23000
Chromium	50.7	213	1.2 B	6.2 B	9.5 B	40.1	90.6	163	4.4 B	6.5 B	5.6 B	7.1 B
Cobalt	7.8 B	17.1 B	1.3 U	3.4 B	3.3 B	3.9 B	9.0 B	9.3 B	1.4 U	4.5 B	2.8 B	2.4 B
Copper	18.9 B	76.4	3.1 U	3.1 U	3.1 U	8.0 B	20.0 B	47.8	38.8	3.9 B	3.3 B	4.1 B
Iron	17400	59600	483	7040	10600	10800	18200	41700	1570	2870	1870	3020
Lead	12.3	46.2	7.1	5.7	1.9 B	12.5	16.1	30.6	3.2	1.3 U	1.3 U	1.3 U
Magnesium	3070 B	5420	1420 B	7410	4150 B	1670 B	3100 B	3140 B	6410	6190	4880 B	3370 B
Manganese	1230	634	94.9	455	750	1350	1900	409	178	292	845	2010
Mercury	0.15 B	0.16 B	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.16 B	0.16 B	0.13 B	0.11 B
Nickel	22.7 B	63.2	3.6 B	8.9 B	10.7 B	16.8 B	31.4 B	43.2	2.1 B	8 B	5.7 B	6.4 B
Potassium	6570	4350 B	2220 B	3540 B	3510 B	4360 B	6900	3010 B	1640 B	3800 B	2810 B	6010
Selenium	2.8 U	2.8 U	3.2 U	3.2 U	3.2 U	3.2 U	3.9 B	3.2 U	2.8 U	2.8 U	2.8 U	2.8 U
Silver	0.32 UN	0.32 UN	0.43 UN	0.43 UN	0.43 UN	0.43 UN	0.43 UN	0.43 UN	0.32 UN	0.32 UN	0.32 UN	0.32 UN
Sodium	41400	9200	14800	41900	49000	30000	36000	9660	6210	49400	43800	40300
Thallium	3 U	3 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3 U	3 U	3 U	3 U

Table 1  
Groundwater Analytical Results - OU-1 Union Boulevard System Design  
Remedial Design Document - Appendix D  
Bay Shore/Brightwaters Former MGP Site  
Bay Shore, New York

Sample Name: Sample Interval: Sample Date:	ETGP-14 (46-50) 8/13/2010	ETGP-14 (66-70) 8/13/2010	ETGP-15 (7-11) 8/19/2010	ETGP-15 (16-20) 8/19/2010	ETGP-15 (26-30) 8/19/2010	ETGP-15 (36-40) 8/19/2010	ETGP-15 (46-50) 8/19/2010	ETGP-15 (66-70) 8/19/2010	ETGP-16 (7-11) 8/27/2010	ETGP-16 (16-20) 8/27/2010	ETGP-17 (7-11) 8/30/2010	ETGP-17 (16-20) 8/30/2010
<b>BTEX (ug/L)</b>												
Benzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	23
Toluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 UJ	10 U	10 U	10
Ethylbenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	12	200
Xylene, m,p-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	33	28
Xylene, o-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	66	88
Total BTEX	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	111	349
<b>Other VOCs (ug/L)</b>												
Acetaldehyde	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 UJ	10 U	10 U
Acetone	10 U	1 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Allyl chloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 UJ	10 UJ	10 UJ	10 UJ
Butadiene, 1,3-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	R	R	R	R
Butanone, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Carbon disulfide	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 UJ	10 UJ
Carbon tetrachloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Chloroform	10 U	10 U	2 J	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Chloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 UJ	10 UJ	10 UJ	10 UJ
Chlorotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Cryofluorane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 UJ	10 UJ	10 UJ	10 UJ
Cyclohexane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	2 J	5
Dibromochloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Dibromoethane, 1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,3-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Dichlorodifluoromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 UJ	10 UJ	10 UJ	10 UJ
Dichloroethane, 1,1-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Dichloroethane, 1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Dichloroethene, 1,1-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Dichloroethene, cis-1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Dichloropropane, 1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Dichloropropene, cis-1,3	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Dichloropropene, trans-1,3	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Dioxane, 1,4-	500 U	500 U	R	R	R	R	R	R	R	R	R	R
Ethanol	500 U	500 U	R	R	R	R	R	R	R	R	R	R
Heptane, n-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 UJ	10 UJ	10 UJ	10 UJ
Hexane, n-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	3 J	10 UJ	10 UJ	10 U	10 U
Hexanone, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Isopropyl benzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	4 J	45 J
Methyl tert-butyl ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Methyl-2-pentanone, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Methylene chloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	26	29	410
Propanol, 2-	500 U	500 U	R	R	R	R	R	R	R	R	R	R
Propylbenzene, n-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	4 J	23 J
Styrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U



Table 1  
Groundwater Analytical Results - OU-1 Union Boulevard System Design  
Remedial Design Document - Appendix D  
Bay Shore/Brightwaters Former MGP Site  
Bay Shore, New York

Sample Name: Sample Interval: Sample Date:	ETGP-14 (46-50) 8/13/2010	ETGP-14 (66-70) 8/13/2010	ETGP-15 (7-11) 8/19/2010	ETGP-15 (16-20) 8/19/2010	ETGP-15 (26-30) 8/19/2010	ETGP-15 (36-40) 8/19/2010	ETGP-15 (46-50) 8/19/2010	ETGP-15 (66-70) 8/19/2010	ETGP-16 (7-11) 8/27/2010	ETGP-16 (16-20) 8/27/2010	ETGP-17 (7-11) 8/30/2010	ETGP-17 (16-20) 8/30/2010
Tetrachloroethane, 1,1,1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Tetrachloroethane, 1,1,2,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Tetrahydrofuran	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Trans-1,2-dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Trichloro-1,2,2-trifluoroethane, 1,1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Trichlorobenzene, 1,2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 UJ	10 UJ	10 UJ	10 UJ
Trichloroethane, 1,1,1-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Trichloroethane, 1,1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Trichlorofluoromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 UJ	10 UJ
Trimethylbenzene 1,3,5-/P-ethyltoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	76	210
Trimethylbenzene, 1,2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	2 J	89	230
Trimethylpentane, 2,2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 U	10 U	10 U	10 U
Vinyl acetate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 UJ	10 UJ	10 UJ	10 UJ
Vinyl chloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U	R	10 UJ	10 UJ	10 UJ	10 UJ
Total VOCs	ND	1	2	ND	ND	ND	ND	3	ND	28	315	1272
<b>Non-carcinogenic PAHs (ug/L)</b>												
Acenaphthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 J	10 U	99 J
Acenaphthylene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	13	10 U	6
Anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	12
Benzo[g,h,i]perylene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 J	5
Fluorene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	68
Methylnaphthalene, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	6	3 J
Naphthalene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	14	11	360
Phenanthrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	82 J
Pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	4 J	8
<b>Carcinogenic PAHs (ug/L)</b>												
Benzo[a]anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[a]pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[b]fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[k]fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenz[a,h]anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno[1,2,3-cd]pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
<b>Total PAHs (ug/L)</b>												
Total PAHs	ND	ND	ND	ND	ND	ND	ND	ND	ND	28	22	643
<b>Other SVOCs (ug/L)</b>												
Bis(2-chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethyl)ether	10 U	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	16	33	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(chloroisopropyl)ether	10 U	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U
Bromophenyl phenyl ether, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butyl benzyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2 J
Chloro-3-methylphenol, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroaniline, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloronaphthalene, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorophenol, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorophenyl phenyl ether, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	7
Dichlorobenzene, 1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

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Dichlorobenzene, 1,3-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzidine, 3,3-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorophenol, 2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ
Diethyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethylphenol, 2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-butyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dinitro-2-methylphenol, 4,6-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 UJ	25 UJ
Dinitrophenol, 2,4-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 UJ	25 U
Dinitrotoluene, 2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dinitrotoluene, 2,6-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-octyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U
Methylphenol, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylphenol, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	10 UJ
Nitroaniline, 2-	25 U	25 U	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ	25 U	25 U	25 U	25 U
Nitroaniline, 3-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitroaniline, 4-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitrobenzene	10 U	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U
Nitrophenol, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrophenol, 4-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 UJ	25 UJ
Nitrosodi-n-propylamine, N-	10 U	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U
Nitrosodiphenylamine, N-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Phenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	10 UJ
Trichlorobenzene, 1,2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorophenol, 2,4,5-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Trichlorophenol, 2,4,6-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total SVOCs	16	33	ND	ND	ND	ND	ND	ND	ND	28	22	652
<b>Total Metals (ug/L)</b>												
Aluminum	4180	21700	127 UJ	42.8 UJ	2240	6540	13300	52200	90.0 UJ	2900	476	241
Antimony	2.9 U	4.3 B	2.9 U	2.9 U	2.9 U	2.9 U	4.6 J	7.9 J	2.9 U	2.9 U	2.9 U	2.9 U
Arsenic	2.5 U	11.4	2.5 U	2.5 U	2.5 U	2.5 U	7.3 J	33.9	2.5 U	2.5 U	2.5 U	10.3
Barium	48.4 B	115 B	11.6 J	38.4 J	68.8 J	88.0 J	141 J	391	19.5 J	37.4 J	18.4 J	7.4 J
Beryllium	0.28 B	1.8 B	0.25 UJ	0.24 UJ	0.50 UJ	0.76 UJ	1.4 UJ	4.4 J	0.29 UJ	0.43 UJ	0.28 UJ	0.24 UJ
Cadmium	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Calcium	17400	11300	21600	21200	21500	20600	13300	12100	23700	28100	48700	36500
Chromium	35.1	152	2.3 U	2.3 U	71.7	132	235	1430	2.3 U	27.1	14.3	3.4 J
Cobalt	7.6 B	19.1 B	2.4 J	1.8 J	4.2 J	7.9 J	14.7 J	61.8	1.4 U	3.0 J	1.4 U	1.4 U
Copper	16.2 B	78.9	1.6 J	0.64 U	18.7 J	35.2	65.5	389	1.5 J	20.6 J	3.6 J	4.2 J
Iron	12900	69100	1440	2300	15600	26400	47600	265000 E	855	8920	4450	1720
Lead	16.4	72.2	3.2	1.3 U	10.1	16.4	33.3	124	1.3 U	8.5	4.1	2.0 J
Magnesium	4530 B	6940	2540 J	3470 J	3530 J	4500 J	6270	10700	2330 J	3510 J	6510	10600
Manganese	3590	602	203	462	2010	5090	2180	3620	25.4	87.6	43.1	35.8
Mercury	0.12 B	0.17 B	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Nickel	20.6 B	73	5.8 J	5.1 J	20.3 J	35.3 J	61.0	286	2.2 J	15.5 J	2.8 J	1.5 U
Potassium	4670 B	5210	1840 J	4360 J	6860	5080	6540	9760	2160 J	2630 J	4330 J	2430 J
Selenium	2.8 U	2.8 U	2.8 UJ	2.8 U	2.8 U	2.8 U	2.8 U	4.1 J	2.8 U	2.8 U	2.8 U	2.8 U
Silver	0.32 UN	0.32 UN	0.40 BN	0.32 UJ	0.65 UJ	0.94 UJ	0.78 UJ	1.0 UJ	0.36 UJ	0.32 UJ	0.32 UJ	0.32 UJ
Sodium	35200	14100	9330	47500	62500	43600	34500	11300	16000	31400	8480	10900
Thallium	3 U	3 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	21.9	3.0 U	3.0 U	3.0 U	3.0 U

Table 1  
 Groundwater Analytical Results - OU-1 Union Boulevard System Design  
 Remedial Design Document - Appendix D  
 Bay Shore/Brightwaters Former MGP Site  
 Bay Shore, New York

Sample Name: Sample Interval: Sample Date:	Duplicate of: ETGP-17 (16-20) 8/30/2010	ETGP-17 (26-30) 8/30/2010	ETGP-17 (36-40) 8/30/2010	ETGP-17 (46-50) 8/30/2010	ETGP-17 (66-70) 8/30/2010	ETGP-18 (7-11) 8/31/2010	ETGP-18 (16-20) 8/31/2010	ETGP-18 (26-30) 8/31/2010	ETGP-18 (36-40) 9/1/2010	ETGP-18 (46-50) 9/1/2010	ETGP-18 (66-70) 9/1/2010	ETGP-PVT 9/8/2010
<b>BTEX (ug/L)</b>												
Benzene	23	95	91 J	210	21	7 J	1700 D	2 J	10 U	10 U	10 U	10 U
Toluene	10	7	12 J	17	1 J	10 U	58	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	200	220	240	190	14	30	3600 D	3 J	10 U	10 U	10 U	10 U
Xylene, m,p-	28	46	66	53	5	5 J	480 D	10 U	10 U	10 U	10 U	10 U
Xylene, o-	86	85	90	76	7	19	770 D	10 U	10 U	10 U	10 U	1 J
Total BTEX	347	453	499	546	48	61	6608	5	ND	ND	ND	1
<b>Other VOCs (ug/L)</b>												
Acetaldehyde	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	10 U	10 U	3 J	4 J	3 J	10 U	2 J	10 U	10 U	10 U	10 U	10 U
Allyl chloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butadiene, 1,3-	R	R	R	R	R	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butanone, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon disulfide	10 UJ	10 UJ	10 U	10 UJ	1 J	10 U	1 J	1 J	10 U	10 U	10 U	10 U
Carbon tetrachloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloromethane	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorotoluene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cryofluorane	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Cyclohexane	5	7	7	1 J	10 U	2 J	85	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibromoethane, 1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,3-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorodifluoromethane	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethane, 1,1-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethane, 1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethene, 1,1-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloroethene, cis-1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropane, 1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropene, cis-1,3	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichloropropene, trans-1,3	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dioxane, 1,4-	R	R	R	R	R	500 U	500 U	500 U	500 U	500 U	500 U	500 U
Ethanol	R	R	R	R	R	500 U	500 U	500 U	500 U	500 U	500 U	500 U
Heptane, n-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexane, n-	10 U	2 J	3 J	10 U	10 U	10 U	19	10 U	10 U	10 U	10 U	10 U
Hexanone, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isopropyl benzene	45 J	23 J	23 J	5 J	1 J	7 J	69	10 U	10 U	10 U	10 U	10 U
Methyl tert-butyl ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2 J	10 U	10 U
Methyl-2-pentanone, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Naphthalene	410	610	1100	590	77	59	1300 D	1 J	10 U	10 U	10 U	2 J
Propanol, 2-	R	R	R	R	R	500 U	500 U	500 U	500 U	500 U	500 U	500 U
Propylbenzene, n-	24 J	7 J	8 J	2 J	10 UJ	2 J	13	10 U	10 U	10 U	10 U	10 U
Styrene	10 U	2 J	5	6	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Table 1  
Groundwater Analytical Results - OU-1 Union Boulevard System Design  
Remedial Design Document - Appendix D  
Bay Shore/Brightwaters Former MGP Site  
Bay Shore, New York

Sample Name: Sample Interval: Sample Date:	Duplicate of: ETGP-17 (16-20) 8/30/2010	ETGP-17 (26-30) 8/30/2010	ETGP-17 (36-40) 8/30/2010	ETGP-17 (46-50) 8/30/2010	ETGP-17 (66-70) 8/30/2010	ETGP-18 (7-11) 8/31/2010	ETGP-18 (16-20) 8/31/2010	ETGP-18 (26-30) 8/31/2010	ETGP-18 (36-40) 9/1/2010	ETGP-18 (46-50) 9/1/2010	ETGP-18 (66-70) 9/1/2010	ETGP-PVT 9/8/2010
Tetrachloroethane, 1,1,1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethane, 1,1,2,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Tetrahydrofuran	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trans-1,2-dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloro-1,2,2-trifluoroethane, 1,1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorobenzene, 1,2,4-	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethane, 1,1,1-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethane, 1,1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorofluoromethane	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trimethylbenzene 1,3,5-/P-ethyltoluene	210	81	110	29	4 J	22	190	10 U	10 U	10 U	10 U	10 U
Trimethylbenzene, 1,2,4-	220	90	120	46	6 J	38	180 DJ	10 U	10 U	10 U	10 U	1 J
Trimethylpentane, 2,2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl acetate	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total VOCs	1261	1275	1878	1229	140	191	8467	7	ND	2	ND	4
<b>Non-carcinogenic PAHs (ug/L)</b>												
Acenaphthene	100	74	39 J	20	3 J	12	58	10 U	10 U	10 U	10 U	5 J
Acenaphthylene	6 J	37	200	170 J	8	5 J	71	2 J	10 U	10 U	10 U	6 J
Anthracene	13	16	9	9	10 U	10 U	11	1 J	10 U	10 U	10 U	10 U
Benzo[g,h,i]perylene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	5	4 J	2 J	1 J	10 U	10 U	3 J	10 U	10 U	10 U	10 U	10 U
Fluorene	72	40	59	54	3 J	5 J	26	10 U	10 U	10 U	10 U	10 U
Methylnaphthalene, 2-	3 J	10 U	71	47	3 J	12	3 J	10 U	10 U	10 U	10 U	10 U
Naphthalene	330	100	43	350	56	44	1000 D	10 U	10 U	10 U	10 U	4 J
Phenanthrene	83 J	68	19	68	6	5 J	69 DJ	7 J	10 U	10 U	10 U	10 U
Pyrene	7	6	3 J	3 J	3 J	10 U	4 J	10 U	10 U	10 U	10 U	10 U
<b>Carcinogenic PAHs (ug/L)</b>												
Benz[a]anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[a]pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[b]fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo[k]fluoranthene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenz[a,h]anthracene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Indeno[1,2,3-cd]pyrene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
<b>Total PAHs (ug/L)</b>												
Total PAHs	619	345	445	722	82	83	1245	10	ND	ND	ND	15
<b>Other SVOCs (ug/L)</b>												
Bis(2-chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethyl)ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	10 U	10 U	10 U	10 U	10 U	13	4 J	3 J	8 BJ	6 BJ	4 BJ	10 U
Bis(chloroisopropyl)ether	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromophenyl phenyl ether, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butyl benzyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbazole	2 J	1 J	2 J	1 J	10 U	10 U	2 J	10 U	10 U	10 U	10 U	10 U
Chloro-3-methylphenol, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroaniline, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloronaphthalene, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorophenol, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorophenyl phenyl ether, 4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	8	5	9	8	10 U	1 J	9 J	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

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Sample Name: Sample Interval: Sample Date:	Duplicate of: ETGP-17 (16-20) 8/30/2010	ETGP-17 (26-30) 8/30/2010	ETGP-17 (36-40) 8/30/2010	ETGP-17 (46-50) 8/30/2010	ETGP-17 (66-70) 8/30/2010	ETGP-18 (7-11) 8/31/2010	ETGP-18 (16-20) 8/31/2010	ETGP-18 (26-30) 8/31/2010	ETGP-18 (36-40) 9/1/2010	ETGP-18 (46-50) 9/1/2010	ETGP-18 (66-70) 9/1/2010	ETGP-PVT 9/8/2010
Dichlorobenzene, 1,3-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene, 1,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobenzidine, 3,3-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorophenol, 2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Diethyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethylphenol, 2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-butyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dinitro-2-methylphenol, 4,6-	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Dinitrophenol, 2,4-	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Dinitrotoluene, 2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dinitrotoluene, 2,6-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Di-n-octyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylphenol, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylphenol, 4-	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitroaniline, 2-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitroaniline, 3-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitroaniline, 4-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrophenol, 2-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrophenol, 4-	25 UJ	25 UJ	25 UJ	25 UJ	25 UJ	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitrosodi-n-propylamine, N-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nitrosodiphenylamine, N-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Phenol	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	3 J	10 U	10 U	10 U	10 U	10 U
Trichlorobenzene, 1,2,4-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichlorophenol, 2,4,5-	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Trichlorophenol, 2,4,6-	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
<b>Total SVOCs</b>	<b>629</b>	<b>351</b>	<b>456</b>	<b>731</b>	<b>82</b>	<b>97</b>	<b>1263</b>	<b>13</b>	<b>8</b>	<b>6</b>	<b>4</b>	<b>15</b>
<b>Total Metals (ug/L)</b>												
Aluminum	328	70.9 UJ	68.5 UJ	9320	16300	69.4 B	2160	3010	7100	10100	6410	51.0 BN
Antimony	2.9 U	2.9 U	2.9 U	5.2 J	2.9 U	2.9 U	2.9 U	2.9 U	2.9 U	3.8 B	2.9 B	5.0 B
Arsenic	13.3	2.5 U	2.5 U	5.8 J	11.9	5.8 B	6.1 B	2.7 U	6.2 B	8.5 B	2.7 U	2.7 U
Barium	8.7 J	23.9 J	26.8 J	95.0 J	133 J	21.9 B	43.3 B	53.8 B	73.1 B	89.9 B	50.1 B	27.1 B
Beryllium	0.38 UJ	0.25 UJ	0.26 UJ	0.91 UJ	1.4 UJ	0.16 U	0.20 B	0.30 B	0.40 B	0.60 B	0.30 B	0.16 U
Cadmium	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.30 B
Calcium	39900	58100	56800	89200	107000	15300	61900	21100	16500	15800	9700	30400
Chromium	6.6 J	2.3 U	2.3 U	229	352	1.1 B	76.3	137	193	285	157	9.5 B
Cobalt	1.4 U	1.4 U	1.4 U	8.5 J	15.6 J	2.7 B	2.4 B	4.2 B	10.0 B	18.5 B	6.2 B	2.5 B
Copper	6.3 J	4.3 J	1.3 J	54.2	83.9	3.1 U	17.6 B	31.7	39.3	61.0	33.9	104
Iron	2140	2120	2010	36100	66600	32500	17900	20400	36200	52800	27100	130000
Lead	2.8 J	1.3 U	1.9 J	17.3	28.9	1.7 U	11.2	17.0	23.5	33.0	31.6	45.5
Magnesium	11400	15900	16400	14900	8780	4110 B	11600	3510 B	3460 B	3710 B	2750 B	5180
Manganese	42.2	138	164	2170	650	191	387	1380	1690	2620	340	1450
Mercury	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 UN	0.10 UN	0.10 UN	0.10 UN	0.10 UN	0.10 UN	0.10 U
Nickel	2.4 J	2.7 J	3.4 J	42.4	67.3	1.3 U	13.2 B	23.7 B	38.8 B	58.9	27.3 B	3.3 B
Potassium	2510 J	3870 J	4200 J	8780	7790	2470 B	5570	4870 B	6040	8350	2890 B	2600 U
Selenium	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	3.2 U	3.7 B	5.6	3.2 U	3.2 U	3.3 B	3.2 U
Silver	0.34 UJ	0.32 UJ	0.60 UJ	0.32 UJ	0.42 UJ	0.43 UN	0.43 UN	0.43 UN	0.43 UN	0.43 UN	0.43 UN	0.43 UN
Sodium	11800	53800	50200	46700	27700	7050	39700	33400	27800	36200	7910	44600
Thallium	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U	3.6 U

Table 1  
Groundwater Analytical Results - OU-1 Union Boulevard System Design  
Remedial Design Document - Appendix D  
Bay Shore/Brightwaters Former MGP Site  
Bay Shore, New York

**Notes:**

ug/L - micrograms per liter or parts per billion (ppb)

BTEX - benzene, toluene, ethylbenzene, and xylenes

VOCs - volatile organic compounds

PAHs - polycyclic aromatic hydrocarbons

SVOCs - semivolatile organic compounds

Total BTEX, Total VOCs, Total PAHs and Total SVOCs are calculated using detects only.

NYS AWQS - New York State Ambient Water Quality Standards and Guidance Values for GA groundwater

\* indicates the value is a guidance value and not a standard

NE - not established

NA - not analyzed

ND - not detected; total concentration is listed as ND because no compounds were detected in the group

Bolding indicates a detected concentration

Shading and bolding indicates that the detected concentration is above the NYS AWQS objective it was compared to

**Laboratory Qualifiers:**

J - estimated value

N - analyte is presumptively present

U - indicates not detected to the reporting limit

UJ - not detected at or above the reporting limit shown and the reporting limit is estimated

R - rejected

D - Results for dilution

B - Analyte detected in the associated method blank

\* - Duplicate analysis not within control limits

Table 2  
 Soil Analytical Results - OU-1 Union Boulevard System Design  
 Remedial Design Document - Appendix D  
 Bay Shore/Brightwaters Former MGP Site  
 Bay Shore, New York

Sample Name: Sample Interval: Sample Date:	6 NYCRR SCO COMM	ETSB-06 (14-15) 8/24/2010	ETSB-06 (15-18) 8/24/2010	ETSB-06 (30-34) 8/24/2010	ETSB-07 (11-12) 8/5/2010	ETSB-07 (15-16) 8/5/2010	ETSB-07 (22-23) 8/5/2010	ETSB-08 (10-12) 8/26/2010	ETSB-08 (40-44) 8/26/2010	ETSB-08 (68-70) 8/26/2010	ETSB-09 (10.5-13.5) 8/16/2010	ETSB-09 (21.5-22.5) 8/16/2010
<b>BTEX (mg/kg)</b>												
Benzene	44	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Toluene	500	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Ethylbenzene	390	0.012 U	0.012 U	0.012 U	<b>0.003 J</b>	0.012 U	<b>0.003 J</b>	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Xylene, m,p-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Xylene, o-	NE	0.012 U	0.012 U	0.012 U	<b>0.002 J</b>	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Total BTEX	NE	ND	ND	ND	<b>0.005</b>	ND	<b>0.003</b>	ND	ND	ND	ND	ND
<b>Other VOCs (mg/kg)</b>												
Acetaldehyde	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 UJ	<b>0.84</b>	0.012 U	0.012 U	<b>0.41</b>	0.012 U
Acetone	500	<b>0.01 BJ</b>	<b>0.011 BJ</b>	<b>0.005 BJ</b>	0.012 UJ	0.012 UJ	0.012 UJ	<b>0.14 B</b>	<b>0.008 BJ</b>	<b>0.011 BJ</b>	0.12 U	<b>0.008 BJ</b>
Allyl chloride	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Bromodichloromethane	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Bromoform	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Bromomethane	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 UJ	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Butadiene, 1,3-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 UJ	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Butanone, 2-	500	<b>0.001 J</b>	<b>0.001 J</b>	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Carbon disulfide	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Carbon tetrachloride	22	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Chlorobenzene	500	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Chloroethane	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	<b>0.34</b>	0.012 U	0.012 U	<b>0.45</b>	0.012 U
Chloroform	350	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Chloromethane	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 UJ	0.12 U	0.012 U	0.012 U	<b>0.017 J</b>	0.012 U
Chlorotoluene	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Cryofluorane	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Cyclohexane	NE	0.012 U	0.012 U	0.012 U	0.012 UJ	0.012 UJ	0.012 UJ	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Dibromochloromethane	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Dibromoethane, 1,2-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Dichlorobenzene, 1,2-	500	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Dichlorobenzene, 1,3-	280	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Dichlorobenzene, 1,4-	130	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Dichlorodifluoromethane	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 UJ	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Dichloroethane, 1,1-	240	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Dichloroethane, 1,2-	30	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Dichloroethene, 1,1-	500	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Dichloroethene, cis-1,2-	500	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Dichloropropane, 1,2-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Dichloropropene, cis-1,3	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Dichloropropene, trans-1,3	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Dioxane, 1,4-	130	0.3 U	0.29 U	0.3 U	R	R	R	2.9 U	0.29 U	0.31 U	2.9 U	0.3 U
Ethanol	NE	0.61 U	0.58 U	0.6 U	R	R	R	<b>30 EJ</b>	0.59 U	0.62 U	<b>19 EJ</b>	0.61 U
Heptane, n-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 UJ	<b>57 D</b>	0.012 U	0.012 U	<b>200 D</b>	0.012 U
Hexachlorobutadiene	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 UJ	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Hexane, n-	NE	0.012 U	0.012 U	0.012 U	0.012 UJ	0.012 UJ	0.012 UJ	<b>0.047 J</b>	0.012 U	0.012 U	<b>32 D</b>	0.012 U
Hexanone, 2-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Isopropyl benzene	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	<b>1.8</b>	0.012 U
Methyl tert-butyl ether	500	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Methyl-2-pentanone, 4-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Methylene chloride	500	<b>0.004 BJ</b>	<b>0.003 BJ</b>	<b>0.004 BJ</b>	0.012 U	0.012 U	0.012 U	<b>0.059 BJ</b>	<b>0.007 BJ</b>	<b>0.007 BJ</b>	0.12 U	<b>0.006 BJ</b>
Naphthalene	500	<b>0.12</b>	<b>0.21</b>	<b>0.14</b>	<b>0.1 J</b>	<b>0.009 J</b>	<b>0.11</b>	<b>0.29</b>	0.012 U	0.012 U	<b>0.56</b>	<b>0.004 J</b>
Propanol, 2-	NE	0.61 U	0.58 U	0.6 U	0.6 U	0.6 U	0.61 U	5.9 U	0.59 U	0.62 U	5.8 U	0.61 U
Propylbenzene, n-	500	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	<b>0.37</b>	0.012 U	0.012 U	<b>7.2 DJ</b>	0.012 U

Table 2  
 Soil Analytical Results - OU-1 Union Boulevard System Design  
 Remedial Design Document - Appendix D  
 Bay Shore/Brightwaters Former MGP Site  
 Bay Shore, New York

Sample Name: Sample Interval: Sample Date:	6 NYCRR SCO COMM	ETSB-06 (14-15) 8/24/2010	ETSB-06 (15-18) 8/24/2010	ETSB-06 (30-34) 8/24/2010	ETSB-07 (11-12) 8/5/2010	ETSB-07 (15-16) 8/5/2010	ETSB-07 (22-23) 8/5/2010	ETSB-08 (10-12) 8/26/2010	ETSB-08 (40-44) 8/26/2010	ETSB-08 (68-70) 8/26/2010	ETSB-09 (10.5-13.5) 8/16/2010	ETSB-09 (21.5-22.5) 8/16/2010
Styrene	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Tetrachloroethane, 1,1,1,2-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Tetrachloroethane, 1,1,2,2-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Tetrachloroethene	150	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Tetrahydrofuran	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Trans-1,2-dichloroethene	500	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Trichlorobenzene, 1,2,4-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Trichloroethane, 1,1,1-	500	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Trichloroethane, 1,1,2-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Trichloroethene	200	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Trichlorofluoromethane	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Trimethylbenzene 1,3,5-/P-ethyltoluene	190	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	<b>0.17</b>	0.012 U	0.012 U	<b>66 D</b>	0.012 U
Trimethylbenzene, 1,2,4-	190	<b>0.005 J</b>	<b>0.004 J</b>	0.012 U	<b>0.004 J</b>	0.012 U	0.012 U	<b>0.38</b>	0.012 U	0.012 U	<b>48 D</b>	0.012 U
Trimethylpentane, 2,2,4-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	<b>45 D</b>	0.012 U	0.012 U	<b>46 D</b>	0.012 U
Vinyl acetate	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Vinyl chloride	13	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.12 U	0.012 U	0.012 U	0.12 U	0.012 U
Total VOCs	NE	<b>0.14</b>	<b>0.229</b>	<b>0.149</b>	<b>0.109</b>	<b>0.009</b>	<b>0.113</b>	<b>134.636</b>	<b>0.015</b>	<b>0.018</b>	<b>421.437</b>	<b>0.018</b>
<b>Non-carcinogenic PAHs (mg/kg)</b>												
Acenaphthene	500	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Acenaphthylene	500	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Anthracene	500	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Benzo[g,h,i]perylene	500	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Fluoranthene	500	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Fluorene	500	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Methylnaphthalene, 2-	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Naphthalene	500	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	<b>0.11 J</b>	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Phenanthrene	500	0.4 U	<b>0.11 J</b>	0.4 U	0.39 U	<b>0.087 J</b>	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Pyrene	500	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
<b>Carcinogenic PAHs (mg/kg)</b>												
Benz[a]anthracene	5.6	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Benzo[a]pyrene	1	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Benzo[b]fluoranthene	5.6	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Benzo[k]fluoranthene	56	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Chrysene	56	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Dibenz[a,h]anthracene	0.56	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Indeno[1,2,3-cd]pyrene	5.6	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
<b>Total PAHs (mg/kg)</b>												
Total PAHs	NE	ND	<b>0.11</b>	ND	ND	<b>0.087</b>	<b>0.11</b>	ND	ND	ND	ND	ND
<b>Other SVOCs (mg/kg)</b>												
Bis(2-chloroethoxy)methane	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Bis(2-chloroethyl)ether	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Bis(2-ethylhexyl)phthalate	NE	<b>0.1 J</b>	<b>0.13 J</b>	<b>0.22 J</b>	<b>0.11 J</b>	0.39 U	0.4 U	<b>0.23 J</b>	<b>0.2 J</b>	<b>0.23 J</b>	0.39 U	0.4 U
Bis(chloroisopropyl)ether	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Bromophenyl phenyl ether, 4-	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Butyl benzyl phthalate	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Carbazole	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Chloro-3-methylphenol, 4-	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Chloroaniline, 4-	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Chloronaphthalene, 2-	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U



Table 2  
Soil Analytical Results - OU-1 Union Boulevard System Design  
Remedial Design Document - Appendix D  
Bay Shore/Brightwaters Former MGP Site  
Bay Shore, New York

Sample Name: Sample Interval: Sample Date:	6 NYCRR SCO COMM	ETSB-06 (14-15) 8/24/2010	ETSB-06 (15-18) 8/24/2010	ETSB-06 (30-34) 8/24/2010	ETSB-07 (11-12) 8/5/2010	ETSB-07 (15-16) 8/5/2010	ETSB-07 (22-23) 8/5/2010	ETSB-08 (10-12) 8/26/2010	ETSB-08 (40-44) 8/26/2010	ETSB-08 (68-70) 8/26/2010	ETSB-09 (10.5-13.5) 8/16/2010	ETSB-09 (21.5-22.5) 8/16/2010
Chlorophenol, 2-	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Chlorophenyl phenyl ether, 4-	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Dibenzofuran	350	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Dichlorobenzene, 1,2-	500	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Dichlorobenzene, 1,3-	280	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Dichlorobenzene, 1,4-	130	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Dichlorobenzidine, 3,3-	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Dichlorophenol, 2,4-	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Diethyl phthalate	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Dimethyl phthalate	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Dimethylphenol, 2,4-	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Di-n-butyl phthalate	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Dinitro-2-methylphenol, 4,6-	NE	1 U	0.97 U	1 U	0.99 U	0.99 U	1 U	0.97 U	0.98 U	1 U	0.97 U	1 U
Dinitrophenol, 2,4-	NE	1 U	0.97 U	1 U	0.99 U	0.99 U	1 U	0.97 U	0.98 U	1 U	0.97 U	1 U
Dinitrotoluene, 2,4-	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Dinitrotoluene, 2,6-	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Di-n-octyl phthalate	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Hexachlorobenzene	6	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Hexachlorobutadiene	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Hexachlorocyclopentadiene	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Hexachloroethane	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Isophorone	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Methylphenol, 2-	500	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Methylphenol, 4-	500	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Nitroaniline, 2-	NE	1 U	0.97 U	1 U	0.99 U	0.99 U	1 U	0.97 U	0.98 U	1 U	0.97 U	1 U
Nitroaniline, 3-	NE	1 U	0.97 U	1 U	0.99 U	0.99 U	1 U	0.97 U	0.98 U	1 U	0.97 U	1 U
Nitroaniline, 4-	NE	1 U	0.97 U	1 U	0.99 U	0.99 U	1 U	0.97 U	0.98 U	1 U	0.97 U	1 U
Nitrobenzene	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Nitrophenol, 2-	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Nitrophenol, 4-	NE	1 U	0.97 U	1 U	0.99 U	0.99 U	1 U	0.97 U	0.98 U	1 U	0.97 U	1 U
Nitrosodi-n-propylamine, N-	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Nitrosodiphenylamine, N-	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Pentachlorophenol	6.7	1 U	0.97 U	1 U	0.99 U	0.99 U	1 U	0.97 U	0.98 U	1 U	0.97 U	1 U
Phenol	500	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Trichlorobenzene, 1,2,4-	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Trichlorophenol, 2,4,5-	NE	1 U	0.97 U	1 U	0.99 U	0.99 U	1 U	0.97 U	0.98 U	1 U	0.97 U	1 U
Trichlorophenol, 2,4,6-	NE	0.4 U	0.38 U	0.4 U	0.39 U	0.39 U	0.4 U	0.39 U	0.39 U	0.41 U	0.39 U	0.4 U
Total SVOCs	NE	0.1	0.24	0.22	0.11	0.087	0.11	0.23	0.2	0.23	ND	ND
<b>Total Metals (mg/kg)</b>												
Lead	1000	0.51	0.71	0.92	0.82 J	0.68 J	0.25 J	1.4	0.2 U	1.2	2.6	0.6
<b>Other (%)</b>												
Moisture, percent	NE	17.4	14.2	16.7	16.1	16.3	17.7	14.6	15.2	19.9	14.3	17.9
<b>Other (mg/kg)</b>												
Total Organic Carbon	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 2  
Soil Analytical Results - OU-1 Union Boulevard System Design  
Remedial Design Document - Appendix D  
Bay Shore/Brightwaters Former MGP Site  
Bay Shore, New York

Sample Name: Sample Interval: Sample Date:	6 NYCRR SCO COMM	ETSB-09 (30-32) 8/16/2010	ETSB-10 (10-12.5) 8/17/2010	Duplicate of: ETSB-10 (10-12.5) 8/17/2010	ETSB-10 (16-19) 8/17/2010	ETSB-10 (35-38) 8/17/2010	ETSB-11 (10-13.5) 8/23/2010	ETSB-11 (15-18) 8/23/2010	ETSB-11 (20-24) 8/23/2010	ETSB-12 (8-10) 8/3/2010	ETSB-12 (15-16) 8/3/2010	ETSB-12 (70-73) 8/4/2010
<b>BTEX (mg/kg)</b>												
Benzene	44	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	<b>0.002 J</b>	0.01 U	<b>0.016</b>	0.012 U
Toluene	500	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Ethylbenzene	390	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	<b>0.012 J</b>	0.01 U	<b>0.007</b>	0.012 U
Xylene, m,p-	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	<b>0.004 J</b>	0.01 U	0.012 U	0.012 U
Xylene, o-	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	<b>0.003 J</b>	0.01 U	0.012 U	0.012 U
Total BTEX	NE	ND	ND	ND	ND	ND	ND	ND	<b>0.021</b>	ND	<b>0.023</b>	ND
<b>Other VOCs (mg/kg)</b>												
Acetaldehyde	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Acetone	500	<b>0.009 BJ</b>	<b>0.01 BJ</b>	<b>0.01 BJ</b>	<b>0.011 BJ</b>	<b>0.006 BJ</b>	<b>0.007 BJ</b>	<b>0.006 BJ</b>	<b>0.007 BJ</b>	0.01 UJ	0.012 UJ	0.012 UJ
Allyl chloride	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Bromodichloromethane	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Bromoform	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Bromomethane	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Butadiene, 1,3-	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Butanone, 2-	500	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Carbon disulfide	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	<b>0.005 J</b>	0.012 U
Carbon tetrachloride	22	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Chlorobenzene	500	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Chloroethane	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Chloroform	350	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Chloromethane	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Chlorotoluene	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Cryofluorane	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Cyclohexane	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 UJ	0.012 UJ	0.012 UJ
Dibromochloromethane	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Dibromoethane, 1,2-	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Dichlorobenzene, 1,2-	500	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Dichlorobenzene, 1,3-	280	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Dichlorobenzene, 1,4-	130	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Dichlorodifluoromethane	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Dichloroethane, 1,1-	240	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Dichloroethane, 1,2-	30	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Dichloroethene, 1,1-	500	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Dichloroethene, cis-1,2-	500	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Dichloropropane, 1,2-	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Dichloropropene, cis-1,3	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Dichloropropene, trans-1,3	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Dioxane, 1,4-	130	0.32 U	0.3 U	0.27 U	0.29 U	0.32 U	0.29 U	0.3 U	0.32 U	R	R	R
Ethanol	NE	0.64 U	0.59 U	0.55 U	0.58 U	0.63 U	0.59 U	0.61 U	0.64 U	R	R	R
Heptane, n-	NE	<b>0.009 J</b>	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Hexachlorobutadiene	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Hexane, n-	NE	<b>0.009 J</b>	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 UJ	0.012 UJ	0.012 UJ
Hexanone, 2-	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Isopropyl benzene	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Methyl tert-butyl ether	500	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Methyl-2-pentanone, 4-	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Methylene chloride	500	<b>0.005 BJ</b>	<b>0.005 BJ</b>	<b>0.005 BJ</b>	<b>0.008 BJ</b>	<b>0.01 BJ</b>	<b>0.004 BJ</b>	<b>0.004 BJ</b>	<b>0.003 BJ</b>	<b>0.003 BJ</b>	0.012 U	0.012 U
Naphthalene	500	<b>0.004 J</b>	0.012 U	0.011 U	0.012 U	<b>0.11</b>	<b>0.093</b>	<b>0.63 D</b>	<b>0.51 D</b>	0.01 UJ	<b>0.026 J</b>	0.012 UJ
Propanol, 2-	NE	0.64 U	0.59 U	0.55 U	0.58 U	0.63 U	0.59 U	0.61 U	0.64 U	0.52 U	0.6 U	0.61 U
Propylbenzene, n-	500	<b>0.003 J</b>	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U

Table 2  
Soil Analytical Results - OU-1 Union Boulevard System Design  
Remedial Design Document - Appendix D  
Bay Shore/Brightwaters Former MGP Site  
Bay Shore, New York

Sample Name: Sample Interval: Sample Date:	6 NYCRR SCO COMM	ETSB-09 (30-32) 8/16/2010	ETSB-10 (10-12.5) 8/17/2010	Duplicate of: ETSB-10 (10-12.5) 8/17/2010	ETSB-10 (16-19) 8/17/2010	ETSB-10 (35-38) 8/17/2010	ETSB-11 (10-13.5) 8/23/2010	ETSB-11 (15-18) 8/23/2010	ETSB-11 (20-24) 8/23/2010	ETSB-12 (8-10) 8/3/2010	ETSB-12 (15-16) 8/3/2010	ETSB-12 (70-73) 8/4/2010
Styrene	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Tetrachloroethane, 1,1,1,2-	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Tetrachloroethane, 1,1,2,2-	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Tetrachloroethene	150	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Tetrahydrofuran	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Trans-1,2-dichloroethene	500	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Trichlorobenzene, 1,2,4-	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Trichloroethane, 1,1,1-	500	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Trichloroethane, 1,1,2-	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Trichloroethene	200	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Trichlorofluoromethane	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Trimethylbenzene 1,3,5-/P-ethyltoluene	190	<b>0.018</b>	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Trimethylbenzene, 1,2,4-	190	<b>0.028</b>	0.012 U	0.011 U	<b>0.002 J</b>	0.013 U	<b>0.002 J</b>	0.012 U	<b>0.002 J</b>	0.01 U	<b>0.003 J</b>	0.012 U
Trimethylpentane, 2,2,4-	NE	<b>0.003 J</b>	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Vinyl acetate	NE	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 UJ	0.012 UJ	0.012 UJ
Vinyl chloride	13	0.013 U	0.012 U	0.011 U	0.012 U	0.013 U	0.012 U	0.012 U	0.013 U	0.01 U	0.012 U	0.012 U
Total VOCs	NE	<b>0.088</b>	<b>0.015</b>	<b>0.015</b>	<b>0.021</b>	<b>0.126</b>	<b>0.106</b>	<b>0.64</b>	<b>0.543</b>	<b>0.003</b>	<b>0.057</b>	ND
<b>Non-carcinogenic PAHs (mg/kg)</b>												
Acenaphthene	500	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Acenaphthylene	500	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Anthracene	500	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Benzo[g,h,i]perylene	500	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Fluoranthene	500	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Fluorene	500	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Methylnaphthalene, 2-	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Naphthalene	500	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Phenanthrene	500	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	<b>0.18 J</b>	0.42 U	0.34 U	0.39 U	0.4 U
Pyrene	500	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
<b>Carcinogenic PAHs (mg/kg)</b>												
Benz[a]anthracene	5.6	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Benzo[a]pyrene	1	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Benzo[b]fluoranthene	5.6	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Benzo[k]fluoranthene	56	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Chrysene	56	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Dibenz[a,h]anthracene	0.56	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Indeno[1,2,3-cd]pyrene	5.6	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
<b>Total PAHs (mg/kg)</b>												
Total PAHs	NE	ND	ND	ND	ND	ND	ND	<b>0.18</b>	ND	ND	ND	ND
<b>Other SVOCs (mg/kg)</b>												
Bis(2-chloroethoxy)methane	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Bis(2-chloroethyl)ether	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Bis(2-ethylhexyl)phthalate	NE	<b>0.095 J</b>	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	<b>0.22 J</b>	0.4 U
Bis(chloroisopropyl)ether	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Bromophenyl phenyl ether, 4-	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Butyl benzyl phthalate	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Carbazole	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Chloro-3-methylphenol, 4-	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Chloroaniline, 4-	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Chloronaphthalene, 2-	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U

Table 2  
Soil Analytical Results - OU-1 Union Boulevard System Design  
Remedial Design Document - Appendix D  
Bay Shore/Brightwaters Former MGP Site  
Bay Shore, New York

Sample Name: Sample Interval: Sample Date:	6 NYCRR SCO COMM	ETSB-09 (30-32) 8/16/2010	ETSB-10 (10-12.5) 8/17/2010	Duplicate of: ETSB-10 (10-12.5) 8/17/2010	ETSB-10 (16-19) 8/17/2010	ETSB-10 (35-38) 8/17/2010	ETSB-11 (10-13.5) 8/23/2010	ETSB-11 (15-18) 8/23/2010	ETSB-11 (20-24) 8/23/2010	ETSB-12 (8-10) 8/3/2010	ETSB-12 (15-16) 8/3/2010	ETSB-12 (70-73) 8/4/2010
Chlorophenol, 2-	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Chlorophenyl phenyl ether, 4-	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Dibenzofuran	350	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Dichlorobenzene, 1,2-	500	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Dichlorobenzene, 1,3-	280	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Dichlorobenzene, 1,4-	130	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Dichlorobenzidine, 3,3-	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Dichlorophenol, 2,4-	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Diethyl phthalate	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Dimethyl phthalate	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Dimethylphenol, 2,4-	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Di-n-butyl phthalate	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Dinitro-2-methylphenol, 4,6-	NE	1.1 U	0.98 U	0.91 U	0.96 U	1.1 U	0.98 U	1 U	1.1 U	0.86 U	0.99 U	1 U
Dinitrophenol, 2,4-	NE	1.1 U	0.98 U	0.91 U	0.96 U	1.1 U	0.98 U	1 U	1.1 U	0.86 U	0.99 U	1 U
Dinitrotoluene, 2,4-	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Dinitrotoluene, 2,6-	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Di-n-octyl phthalate	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Hexachlorobenzene	6	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Hexachlorobutadiene	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Hexachlorocyclopentadiene	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Hexachloroethane	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Isophorone	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Methylphenol, 2-	500	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Methylphenol, 4-	500	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Nitroaniline, 2-	NE	1.1 U	0.98 U	0.91 U	0.96 U	1.1 U	0.98 U	1 U	1.1 U	0.86 U	0.99 U	1 U
Nitroaniline, 3-	NE	1.1 U	0.98 U	0.91 U	0.96 U	1.1 U	0.98 U	1 U	1.1 U	0.86 U	0.99 U	1 U
Nitroaniline, 4-	NE	1.1 U	0.98 U	0.91 U	0.96 U	1.1 U	0.98 U	1 U	1.1 U	0.86 U	0.99 U	1 U
Nitrobenzene	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Nitrophenol, 2-	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Nitrophenol, 4-	NE	1.1 U	0.98 U	0.91 U	0.96 U	1.1 U	0.98 U	1 U	1.1 U	0.86 U	0.99 U	1 U
Nitrosodi-n-propylamine, N-	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Nitrosodiphenylamine, N-	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Pentachlorophenol	6.7	1.1 U	0.98 U	0.91 U	0.96 U	1.1 U	0.98 U	1 U	1.1 U	0.86 U	0.99 U	1 U
Phenol	500	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Trichlorobenzene, 1,2,4-	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Trichlorophenol, 2,4,5-	NE	1.1 U	0.98 U	0.91 U	0.96 U	1.1 U	0.98 U	1 U	1.1 U	0.86 U	0.99 U	1 U
Trichlorophenol, 2,4,6-	NE	0.42 U	0.39 U	0.36 U	0.38 U	0.42 U	0.39 U	0.4 U	0.42 U	0.34 U	0.39 U	0.4 U
Total SVOCs	NE	<b>0.095</b>	ND	ND	ND	ND	ND	<b>0.18</b>	ND	ND	<b>0.22</b>	ND
<b>Total Metals (mg/kg)</b>												
Lead	1000	<b>0.72</b>	<b>0.61</b>	<b>1.6</b>	<b>1.4</b>	<b>1</b>	<b>1.1</b>	<b>0.72</b>	<b>0.89</b>	<b>0.96 J</b>	<b>1 J</b>	<b>2.1 J</b>
<b>Other (%)</b>												
Moisture, percent	NE	<b>21.6</b>	<b>15.3</b>	<b>8.7</b>	<b>13.9</b>	<b>21</b>	<b>15.1</b>	<b>17.8</b>	<b>21.3</b>	<b>3.2</b>	<b>16.4</b>	<b>18.1</b>
<b>Other (mg/kg)</b>												
Total Organic Carbon	NE	NA	270 U	300 U	260 U	260 U	210 U	240 U	250 U	300 U	290 U	290 U

Table 2  
Soil Analytical Results - OU-1 Union Boulevard System Design  
Remedial Design Document - Appendix D  
Bay Shore/Brightwaters Former MGP Site  
Bay Shore, New York

Sample Name: Sample Interval: Sample Date:	6 NYCRR SCO COMM	ETSB-13 (10-12) 8/4/2010	ETSB-13 (15-16) 8/4/2010	ETSB-13 (40-43) 8/4/2010	ETSB-14 (13-14) 8/6/2010	ETSB-14 (17-18) 8/6/2010	ETSB-14 (70-71) 8/6/2010	ETSB-15 (10-13) 8/11/2010	Duplicate of: ETSB-15 (10-13) 8/11/2010	ETSB-15 (40-43) 8/11/2010	ETSB-15 (70-72.5) 8/11/2010	ETSB-16 (1-3) 8/27/2010	ETSB-16 (7-8.5) 8/27/2010
<b>BTEX (mg/kg)</b>													
Benzene	44	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Toluene	500	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Ethylbenzene	390	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Xylene, m,p-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Xylene, o-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Total BTEX	NE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<b>Other VOCs (mg/kg)</b>													
Acetaldehyde	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.011 U	0.011 U
Acetone	500	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.014 UJ	<b>0.032 B</b>	<b>0.017 B</b>
Allyl chloride	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Bromodichloromethane	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Bromoform	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Bromomethane	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.011 U	0.011 U
Butadiene, 1,3-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.011 U	0.011 U
Butanone, 2-	500	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	<b>0.002 J</b>	0.011 U
Carbon disulfide	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Carbon tetrachloride	22	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Chlorobenzene	500	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Chloroethane	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Chloroform	350	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Chloromethane	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.011 U	0.011 U
Chlorotoluene	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Cryofluorane	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Cyclohexane	NE	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.011 U	0.011 U
Dibromochloromethane	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Dibromoethane, 1,2-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Dichlorobenzene, 1,2-	500	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Dichlorobenzene, 1,3-	280	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Dichlorobenzene, 1,4-	130	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Dichlorodifluoromethane	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.011 U	0.011 U
Dichloroethane, 1,1-	240	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Dichloroethane, 1,2-	30	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Dichloroethene, 1,1-	500	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Dichloroethene, cis-1,2-	500	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Dichloropropane, 1,2-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Dichloropropene, cis-1,3	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Dichloropropene, trans-1,3	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Dioxane, 1,4-	130	R	R	R	R	R	R	R	R	R	R	0.27 U	0.27 U
Ethanol	NE	R	R	R	R	R	R	R	R	R	R	0.55 U	0.53 U
Heptane, n-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.011 U	0.011 U
Hexachlorobutadiene	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.011 U	0.011 U
Hexane, n-	NE	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.012 UJ	0.011 U	0.011 U
Hexanone, 2-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Isopropyl benzene	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Methyl tert-butyl ether	500	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Methyl-2-pentanone, 4-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Methylene chloride	500	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 UJ	<b>0.007 BJ</b>	<b>0.007 BJ</b>
Naphthalene	500	0.012 UJ	0.012 UJ	0.012 UJ	<b>0.004 J</b>	<b>0.008 J</b>	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	<b>0.003 J</b>	<b>0.002 J</b>
Propanol, 2-	NE	0.6 U	0.61 U	0.62 U	0.6 U	0.58 U	0.62 U	0.58 U	0.61 U	0.61 U	0.6 U	0.55 U	0.53 U
Propylbenzene, n-	500	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U

Table 2  
Soil Analytical Results - OU-1 Union Boulevard System Design  
Remedial Design Document - Appendix D  
Bay Shore/Brightwaters Former MGP Site  
Bay Shore, New York

Sample Name: Sample Interval: Sample Date:	6 NYCRR SCO COMM	ETSB-13 (10-12) 8/4/2010	ETSB-13 (15-16) 8/4/2010	ETSB-13 (40-43) 8/4/2010	ETSB-14 (13-14) 8/6/2010	ETSB-14 (17-18) 8/6/2010	ETSB-14 (70-71) 8/6/2010	ETSB-15 (10-13) 8/11/2010	Duplicate of: ETSB-15 (10-13) 8/11/2010	ETSB-15 (40-43) 8/11/2010	ETSB-15 (70-72.5) 8/11/2010	ETSB-16 (1-3) 8/27/2010	ETSB-16 (7-8.5) 8/27/2010
Styrene	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Tetrachloroethane, 1,1,1,2-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Tetrachloroethane, 1,1,2,2-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Tetrachloroethene	150	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	<b>0.017</b>
Tetrahydrofuran	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Trans-1,2-dichloroethene	500	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Trichlorobenzene, 1,2,4-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Trichloroethane, 1,1,1-	500	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Trichloroethane, 1,1,2-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Trichloroethene	200	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Trichlorofluoromethane	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Trimethylbenzene 1,3,5-P-ethyltoluene	190	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	<b>0.003 J</b>	0.011 U
Trimethylbenzene, 1,2,4-	190	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	<b>0.002 J</b>	0.011 U
Trimethylpentane, 2,2,4-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Vinyl acetate	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Vinyl chloride	13	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U	0.011 U	0.011 U
Total VOCs	NE	ND	ND	ND	<b>0.004</b>	<b>0.008</b>	ND	ND	ND	ND	ND	<b>0.049</b>	<b>0.043</b>
<b>Non-carcinogenic PAHs (mg/kg)</b>													
Acenaphthene	500	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Acenaphthylene	500	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Anthracene	500	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Benzo[g,h,i]perylene	500	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Fluoranthene	500	<b>0.1 J</b>	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	<b>0.099 J</b>	0.35 U
Fluorene	500	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Methylanththalene, 2-	NE	0.39 U	0.4 U	0.41 U	0.39 U	<b>0.11 J</b>	<b>0.17 J</b>	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Naphthalene	500	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	<b>0.61</b>	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Phenanthrene	500	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	<b>0.12 J</b>	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Pyrene	500	<b>0.11 J</b>	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	<b>0.22 J</b>	0.35 U
<b>Carcinogenic PAHs (mg/kg)</b>													
Benz[a]anthracene	5.6	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Benzo[a]pyrene	1	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Benzo[b]fluoranthene	5.6	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Benzo[k]fluoranthene	56	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Chrysene	56	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Dibenz[a,h]anthracene	0.56	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Indeno[1,2,3-cd]pyrene	5.6	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
<b>Total PAHs (mg/kg)</b>													
Total PAHs	NE	<b>0.21</b>	ND	ND	ND	<b>0.11</b>	<b>0.9</b>	ND	ND	ND	ND	<b>0.319</b>	ND
<b>Other SVOCs (mg/kg)</b>													
Bis(2-chloroethoxy)methane	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Bis(2-chloroethyl)ether	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Bis(2-ethylhexyl)phthalate	NE	0.39 U	0.4 U	0.41 U	<b>0.22 J</b>	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	<b>0.88</b>	0.35 U
Bis(chloroisopropyl)ether	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Bromophenyl phenyl ether, 4-	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Butyl benzyl phthalate	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	<b>2.5</b>	0.35 U
Carbazole	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Chloro-3-methylphenol, 4-	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Chloroaniline, 4-	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Chloronaphthalene, 2-	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U

Table 2  
Soil Analytical Results - OU-1 Union Boulevard System Design  
Remedial Design Document - Appendix D  
Bay Shore/Brightwaters Former MGP Site  
Bay Shore, New York

Sample Name: Sample Interval: Sample Date:	6 NYCRR SCO COMM	ETSB-13 (10-12) 8/4/2010	ETSB-13 (15-16) 8/4/2010	ETSB-13 (40-43) 8/4/2010	ETSB-14 (13-14) 8/6/2010	ETSB-14 (17-18) 8/6/2010	ETSB-14 (70-71) 8/6/2010	ETSB-15 (10-13) 8/11/2010	Duplicate of: ETSB-15 (10-13) 8/11/2010	ETSB-15 (40-43) 8/11/2010	ETSB-15 (70-72.5) 8/11/2010	ETSB-16 (1-3) 8/27/2010	ETSB-16 (7-8.5) 8/27/2010
Chlorophenol, 2-	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Chlorophenyl phenyl ether, 4-	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Dibenzofuran	350	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Dichlorobenzene, 1,2-	500	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Dichlorobenzene, 1,3-	280	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Dichlorobenzene, 1,4-	130	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Dichlorobenzidine, 3,3-	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Dichlorophenol, 2,4-	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Diethyl phthalate	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Dimethyl phthalate	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Dimethylphenol, 2,4-	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Di-n-butyl phthalate	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Dinitro-2-methylphenol, 4,6-	NE	0.99 U	1 U	1 U	0.99 U	0.96 U	1 U	0.97 U	1 U	1 U	0.99 U	0.91 U	0.88 U
Dinitrophenol, 2,4-	NE	0.99 U	1 U	1 U	0.99 U	0.96 U	1 U	0.97 U	1 U	1 U	0.99 U	0.91 U	0.88 U
Dinitrotoluene, 2,4-	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Dinitrotoluene, 2,6-	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Di-n-octyl phthalate	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Hexachlorobenzene	6	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Hexachlorobutadiene	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Hexachlorocyclopentadiene	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Hexachloroethane	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Isophorone	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Methylphenol, 2-	500	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Methylphenol, 4-	500	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Nitroaniline, 2-	NE	0.99 U	1 U	1 U	0.99 U	0.96 U	1 U	0.97 U	1 U	1 U	0.99 U	0.91 U	0.88 U
Nitroaniline, 3-	NE	0.99 U	1 U	1 U	0.99 U	0.96 U	1 U	0.97 U	1 U	1 U	0.99 U	0.91 U	0.88 U
Nitroaniline, 4-	NE	0.99 U	1 U	1 U	0.99 U	0.96 U	1 U	0.97 U	1 U	1 U	0.99 U	0.91 U	0.88 U
Nitrobenzene	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Nitrophenol, 2-	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Nitrophenol, 4-	NE	0.99 U	1 U	1 U	0.99 U	0.96 U	1 U	0.97 U	1 U	1 U	0.99 U	0.91 U	0.88 U
Nitrosodi-n-propylamine, N-	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Nitrosodiphenylamine, N-	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Pentachlorophenol	6.7	0.99 U	1 U	1 U	0.99 U	0.96 U	1 U	0.97 U	1 U	1 U	0.99 U	0.91 U	0.88 U
Phenol	500	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Trichlorobenzene, 1,2,4-	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Trichlorophenol, 2,4,5-	NE	0.99 U	1 U	1 U	0.99 U	0.96 U	1 U	0.97 U	1 U	1 U	0.99 U	0.91 U	0.88 U
Trichlorophenol, 2,4,6-	NE	0.39 U	0.4 U	0.41 U	0.39 U	0.38 U	0.41 U	0.38 U	0.4 U	0.4 U	0.39 U	0.36 U	0.35 U
Total SVOCs	NE	0.21	ND	ND	0.22	0.11	0.9	ND	ND	ND	ND	3.699	ND
<b>Total Metals (mg/kg)</b>													
Lead	1000	1.4 J	0.83 J	0.83 J	1.7 J	1.4 J	1.9 J	0.58 J	0.79 J	0.74 J	2.2 J	17.8	3.1
<b>Other (%)</b>													
Moisture, percent	NE	16.4	17.7	19.3	16.4	13.3	18.8	14.1	18.4	18.1	16.4	8.3	5.9
<b>Other (mg/kg)</b>													
Total Organic Carbon	NE	290 U	290 U	300 U	290 U	270 U	270 U	NA	NA	NA	NA	NA	NA

Table 2  
Soil Analytical Results - OU-1 Union Boulevard System Design  
Remedial Design Document - Appendix D  
Bay Shore/Brightwaters Former MGP Site  
Bay Shore, New York

Sample Name: Sample Interval: Sample Date:	6 NYCRR SCO COMM	ETSB-17 (10-12) 8/10/2010	ETSB-17 (15-16) 8/10/2010	ETSB-17 (20-22) 8/10/2010	ETSB-18 (14-15) 8/25/2010	ETSB-18 (16-18) 8/25/2010	ETSB-18 (20-22) 8/25/2010
<b>BTEX (mg/kg)</b>							
Benzene	44	0.063 U	0.012 U	0.012 U	0.012 U	<b>0.012 J</b>	0.012 U
Toluene	500	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Ethylbenzene	390	0.063 U	0.012 U	0.012 U	0.012 U	<b>0.043</b>	0.012 U
Xylene, m,p-	NE	0.063 U	0.012 U	0.012 U	0.012 U	<b>0.004 J</b>	0.012 U
Xylene, o-	NE	0.063 U	0.012 U	0.012 U	0.012 U	<b>0.005 J</b>	0.012 U
Total BTEX	NE	ND	ND	ND	ND	<b>0.064</b>	ND
<b>Other VOCs (mg/kg)</b>							
Acetaldehyde	NE	0.063 UJ	0.012 UJ	0.012 UJ	0.012 U	0.013 U	0.012 U
Acetone	500	0.063 UJ	0.019 UJ	0.019 UJ	<b>0.014 B</b>	<b>0.01 BJ</b>	<b>0.013 B</b>
Allyl chloride	NE	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Bromodichloromethane	NE	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Bromoform	NE	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Bromomethane	NE	0.063 UJ	0.012 UJ	0.012 UJ	0.012 U	0.013 U	0.012 U
Butadiene, 1,3-	NE	0.063 UJ	0.012 UJ	0.012 UJ	0.012 U	0.013 U	0.012 U
Butanone, 2-	500	0.063 U	0.012 U	<b>0.002 J</b>	0.012 U	0.013 U	0.012 U
Carbon disulfide	NE	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Carbon tetrachloride	22	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Chlorobenzene	500	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Chloroethane	NE	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Chloroform	350	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Chloromethane	NE	0.063 UJ	0.012 UJ	0.012 UJ	0.012 U	0.013 U	0.012 U
Chlorotoluene	NE	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Cryofluorane	NE	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Cyclohexane	NE	0.063 UJ	0.012 UJ	0.012 UJ	0.012 U	0.013 U	0.012 U
Dibromochloromethane	NE	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Dibromoethane, 1,2-	NE	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Dichlorobenzene, 1,2-	500	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Dichlorobenzene, 1,3-	280	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Dichlorobenzene, 1,4-	130	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Dichlorodifluoromethane	NE	0.063 UJ	0.012 UJ	0.012 UJ	0.012 U	0.013 U	0.012 U
Dichloroethane, 1,1-	240	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Dichloroethane, 1,2-	30	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Dichloroethene, 1,1-	500	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Dichloroethene, cis-1,2-	500	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Dichloropropane, 1,2-	NE	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Dichloropropene, cis-1,3	NE	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Dichloropropene, trans-1,3	NE	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Dioxane, 1,4-	130	R	R	R	0.3 U	0.31 U	0.29 U
Ethanol	NE	R	R	R	0.59 U	0.63 U	0.58 U
Heptane, n-	NE	0.063 UJ	0.012 UJ	0.012 UJ	0.012 U	0.013 U	0.012 U
Hexachlorobutadiene	NE	0.063 UJ	0.012 UJ	0.012 UJ	0.012 U	0.013 U	0.012 U
Hexane, n-	NE	0.063 UJ	0.012 UJ	0.012 UJ	0.012 U	0.013 U	0.012 U
Hexanone, 2-	NE	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Isopropyl benzene	NE	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Methyl tert-butyl ether	500	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Methyl-2-pentanone, 4-	NE	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Methylene chloride	500	0.063 U	0.012 U	0.012 U	<b>0.007 BJ</b>	<b>0.007 BJ</b>	<b>0.008 BJ</b>
Naphthalene	500	0.063 U	0.012 U	0.012 U	0.012 U	<b>0.011 J</b>	0.012 U
Propanol, 2-	NE	3.2 U	0.62 U	0.61 U	0.59 U	0.63 U	0.58 U
Propylbenzene, n-	500	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U



Table 2  
 Soil Analytical Results - OU-1 Union Boulevard System Design  
 Remedial Design Document - Appendix D  
 Bay Shore/Brightwaters Former MGP Site  
 Bay Shore, New York

Sample Name: Sample Interval: Sample Date:	6 NYCRR SCO COMM	ETSB-17 (10-12) 8/10/2010	ETSB-17 (15-16) 8/10/2010	ETSB-17 (20-22) 8/10/2010	ETSB-18 (14-15) 8/25/2010	ETSB-18 (16-18) 8/25/2010	ETSB-18 (20-22) 8/25/2010
Styrene	NE	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Tetrachloroethane, 1,1,1,2-	NE	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Tetrachloroethane, 1,1,2,2-	NE	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Tetrachloroethene	150	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Tetrahydrofuran	NE	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Trans-1,2-dichloroethene	500	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Trichloro-1,2,2-trifluoroethane, 1,1,2-	NE	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Trichlorobenzene, 1,2,4-	NE	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Trichloroethane, 1,1,1-	500	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Trichloroethane, 1,1,2-	NE	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Trichloroethene	200	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Trichlorofluoromethane	NE	0.063 U	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Trimethylbenzene 1,3,5-/P-ethyltoluene	190	<b>0.053 J</b>	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Trimethylbenzene, 1,2,4-	190	<b>0.016 J</b>	0.012 U	0.012 U	0.012 U	<b>0.004 J</b>	0.012 U
Trimethylpentane, 2,2,4-	NE	<b>0.1 J</b>	0.012 UJ	0.012 UJ	0.012 U	0.013 U	0.012 U
Vinyl acetate	NE	0.063 UJ	0.012 UJ	0.012 UJ	0.012 U	0.013 U	0.012 U
Vinyl chloride	13	0.063 UJ	0.012 UJ	0.012 UJ	0.012 U	0.013 U	0.012 U
Total VOCs	NE	<b>0.169</b>	ND	<b>0.002</b>	<b>0.021</b>	<b>0.096</b>	<b>0.021</b>
<b>Non-carcinogenic PAHs (mg/kg)</b>							
Acenaphthene	500	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Acenaphthylene	500	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Anthracene	500	<b>0.11 J</b>	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Benzo[g,h,i]perylene	500	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Fluoranthene	500	<b>0.24 J</b>	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Fluorene	500	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Methylnaphthalene, 2-	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Naphthalene	500	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Phenanthrene	500	<b>0.32 J</b>	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Pyrene	500	<b>0.42</b>	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
<b>Carcinogenic PAHs (mg/kg)</b>							
Benz[a]anthracene	5.6	<b>0.12 J</b>	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Benzo[a]pyrene	1	<b>0.1 J</b>	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Benzo[b]fluoranthene	5.6	0.42 U	0.41 UJ	0.41 UJ	0.39 U	0.41 U	0.39 U
Benzo[k]fluoranthene	56	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Chrysene	56	<b>0.14 J</b>	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Dibenz[a,h]anthracene	0.56	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Indeno[1,2,3-cd]pyrene	5.6	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
<b>Total PAHs (mg/kg)</b>							
Total PAHs	NE	<b>1.45</b>	ND	ND	ND	ND	ND
<b>Other SVOCs (mg/kg)</b>							
Bis(2-chloroethoxy)methane	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Bis(2-chloroethyl)ether	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Bis(2-ethylhexyl)phthalate	NE	0.42 U	0.41 U	0.41 U	<b>0.21 J</b>	<b>0.24 J</b>	<b>0.24 J</b>
Bis(chloroisopropyl)ether	NE	0.42 UJ	0.41 UJ	0.41 UJ	0.39 U	0.41 U	0.39 U
Bromophenyl phenyl ether, 4-	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Butyl benzyl phthalate	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Carbazole	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Chloro-3-methylphenol, 4-	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Chloroaniline, 4-	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Chloronaphthalene, 2-	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U

Table 2  
Soil Analytical Results - OU-1 Union Boulevard System Design  
Remedial Design Document - Appendix D  
Bay Shore/Brightwaters Former MGP Site  
Bay Shore, New York

Sample Name: Sample Interval: Sample Date:	6 NYCRR SCO COMM	ETSB-17 (10-12) 8/10/2010	ETSB-17 (15-16) 8/10/2010	ETSB-17 (20-22) 8/10/2010	ETSB-18 (14-15) 8/25/2010	ETSB-18 (16-18) 8/25/2010	ETSB-18 (20-22) 8/25/2010
Chlorophenol, 2-	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Chlorophenyl phenyl ether, 4-	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Dibenzofuran	350	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Dichlorobenzene, 1,2-	500	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Dichlorobenzene, 1,3-	280	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Dichlorobenzene, 1,4-	130	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Dichlorobenzidine, 3,3-	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Dichlorophenol, 2,4-	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Diethyl phthalate	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Dimethyl phthalate	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Dimethylphenol, 2,4-	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Di-n-butyl phthalate	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Dinitro-2-methylphenol, 4,6-	NE	1 U	1 U	1 U	0.99 U	1 U	0.97 U
Dinitrophenol, 2,4-	NE	1 U	1 U	1 U	0.99 U	1 U	0.97 U
Dinitrotoluene, 2,4-	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Dinitrotoluene, 2,6-	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Di-n-octyl phthalate	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Hexachlorobenzene	6	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Hexachlorobutadiene	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Hexachlorocyclopentadiene	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Hexachloroethane	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Isophorone	NE	0.42 UJ	0.41 UJ	0.41 UJ	0.39 U	0.41 U	0.39 U
Methylphenol, 2-	500	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Methylphenol, 4-	500	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Nitroaniline, 2-	NE	1 UJ	1 UJ	1 UJ	0.99 U	1 U	0.97 U
Nitroaniline, 3-	NE	1 U	1 U	1 U	0.99 U	1 U	0.97 U
Nitroaniline, 4-	NE	1 U	1 U	1 U	0.99 U	1 U	0.97 U
Nitrobenzene	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Nitrophenol, 2-	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Nitrophenol, 4-	NE	1 U	1 U	1 U	0.99 U	1 U	0.97 U
Nitrosodi-n-propylamine, N-	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Nitrosodiphenylamine, N-	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Pentachlorophenol	6.7	1 U	1 U	1 U	0.99 U	1 U	0.97 U
Phenol	500	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Trichlorobenzene, 1,2,4-	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Trichlorophenol, 2,4,5-	NE	1 U	1 U	1 U	0.99 U	1 U	0.97 U
Trichlorophenol, 2,4,6-	NE	0.42 U	0.41 U	0.41 U	0.39 U	0.41 U	0.39 U
Total SVOCs	NE	1.45	ND	ND	0.21	0.24	0.24
<b>Total Metals (mg/kg)</b>							
Lead	1000	0.67 J	0.66 J	0.98 J	2.3	0.8	0.54
<b>Other (%)</b>							
Moisture, percent	NE	20.9	18.7	18.6	15.9	20.3	14.4
<b>Other (mg/kg)</b>							
Total Organic Carbon	NE	1070	290	290 U	270 U	280 U	290 U

Table 2  
Soil Analytical Results - OU-1 Union Boulevard System Design  
Remedial Design Document - Appendix D  
Bay Shore/Brightwaters Former MGP Site  
Bay Shore, New York

**Notes:**

mg/kg - milligrams/kilogram or parts per million (ppm)

BTEX - benzene, toluene, ethylbenzene, and xylenes

VOCs - volatile organic compounds

PAHs - polycyclic aromatic hydrocarbons

SVOCs - semivolatile organic compounds

Total BTEX, Total VOCs, Total PAHs and Total SVOCs are calculated using detects only.

6 NYCRR - New York State Register and Official Compilation of Codes, Rules and Regulations of the State of New York

6 NYCRR 375 SCO COMMERCIAL USE - regulatory comparison against NYCRR, Chapter IV, Part 375-6 Commercial Use Soil Cleanup Objectives

NE - not established

NA - not analyzed

ND - not detected; total concentration is listed as ND because no compounds were detected in the group

Bolding indicates a detected concentration

Gray shading and bolding indicates that the detected result value exceeds established 6 NYCRR SCO COMM

**Laboratory Qualifiers:**

J - estimated value

U - indicates not detected to the reporting limit

UJ - not detected at or above the reporting limit shown and the reporting limit is estimated

R - rejected

E - Value above quantitation range

D - Results for dilution

B - Analyte detected in the associated method blank

**Table 3**  
**Historic Groundwater Analytical Results - OU-1 Union Boulevard System Design**  
**Remedial Design Document - Appendix D**  
**Bay Shore/Brightwaters Former MGP Site**  
**Bay Shore, New York**

Sample ID: Depth (ft): Date Collected:	NYSDEC SCG	ETGP-01 (7.5 - 11.5) 7/7/2004	ETGP-01 (12 - 16) 7/7/2004	ETGP-01 (16 - 20) 7/7/2004	ETGP-01 (26 - 30) 7/7/2004	ETGP-01 (36 - 40) 7/7/2004
<b>BTEX (ug/L)</b>						
Benzene	1	10 U	10 U	10 U	10 U	10 U
Toluene	5	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	5	40	10 U	10 U	3 J	5 J
Xylene, total	5	200	2 J	10 U	10	22
Total BTEX	NE	240	2	ND	13	27
<b>Other VOCs (ug/L)</b>						
Acetone	50*	10 U	10 U	10 U	3 J	4 J
Bromodichloromethane	50*	10 U	10 U	10 U	10 U	10 U
Bromoform	NE	10 U	10 U	10 U	10 U	10 U
Bromomethane	5	10 U	10 U	10 U	10 U	10 U
Butanone,2-	50*	10 U	10 U	10 U	10 U	10 U
Carbon disulfide	NE	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	5	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	5	10 U	10 U	10 U	10 U	10 U
Chloroethane	5	10 U	10 U	10 U	10 U	10 U
Chloroform	7	10 U	10 U	10 U	10 U	10 U
Chloromethane	5	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	50*	10 U	10 U	10 U	10 U	10 U
Dichloroethane,1,1-	5	10 U	10 U	10 U	10 U	10 U
Dichloroethane,1,2-	0.6	10 U	10 U	10 U	10 U	10 U
Dichloroethene,1,1-	5	10 U	10 U	10 U	10 U	10 U
Dichloroethene,1,2- (total)	NE	10 U	10 U	10 U	10 U	10 U
Dichloropropane,1,2-	NE	10 U	10 U	10 U	10 U	10 U
Dichloropropene, cis-1,3	NE	10 U	10 U	10 U	10 U	10 U
Dichloropropene, trans-1,3	NE	10 U	10 U	10 U	10 U	10 U
Hexanone,2-	NE	10 U	10 U	10 U	10 U	10 U
Methyl tert-butyl ether	NE	10 U	10 U	10 U	10 U	10 U
Methyl-2-pentanone,4-	NE	10 U	10 U	10 U	10 U	10 U
Methylene chloride	5	10 U	10 U	10 U	10 U	10 U
Styrene	5	10 U	10 U	10 U	10 U	10 U
Tetrachloroethane,1,1,2,2-	5	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	5	10 U	10 U	10 U	6 J	14
Trichloroethane,1,1,1-	5	10 U	10 U	10 U	10 U	10 U
Trichloroethane,1,1,2-	1	10 U	10 U	10 U	10 U	10 U
Trichloroethene	5	10 U	10 U	10 U	10 U	1 J
Vinyl chloride	2	10 U	10 U	10 U	10 U	10 U
<b>Non-carcinogenic PAHs (ug/L)</b>						
Anthracene	50*	10 U	10 U	10 U	10 U	10 U
Pyrene	50*	10 U	10 U	10 U	10 U	10 U
Benzo[g,h,i]perylene	NE	10 U	10 U	10 U	10 U	10 U
Fluoranthene	50*	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	NE	10 U	10 U	10 U	10 U	10 U
Acenaphthene	20*	10 U	10 U	10 U	10 U	10 U
Phenanthrene	50*	10 U	10 U	10 U	10 U	10 U
Fluorene	50*	10 U	10 U	10 U	10 U	10 U
Naphthalene	10*	9 J	10 U	10 U	10 U	2 J
Methylnaphthalene,2-	NE	13	10 U	10 U	10 U	1 J
<b>Carcinogenic PAHs (ug/L)</b>						
Indeno[1,2,3-cd]pyrene	0.002*	10 U	10 U	10 U	10 U	10 U
Benzo[b]fluoranthene	0.002*	10 U	10 U	10 U	10 U	10 U
Benzo[k]fluoranthene	0.002*	10 U	10 U	10 U	10 U	10 U
Chrysene	0.002*	10 U	10 U	10 U	10 U	10 U
Benzo[a]pyrene	ND	10 U	10 U	10 U	10 U	10 U
Dibenz[a,h]anthracene	NE	10 U	10 U	10 U	10 U	10 U
Benzo[a]anthracene	0.002*	10 U	10 U	10 U	10 U	10 U
Total Carcinogenic PAHs	NE	ND	ND	ND	ND	ND
<b>Total PAHs (ug/L)</b>						
Total PAHs	NE	22	ND	ND	ND	3

**Table 3**  
**Historic Groundwater Analytical Results - OU-1 Union Boulevard System Design**  
**Remedial Design Document - Appendix D**  
**Bay Shore/Brightwaters Former MGP Site**  
**Bay Shore, New York**

Sample ID: Depth (ft): Date Collected:	NYSDEC SCG	ETGP-01 (7.5 - 11.5) 7/7/2004	ETGP-01 (12 - 16) 7/7/2004	ETGP-01 (16 - 20) 7/7/2004	ETGP-01 (26 - 30) 7/7/2004	ETGP-01 (36 - 40) 7/7/2004
<b>Other SVOCs (ug/L)</b>						
Bis(2-chloroethoxy)methane	NE	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethyl)ether	1	10 U	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	5	10 U	10 U	10 U	10 U	10 U
Bis(chloroisopropyl)ether	NE	10 U	10 U	10 U	10 U	10 U
Bromophenyl phenyl ether,4-	NE	10 U	10 U	10 U	10 U	10 U
Butyl benzyl phthalate	50*	10 U	10 U	10 U	10 U	10 U
Carbazole	NE	10 U	10 U	10 U	10 U	10 U
Chloro-3-methylphenol,4-	NE	10 U	10 U	10 U	10 U	10 U
Chloroaniline,4-	5	10 U	10 U	10 U	10 U	10 U
Chloronaphthalene,2-	NE	10 U	10 U	10 U	10 U	10 U
Chlorophenol,2-	NE	10 U	10 U	10 U	10 U	10 U
Chlorophenyl phenyl ether,4-	NE	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	NE	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene,1,2-	3	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene,1,3-	3	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene,1,4-	3	10 U	10 U	10 U	10 U	10 U
Dichlorobenzidine,3,3-	NE	10 U	10 U	10 U	10 U	10 U
Dichlorophenol,2,4-	5	10 U	10 U	10 U	10 U	10 U
Diethyl phthalate	50*	10 U	10 U	10 U	10 U	10 U
Dimethyl phthalate	50*	10 U	10 U	10 U	10 U	10 U
Dimethylphenol, 2,4-	50*	10 U	10 U	10 U	10 U	10 U
Di-n-butyl phthalate	50	10 U	10 U	10 U	10 U	10 U
Dinitro-2-methylphenol,4,6-	NE	25 U	25 U	25 U	25 U	25 U
Dinitrophenol,2,4-	10*	25 U	25 U	25 U	25 U	25 U
Dinitrotoluene,2,4-	NE	10 U	10 U	10 U	10 U	10 U
Dinitrotoluene,2,6-	5	10 U	10 U	10 U	10 U	10 U
Di-n-octyl phthalate	50*	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	0.04	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	NE	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	NE	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	NE	10 U	10 U	10 U	10 U	10 U
Isophorone	50*	10 U	10 U	10 U	10 U	10 U
Methylphenol, 4-	1	10 U	10 U	10 U	10 U	10 U
Methylphenol,2-	1	10 U	10 U	10 U	10 U	10 U
Nitroaniline,2-	5	25 U	25 U	25 U	25 U	25 U
Nitroaniline,3-	5	10 U	10 U	10 U	10 U	10 U
Nitroaniline,4-	NE	25 U	25 U	25 U	25 U	25 U
Nitrobenzene	0.4	10 U	10 U	10 U	10 U	10 U
Nitrophenol,2-	NE	10 U	10 U	10 U	10 U	10 U
Nitrophenol,4-	NE	25 U	25 U	25 U	25 U	25 U
N-Nitrosodi-n-propylamine	NE	10 U	10 U	10 U	10 U	10 U
N-Nitrosodiphenylamine	NE	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	NE	1 J	25 U	25 U	25 U	25 U
Phenol	1	10 U	10 U	10 U	10 U	10 U
Trichlorobenzene,1,2,4-	5	10 U	10 U	10 U	10 U	10 U
Trichlorophenol,2,4,5-	NE	25 U	25 U	25 U	25 U	25 U
Trichlorophenol,2,4,6-	NE	10 U	10 U	10 U	10 U	10 U
<b>Inorganics (UG/L)</b>						
Lead	25	2.6	1.5	3.2	12.4	8.9
Cyanide, Total	200	10 U	10 U	10 U	10 U	50 U

**Table 3**  
**Historic Groundwater Analytical Results - OU-1 Union Boulevard System Design**  
**Remedial Design Document - Appendix D**  
**Bay Shore/Brightwaters Former MGP Site**  
**Bay Shore, New York**

Sample ID: Depth (ft): Date Collected:	NYSDEC SCG	ETGP-01 (66 - 70) 7/7/2004	ETGP-02 (7.5 - 11) 7/8/2004	ETGP-02 (12 - 16) 7/8/2004	Duplicate of ETGP-02 (12 - 16) 7/8/2004	ETGP-02 (16 - 20) 7/8/2004
<b>BTEX (ug/L)</b>						
Benzene	1	10 U	3 J	3 J	3 J	10 U
Toluene	5	10 U	2 J	1 J	2 J	10 U
Ethylbenzene	5	34	9 J	3 J	3 J	10 U
Xylene, total	5	160	20	10	11	10 U
Total BTEX	NE	194	34	17	19	ND
<b>Other VOCs (ug/L)</b>						
Acetone	50*	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	50*	10 U	10 U	10 U	10 U	10 U
Bromoform	NE	10 U	10 U	10 U	10 U	10 U
Bromomethane	5	10 U	10 U	10 U	10 U	10 U
Butanone,2-	50*	10 U	10 U	10 U	10 U	10 U
Carbon disulfide	NE	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	5	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	5	10 U	10 U	10 U	10 U	10 U
Chloroethane	5	10 U	10 U	10 U	10 U	10 U
Chloroform	7	10 U	10 U	10 U	10 U	10 U
Chloromethane	5	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	50*	10 U	10 U	10 U	10 U	10 U
Dichloroethane,1,1-	5	10 U	10 U	10 U	10 U	10 U
Dichloroethane,1,2-	0.6	10 U	10 U	10 U	10 U	10 U
Dichloroethene,1,1-	5	10 U	10 U	10 U	10 U	10 U
Dichloroethene,1,2- (total)	NE	10 U	10 U	10 U	10 U	10 U
Dichloropropane,1,2-	NE	10 U	10 U	10 U	10 U	10 U
Dichloropropene, cis-1,3	NE	10 U	10 U	10 U	10 U	10 U
Dichloropropene, trans-1,3	NE	10 U	10 U	10 U	10 U	10 U
Hexanone,2-	NE	10 U	10 U	10 U	10 U	10 U
Methyl tert-butyl ether	NE	10 U	10 U	10 U	10 U	3 J
Methyl-2-pentanone,4-	NE	10 U	10 U	10 U	10 U	10 U
Methylene chloride	5	10 U	10 U	10 U	10 U	10 U
Styrene	5	10 U	10 U	10 U	10 U	10 U
Tetrachloroethane,1,1,2,2-	5	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	5	10 U	10 U	10 U	10 U	10 U
Trichloroethane,1,1,1-	5	10 U	10 U	10 U	10 U	10 U
Trichloroethane,1,1,2-	1	10 U	10 U	10 U	10 U	10 U
Trichloroethene	5	10 U	10 UJ	10 UJ	10 UJ	10 UJ
Vinyl chloride	2	10 U	10 U	10 U	10 U	10 U
<b>Non-carcinogenic PAHs (ug/L)</b>						
Anthracene	50*	10 U	10 U	10 U	10 U	10 U
Pyrene	50*	10 U	10 U	10 U	10 U	10 U
Benzo[g,h,i]perylene	NE	10 U	10 U	10 U	10 U	10 U
Fluoranthene	50*	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	NE	10 U	19	33	34	10 U
Acenaphthene	20*	10 U	7 J	4 J	5 J	10 U
Phenanthrene	50*	2 J	9 J	2 J	2 J	10 U
Fluorene	50*	10 U	10 U	2 J	1 J	10 U
Naphthalene	10*	9 J	89 D	82 D	93 D	10 U
Methylnaphthalene,2-	NE	7 J	43	1 J	2 J	10 U
<b>Carcinogenic PAHs (ug/L)</b>						
Indeno[1,2,3-cd]pyrene	0.002*	10 U	10 U	10 U	10 U	10 U
Benzo[b]fluoranthene	0.002*	10 U	10 U	10 U	10 U	10 U
Benzo[k]fluoranthene	0.002*	10 U	10 U	10 U	10 U	10 U
Chrysene	0.002*	10 U	10 U	10 U	10 U	10 U
Benzo[a]pyrene	ND	10 U	10 U	10 U	10 U	10 U
Dibenzo[a,h]anthracene	NE	10 U	10 U	10 U	10 U	10 U
Benzo[a]anthracene	0.002*	10 U	10 U	10 U	10 U	10 U
Total Carcinogenic PAHs	NE	ND	ND	ND	ND	ND
<b>Total PAHs (ug/L)</b>						
Total PAHs	NE	18	167	124	137	ND

**Table 3**  
**Historic Groundwater Analytical Results - OU-1 Union Boulevard System Design**  
**Remedial Design Document - Appendix D**  
**Bay Shore/Brightwaters Former MGP Site**  
**Bay Shore, New York**

Sample ID: Depth (ft): Date Collected:	NYSDEC SCG	ETGP-01 (66 - 70) 7/7/2004	ETGP-02 (7.5 - 11) 7/8/2004	ETGP-02 (12 - 16) 7/8/2004	Duplicate of ETGP-02 (12 - 16) 7/8/2004	ETGP-02 (16 - 20) 7/8/2004
<b>Other SVOCs (ug/L)</b>						
Bis(2-chloroethoxy)methane	NE	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethyl)ether	1	10 U	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	5	10 U	10 U	10 U	10 U	10 U
Bis(chloroisopropyl)ether	NE	10 U	10 U	10 U	10 U	10 U
Bromophenyl phenyl ether,4-	NE	10 U	10 U	10 U	10 U	10 U
Butyl benzyl phthalate	50*	10 U	10 U	10 U	10 U	10 U
Carbazole	NE	10 U	10 U	10 U	10 U	10 U
Chloro-3-methylphenol,4-	NE	10 U	10 U	10 U	10 U	10 U
Chloroaniline,4-	5	10 U	10 U	10 U	10 U	10 U
Chloronaphthalene,2-	NE	10 U	10 U	10 U	10 U	10 U
Chlorophenol,2-	NE	10 U	10 U	10 U	10 U	10 U
Chlorophenyl phenyl ether,4-	NE	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	NE	10 U	10 U	1 J	1 J	10 U
Dichlorobenzene,1,2-	3	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene,1,3-	3	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene,1,4-	3	10 U	10 U	10 U	10 U	10 U
Dichlorobenzidine,3,3-	NE	10 U	10 U	10 U	10 U	10 U
Dichlorophenol,2,4-	5	10 U	10 U	10 U	10 U	10 U
Diethyl phthalate	50*	10 U	10 U	10 U	10 U	10 U
Dimethyl phthalate	50*	10 U	10 U	10 U	10 U	10 U
Dimethylphenol, 2,4-	50*	10 U	10 U	10 U	10 U	10 U
Di-n-butyl phthalate	50	10 U	10 U	10 U	10 U	10 U
Dinitro-2-methylphenol,4,6-	NE	25 U	25 U	25 U	25 U	25 U
Dinitrophenol,2,4-	10*	25 U	25 U	25 U	25 U	25 U
Dinitrotoluene,2,4-	NE	10 U	10 U	10 U	10 U	10 U
Dinitrotoluene,2,6-	5	10 U	10 U	10 U	10 U	10 U
Di-n-octyl phthalate	50*	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	0.04	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	NE	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	NE	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	NE	10 U	10 U	10 U	10 U	10 U
Isophorone	50*	10 U	10 U	10 U	10 U	10 U
Methylphenol, 4-	1	10 U	10 U	10 U	10 U	10 U
Methylphenol,2-	1	10 U	10 U	10 U	10 U	10 U
Nitroaniline,2-	5	25 U	25 U	25 U	25 U	25 U
Nitroaniline,3-	5	10 U	10 U	10 U	10 U	10 U
Nitroaniline,4-	NE	25 U	25 U	25 U	25 U	25 U
Nitrobenzene	0.4	10 U	10 U	10 U	10 U	10 U
Nitrophenol,2-	NE	10 U	10 U	10 U	10 U	10 U
Nitrophenol,4-	NE	25 U	25 U	25 U	25 U	25 U
N-Nitrosodi-n-propylamine	NE	10 U	10 U	10 U	10 U	10 U
N-Nitrosodiphenylamine	NE	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	NE	25 U	25 U	25 U	25 U	25 U
Phenol	1	10 U	10 U	10 U	10 U	10 U
Trichlorobenzene,1,2,4-	5	10 U	10 U	10 U	10 U	10 U
Trichlorophenol,2,4,5-	NE	25 U	25 U	25 U	25 U	25 U
Trichlorophenol,2,4,6-	NE	10 U	10 U	10 U	10 U	10 U
<b>Inorganics (UG/L)</b>						
Lead	25	56.4	1.2 U	1.2 U	1.6	1.4
Cyanide, Total	200	10 U	10 U	10 U	10 U	10 U

**Table 3**  
**Historic Groundwater Analytical Results - OU-1 Union Boulevard System Design**  
**Remedial Design Document - Appendix D**  
**Bay Shore/Brightwaters Former MGP Site**  
**Bay Shore, New York**

Sample ID: Depth (ft): Date Collected:	NYSDEC SCG	ETGP-02 (26 - 30) 7/8/2004	ETGP-02 (36 - 40) 7/8/2004	ETGP-02 (66 - 70) 7/8/2004	ETGP-03 (7.5 - 11) 7/8/2004	ETGP-03 (12 - 16) 7/8/2004
<b>BTEX (ug/L)</b>						
Benzene	1	10 U	10 U	10 U	1 J	720 D
Toluene	5	10 U	10 U	10 U	10 U	5 J
Ethylbenzene	5	10 U	10 U	10 U	10 U	490 D
Xylene, total	5	10 U	10 U	10 U	10 U	73
Total BTEX	NE	ND	ND	ND	1	1288
<b>Other VOCs (ug/L)</b>						
Acetone	50*	9 J	10 U	10 U	10 U	10 U
Bromodichloromethane	50*	10 U	10 U	10 U	10 U	10 U
Bromoform	NE	10 U	10 U	10 U	10 U	10 U
Bromomethane	5	10 U	10 U	10 U	10 U	10 U
Butanone,2-	50*	10 U	10 U	10 U	10 U	10 U
Carbon disulfide	NE	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	5	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	5	10 U	10 U	10 U	10 U	10 U
Chloroethane	5	10 U	10 U	10 U	10 U	10 U
Chloroform	7	10 U	10 U	10 U	10 U	10 U
Chloromethane	5	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	50*	10 U	10 U	10 U	10 U	10 U
Dichloroethane,1,1-	5	10 U	10 U	10 U	10 U	10 U
Dichloroethane,1,2-	0.6	10 U	10 U	10 U	10 U	10 U
Dichloroethene,1,1-	5	10 U	10 U	10 U	10 U	10 U
Dichloroethene,1,2- (total)	NE	10 U	10 U	10 U	10 U	10 U
Dichloropropane,1,2-	NE	10 U	10 U	10 U	10 U	10 U
Dichloropropene, cis-1,3	NE	10 U	10 U	10 U	10 U	10 U
Dichloropropene, trans-1,3	NE	10 U	10 U	10 U	10 U	10 U
Hexanone,2-	NE	10 U	10 U	10 U	10 U	10 U
Methyl tert-butyl ether	NE	1 J	2 J	10 U	12	10 U
Methyl-2-pentanone,4-	NE	10 U	10 U	10 U	10 U	10 U
Methylene chloride	5	10 U	10 U	10 U	10 U	10 U
Styrene	5	10 U	10 U	10 U	10 U	10 U
Tetrachloroethane,1,1,2,2-	5	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	5	3	9 J	10 U	10 U	10 U
Trichloroethane,1,1,1-	5	10 U	10 U	10 U	10 U	10 U
Trichloroethane,1,1,2-	1	10 U	10 U	10 U	10 U	10 U
Trichloroethene	5	10 UJ	10 UJ	10 UJ	10 U	10 U
Vinyl chloride	2	10 U	10 U	10 U	10 U	10 U
<b>Non-carcinogenic PAHs (ug/L)</b>						
Anthracene	50*	10 U	10 U	10 U	10 U	2 J
Pyrene	50*	10 U	10 U	10 U	10 U	10 U
Benzo[g,h,i]perylene	NE	10 U	10 U	10 U	10 U	10 U
Fluoranthene	50*	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	NE	10 U	10 U	10 U	10 U	37
Acenaphthene	20*	10 U	10 U	10 U	10 U	38
Phenanthrene	50*	10 U	10 U	10 U	10 U	19
Fluorene	50*	10 U	10 U	10 U	10 U	13
Naphthalene	10*	10 U	10 U	10 U	10 U	93 D
Methylnaphthalene,2-	NE	10 U	4 J	2 J	10 U	2 J
<b>Carcinogenic PAHs (ug/L)</b>						
Indeno[1,2,3-cd]pyrene	0.002*	10 U	10 U	10 U	10 U	10 U
Benzo[b]fluoranthene	0.002*	10 U	10 U	10 U	10 U	10 U
Benzo[k]fluoranthene	0.002*	10 U	10 U	10 U	10 U	10 U
Chrysene	0.002*	10 U	10 U	10 U	10 U	10 U
Benzo[a]pyrene	ND	10 U	10 U	10 U	10 U	10 U
Dibenzo[a,h]anthracene	NE	10 U	10 U	10 U	10 U	10 U
Benzo[a]anthracene	0.002*	10 U	10 U	10 U	10 U	10 U
Total Carcinogenic PAHs	NE	ND	ND	ND	ND	ND
<b>Total PAHs (ug/L)</b>						
Total PAHs	NE	ND	4	2	ND	204



**Table 3**  
**Historic Groundwater Analytical Results - OU-1 Union Boulevard System Design**  
**Remedial Design Document - Appendix D**  
**Bay Shore/Brightwaters Former MGP Site**  
**Bay Shore, New York**

Sample ID: Depth (ft): Date Collected:	NYSDEC SCG	ETGP-02 (26 - 30) 7/8/2004	ETGP-02 (36 - 40) 7/8/2004	ETGP-02 (66 - 70) 7/8/2004	ETGP-03 (7.5 - 11) 7/8/2004	ETGP-03 (12 - 16) 7/8/2004
<b>Other SVOCs (ug/L)</b>						
Bis(2-chloroethoxy)methane	NE	10 U	10 U	10 U	10 U	10 U
Bis(2-chloroethyl)ether	1	10 U	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	5	10 U	4 J	10 U	10 U	10 U
Bis(chloroisopropyl)ether	NE	10 U	10 U	10 U	10 U	10 U
Bromophenyl phenyl ether,4-	NE	10 U	10 U	10 U	10 U	10 U
Butyl benzyl phthalate	50*	10 U	10 U	10 U	10 U	10 U
Carbazole	NE	10 U	10 U	10 U	10 U	2 J
Chloro-3-methylphenol,4-	NE	10 U	10 U	10 U	10 U	10 U
Chloroaniline,4-	5	10 U	10 U	10 U	10 U	10 U
Chloronaphthalene,2-	NE	10 U	10 U	10 U	10 U	10 U
Chlorophenol,2-	NE	10 U	10 U	10 U	10 U	10 U
Chlorophenyl phenyl ether,4-	NE	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	NE	10 U	10 U	10 U	10 U	4 J
Dichlorobenzene,1,2-	3	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene,1,3-	3	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene,1,4-	3	10 U	10 U	10 U	10 U	10 U
Dichlorobenzidine,3,3-	NE	10 U	10 U	10 U	10 U	10 U
Dichlorophenol,2,4-	5	10 U	10 U	10 U	10 U	10 U
Diethyl phthalate	50*	10 U	10 U	10 U	10 U	10 U
Dimethyl phthalate	50*	10 U	10 U	10 U	10 U	10 U
Dimethylphenol, 2,4-	50*	10 U	10 U	10 U	10 U	10 U
Di-n-butyl phthalate	50	10 U	10 U	10 U	10 U	10 U
Dinitro-2-methylphenol,4,6-	NE	25 U	25 U	25 U	25 U	25 U
Dinitrophenol,2,4-	10*	25 U	25 U	25 U	25 U	25 U
Dinitrotoluene,2,4-	NE	10 U	10 U	10 U	10 U	10 U
Dinitrotoluene,2,6-	5	10 U	10 U	10 U	10 U	10 U
Di-n-octyl phthalate	50*	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	0.04	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	NE	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	NE	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	NE	10 U	10 U	10 U	10 U	10 U
Isophorone	50*	10 U	10 U	10 U	10 U	10 U
Methylphenol, 4-	1	10 U	10 U	10 U	10 U	10 U
Methylphenol,2-	1	10 U	10 U	10 U	10 U	10 U
Nitroaniline,2-	5	25 U	25 U	25 U	25 U	25 U
Nitroaniline,3-	5	10 U	10 U	10 U	10 U	10 U
Nitroaniline,4-	NE	25 U	25 U	25 U	25 U	25 U
Nitrobenzene	0.4	10 U	10 U	10 U	10 U	10 U
Nitrophenol,2-	NE	10 U	10 U	10 U	10 U	10 U
Nitrophenol,4-	NE	25 U	25 U	25 U	25 U	25 U
N-Nitrosodi-n-propylamine	NE	10 U	10 U	10 U	10 U	10 U
N-Nitrosodiphenylamine	NE	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	NE	25 U	25 U	25 U	25 U	25 U
Phenol	1	10 U	10 U	10 U	10 U	7 J
Trichlorobenzene,1,2,4-	5	10 U	10 U	10 U	10 U	10 U
Trichlorophenol,2,4,5-	NE	25 U	25 U	25 U	25 U	25 U
Trichlorophenol,2,4,6-	NE	10 U	10 U	10 U	10 U	10 U
<b>Inorganics (UG/L)</b>						
Lead	25	2.7	3.1	2.2	0.7 U	0.7 U
Cyanide, Total	200	50 U	10 U	10 U	10 U	10 U

**Table 3**  
**Historic Groundwater Analytical Results - OU-1 Union Boulevard System Design**  
**Remedial Design Document - Appendix D**  
**Bay Shore/Brightwaters Former MGP Site**  
**Bay Shore, New York**

Sample ID: Depth (ft): Date Collected:	NYSDEC SCG	ETGP-03 (16 - 20) 7/8/2004	ETGP-03 (26 - 30) 7/8/2004	ETGP-03 (36 - 40) 7/8/2004	ETGP-03 (66 - 70) 7/8/2004	ETGP-04 (0 - 4) 7/14/2004
<b>BTEX (ug/L)</b>						
Benzene	1	200 D	10 U	10 U	10 U	51
Toluene	5	2 J	10 U	10 U	10 U	4 J
Ethylbenzene	5	120	10 U	10 U	10 U	510 D
Xylene, total	5	29	10 U	10 U	10 U	530
Total BTEX	NE	351	ND	ND	ND	1095
<b>Other VOCs (ug/L)</b>						
Acetone	50*	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	50*	10 U	10 U	10 U	10 U	10 U
Bromoform	NE	10 U	10 U	10 U	10 U	10 U
Bromomethane	5	10 U	10 U	10 U	10 U	10 U
Butanone,2-	50*	10 U	10 U	10 U	10 U	10 U
Carbon disulfide	NE	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	5	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	5	10 U	10 U	10 U	10 U	10 U
Chloroethane	5	10 U	10 U	10 U	10 U	10 U
Chloroform	7	10 U	10 U	10 U	10 U	10 U
Chloromethane	5	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	50*	10 U	10 U	10 U	10 U	10 U
Dichloroethane,1,1-	5	10 U	10 U	10 U	10 U	10 U
Dichloroethane,1,2-	0.6	10 U	10 U	10 U	10 U	10 U
Dichloroethene,1,1-	5	10 U	10 U	10 U	10 U	3 J
Dichloroethene,1,2- (total)	NE	10 U	10 U	10 U	10 U	10 U
Dichloropropane,1,2-	NE	10 U	10 U	10 U	10 U	10 U
Dichloropropene, cis-1,3	NE	10 U	10 U	10 U	10 U	10 U
Dichloropropene, trans-1,3	NE	10 U	10 U	10 U	10 U	10 U
Hexanone,2-	NE	10 U	10 U	10 U	10 U	10 U
Methyl tert-butyl ether	NE	10 U	2 J	10 U	1 J	4 J
Methyl-2-pentanone,4-	NE	10 U	10 U	10 U	10 U	10 U
Methylene chloride	5	10 U	10 U	10 U	10 U	10 U
Styrene	5	10 U	10 U	10 U	10 U	10 U
Tetrachloroethane,1,1,2,2-	5	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	5	10 U	10 U	10 U	10 U	10 U
Trichloroethane,1,1,1-	5	10 U	10 U	10 U	10 U	3 J
Trichloroethane,1,1,2-	1	10 U	10 U	10 U	10 U	10 U
Trichloroethene	5	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	2	10 U	10 U	10 U	10 U	10 U
<b>Non-carcinogenic PAHs (ug/L)</b>						
Anthracene	50*	3 J	10 U	10 U	10 U	11
Pyrene	50*	1 J	10 U	10 U	10 U	5 J
Benzo[g,h,i]perylene	NE	10 U	10 U	10 U	10 U	10 U
Fluoranthene	50*	10 U	10 U	10 U	10 U	4 J
Acenaphthylene	NE	24	10 U	10 U	10 U	57
Acenaphthene	20*	8 J	10 U	10 U	10 U	130 EJ
Phenanthrene	50*	19	10 U	10 U	10 U	64
Fluorene	50*	5 J	10 U	10 U	10 U	57
Naphthalene	10*	17	10 U	10 U	10 U	6100 D
Methylnaphthalene,2-	NE	10 U	10 U	10 U	10 U	850 DJ
<b>Carcinogenic PAHs (ug/L)</b>						
Indeno[1,2,3-cd]pyrene	0.002*	10 U	10 U	10 U	10 U	10 U
Benzo[b]fluoranthene	0.002*	10 U	10 U	10 U	10 U	10 U
Benzo[k]fluoranthene	0.002*	10 U	10 U	10 U	10 U	10 U
Chrysene	0.002*	10 U	10 U	10 U	10 U	10 U
Benzo[a]pyrene	ND	10 U	10 U	10 U	10 U	10 U
Dibenzo[a,h]anthracene	NE	10 U	10 U	10 U	10 U	10 U
Benzo[a]anthracene	0.002*	10 U	10 U	10 U	10 U	10 U
Total Carcinogenic PAHs	NE	ND	ND	ND	ND	ND
<b>Total PAHs (ug/L)</b>						
Total PAHs	NE	77	ND	ND	ND	7148

**Table 3**  
**Historic Groundwater Analytical Results - OU-1 Union Boulevard System Design**  
**Remedial Design Document - Appendix D**  
**Bay Shore/Brightwaters Former MGP Site**  
**Bay Shore, New York**

Sample ID: Depth (ft): Date Collected:	NYSDEC SCG	ETGP-03 (16 - 20) 7/8/2004	ETGP-03 (26 - 30) 7/8/2004	ETGP-03 (36 - 40) 7/8/2004	ETGP-03 (66 - 70) 7/8/2004	ETGP-04 (0 - 4) 7/14/2004
<b>Other SVOCs (ug/L)</b>						
Bis(2-chloroethoxy)methane	NE	10 U	10 U	10 U	10 U	10 UJ
Bis(2-chloroethyl)ether	1	10 U	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	5	10 U	10 U	<b>4 J</b>	<b>3 J</b>	10 U
Bis(chloroisopropyl)ether	NE	10 U	10 U	10 U	10 U	10 U
Bromophenyl phenyl ether,4-	NE	10 U	10 U	10 U	10 U	10 U
Butyl benzyl phthalate	50*	10 U	10 U	10 U	10 U	10 U
Carbazole	NE	10 U	10 U	10 U	10 U	<b>8 J</b>
Chloro-3-methylphenol,4-	NE	10 U	10 U	10 U	10 U	10 UJ
Chloroaniline,4-	5	10 U	10 U	10 U	10 U	10 UJ
Chloronaphthalene,2-	NE	10 U	10 U	10 U	10 U	10 U
Chlorophenol,2-	NE	10 U	10 U	10 U	10 U	10 U
Chlorophenyl phenyl ether,4-	NE	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	NE	<b>2 J</b>	10 U	10 U	10 U	<b>9 J</b>
Dichlorobenzene,1,2-	3	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene,1,3-	3	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene,1,4-	3	10 U	10 U	10 U	10 U	10 U
Dichlorobenzidine,3,3-	NE	10 U	10 U	10 U	10 U	10 U
Dichlorophenol,2,4-	5	10 U	10 U	10 U	10 U	10 UJ
Diethyl phthalate	50*	10 U	10 U	10 U	10 U	10 U
Dimethyl phthalate	50*	10 U	10 U	10 U	10 U	10 U
Dimethylphenol, 2,4-	50*	10 U	10 U	10 U	10 U	10 UJ
Di-n-butyl phthalate	50	10 U	10 U	10 U	10 U	10 U
Dinitro-2-methylphenol,4,6-	NE	25 U	25 U	25 U	25 U	25 U
Dinitrophenol,2,4-	10*	25 U	25 U	25 U	25 U	25 U
Dinitrotoluene,2,4-	NE	10 U	10 U	10 U	10 U	10 U
Dinitrotoluene,2,6-	5	10 U	10 U	10 U	10 U	10 U
Di-n-octyl phthalate	50*	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	0.04	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	NE	10 U	10 U	10 U	10 U	10 UJ
Hexachlorocyclopentadiene	NE	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	NE	10 U	10 U	10 U	10 U	10 U
Isophorone	50*	10 U	10 U	10 U	10 U	10 UJ
Methylphenol, 4-	1	10 U	10 U	10 U	10 U	10 U
Methylphenol,2-	1	10 U	10 U	10 U	10 U	10 U
Nitroaniline,2-	5	25 U	25 U	25 U	25 U	25 U
Nitroaniline,3-	5	10 U	10 U	10 U	10 U	10 U
Nitroaniline,4-	NE	25 U	25 U	25 U	25 U	25 U
Nitrobenzene	0.4	10 U	10 U	10 U	10 U	10 UJ
Nitrophenol,2-	NE	10 U	10 U	10 U	10 U	10 UJ
Nitrophenol,4-	NE	25 U	25 U	25 U	25 U	<b>4 J</b>
N-Nitrosodi-n-propylamine	NE	10 U	10 U	10 U	10 U	10 U
N-Nitrosodiphenylamine	NE	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	NE	25 U	25 U	25 U	25 U	<b>2 J</b>
Phenol	1	10 U	10 U	10 U	10 U	10 U
Trichlorobenzene,1,2,4-	5	10 U	10 U	10 U	10 U	10 UJ
Trichlorophenol,2,4,5-	NE	25 U	25 U	25 U	25 U	25 U
Trichlorophenol,2,4,6-	NE	10 U	10 U	10 U	10 U	10 U
<b>Inorganics (UG/L)</b>						
Lead	25	0.7 U	<b>0.9</b>	<b>2.2</b>	<b>8.9</b>	0.7 U
Cyanide, Total	200	10 U	10 U	10 U	10 U	10 U

**Table 3**  
**Historic Groundwater Analytical Results - OU-1 Union Boulevard System Design**  
**Remedial Design Document - Appendix D**  
**Bay Shore/Brightwaters Former MGP Site**  
**Bay Shore, New York**

Sample ID: Depth (ft): Date Collected:	NYSDEC SCG	ETGP-04 (7 - 11) 7/14/2004	ETGP-04 (12 - 16) 7/14/2004	ETGP-04 (16 - 20) 7/14/2004	ETGP-04 (26 - 30) 7/14/2004	ETGP-04 (36 - 40) 7/14/2004
<b>BTEX (ug/L)</b>						
Benzene	1	850 D	54	1 J	10 U	10 U
Toluene	5	20	4 J	1 J	10 U	10 U
Ethylbenzene	5	1900 D	510 D	130	10 U	10 U
Xylene, total	5	1300 D	540	370	10 U	10 U
Total BTEX	NE	4070	1108	502	ND	ND
<b>Other VOCs (ug/L)</b>						
Acetone	50*	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	50*	10 U	10 U	10 U	10 U	10 U
Bromoform	NE	10 U	10 U	10 U	10 U	10 U
Bromomethane	5	10 U	10 U	10 U	10 U	10 U
Butanone,2-	50*	10 U	10 U	10 U	10 U	10 U
Carbon disulfide	NE	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	5	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	5	10 U	10 U	10 U	10 U	10 U
Chloroethane	5	10 U	10 U	10 U	10 U	10 U
Chloroform	7	10 U	10 U	10 U	10 U	10 U
Chloromethane	5	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	50*	10 U	10 U	10 U	10 U	10 U
Dichloroethane,1,1-	5	10 U	10 U	1 J	10 U	10 U
Dichloroethane,1,2-	0.6	10 U	10 U	10 U	10 U	10 U
Dichloroethene,1,1-	5	10 U	2 J	3 J	10 U	10 U
Dichloroethene,1,2- (total)	NE	10 U	10 U	10 U	10 U	10 U
Dichloropropane,1,2-	NE	10 U	10 U	10 U	10 U	10 U
Dichloropropene, cis-1,3	NE	10 U	10 U	10 U	10 U	10 U
Dichloropropene, trans-1,3	NE	10 U	10 U	10 U	10 U	10 U
Hexanone,2-	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Methyl tert-butyl ether	NE	1 J	3 J	4 J	3 J	4 J
Methyl-2-pentanone,4-	NE	10 U	10 U	10 U	10 U	10 U
Methylene chloride	5	10 U	10 U	10 U	10 U	10 U
Styrene	5	10 U	10 U	10 U	10 U	10 U
Tetrachloroethane,1,1,2,2-	5	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	5	10 U	10 U	1 J	10 U	10 U
Trichloroethane,1,1,1-	5	10 U	2 J	3 J	10 U	10 U
Trichloroethane,1,1,2-	1	10 U	10 U	10 U	10 U	10 U
Trichloroethene	5	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	2	10 U	10 U	10 U	10 U	10 U
<b>Non-carcinogenic PAHs (ug/L)</b>						
Anthracene	50*	5 J	12	4 J	10 U	10 U
Pyrene	50*	5 J	6 J	5 J	5 J	4
Benzo[g,h,i]perylene	NE	10 U	10 U	10 U	10 UJ	10 U
Fluoranthene	50*	3 J	4 J	3 J	4 J	2 J
Acenaphthylene	NE	20	61	280 DJ	10 U	10 U
Acenaphthene	20*	88 EJ	130 EJ	22	10 U	10 U
Phenanthrene	50*	38	70	51	3 J	3 J
Fluorene	50*	37	62	53	10 U	10 U
Naphthalene	10*	4200 DJ	7100 D	5500 D	10 U	10 U
Methylnaphthalene,2-	NE	480 DJ	970 DJ	1100 DJ	10 U	10 U
<b>Carcinogenic PAHs (ug/L)</b>						
Indeno[1,2,3-cd]pyrene	0.002*	10 U	10 U	10 U	10 UJ	10 U
Benzo[b]fluoranthene	0.002*	10 U	10 U	10 U	10 UJ	10 U
Benzo[k]fluoranthene	0.002*	10 U	10 U	10 U	10 UJ	10 U
Chrysene	0.002*	10 U	10 U	10 U	2 J	10 U
Benzo[a]pyrene	ND	10 U	10 U	10 U	1 J	10 U
Dibenz[a,h]anthracene	NE	10 U	10 U	10 U	10 UJ	10 U
Benzo[a]anthracene	0.002*	10 U	10 U	10 U	1 J	10 U
Total Carcinogenic PAHs	NE	ND	ND	ND	4	ND
<b>Total PAHs (ug/L)</b>						
Total PAHs	NE	4788	8285	7018	14	9

**Table 3**  
**Historic Groundwater Analytical Results - OU-1 Union Boulevard System Design**  
**Remedial Design Document - Appendix D**  
**Bay Shore/Brightwaters Former MGP Site**  
**Bay Shore, New York**

Sample ID: Depth (ft): Date Collected:	NYSDEC SCG	ETGP-04 (7 - 11) 7/14/2004	ETGP-04 (12 - 16) 7/14/2004	ETGP-04 (16 - 20) 7/14/2004	ETGP-04 (26 - 30) 7/14/2004	ETGP-04 (36 - 40) 7/14/2004
<b>Other SVOCs (ug/L)</b>						
Bis(2-chloroethoxy)methane	NE	10 UJ	10 UJ	10 UJ	10 U	10 U
Bis(2-chloroethyl)ether	1	10 U	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	5	10 U	10 U	10 U	<b>4 J</b>	<b>4 J</b>
Bis(chloroisopropyl)ether	NE	10 U	10 U	10 U	10 U	10 U
Bromophenyl phenyl ether,4-	NE	10 U	10 U	10 U	10 U	10 U
Butyl benzyl phthalate	50*	10 U	10 U	10 U	10 U	10 U
Carbazole	NE	<b>6 J</b>	<b>9 J</b>	<b>7 J</b>	10 U	10 U
Chloro-3-methylphenol,4-	NE	<b>4 J</b>	10 UJ	10 UJ	10 U	10 U
Chloroaniline,4-	5	10 UJ	10 UJ	10 UJ	10 U	10 U
Chloronaphthalene,2-	NE	10 U	10 U	10 U	10 U	10 U
Chlorophenol,2-	NE	10 U	10 U	10 UJ	10 U	10 U
Chlorophenyl phenyl ether,4-	NE	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	NE	<b>6 J</b>	<b>9 J</b>	<b>9 J</b>	10 U	10 U
Dichlorobenzene,1,2-	3	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene,1,3-	3	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene,1,4-	3	10 U	10 U	10 U	10 U	10 U
Dichlorobenzidine,3,3-	NE	10 U	10 U	10 U	10 U	10 U
Dichlorophenol,2,4-	5	10 UJ	10 UJ	10 U	10 U	10 U
Diethyl phthalate	50*	10 U	10 U	10 U	10 U	10 U
Dimethyl phthalate	50*	10 U	10 U	10 U	10 U	10 U
Dimethylphenol, 2,4-	50*	10 UJ	10 UJ	10 UJ	10 U	10 U
Di-n-butyl phthalate	50	10 U	10 U	10 U	10 U	10 U
Dinitro-2-methylphenol,4,6-	NE	25 U	25 U	25 U	25 U	25 U
Dinitrophenol,2,4-	10*	25 U	25 U	25 U	25 U	25 U
Dinitrotoluene,2,4-	NE	10 U	10 U	10 U	10 U	10 U
Dinitrotoluene,2,6-	5	10 U	10 U	10 U	10 U	10 U
Di-n-octyl phthalate	50*	10 U	10 U	10 U	10 UJ	10 U
Hexachlorobenzene	0.04	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	NE	10 UJ	10 UJ	10 UJ	10 U	10 U
Hexachlorocyclopentadiene	NE	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	NE	10 U	10 U	10 U	10 U	10 U
Isophorone	50*	10 UJ	10 UJ	10 UJ	10 U	10 U
Methylphenol, 4-	1	<b>2 J</b>	10 U	10 U	10 U	10 U
Methylphenol,2-	1	10 U	10 U	10 U	10 U	10 U
Nitroaniline,2-	5	25 U	25 U	25 U	25 U	25 U
Nitroaniline,3-	5	10 U	10 U	10 U	10 U	10 U
Nitroaniline,4-	NE	25 U	25 U	25 U	25 U	25 U
Nitrobenzene	0.4	10 UJ	10 UJ	10 UJ	10 U	10 U
Nitrophenol,2-	NE	10 UJ	10 UJ	10 UJ	10 U	10 U
Nitrophenol,4-	NE	<b>7 J</b>	25 U	25 U	25 U	25 U
N-Nitrosodi-n-propylamine	NE	10 U	10 U	10 U	10 U	10 U
N-Nitrosodiphenylamine	NE	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	NE	<b>2 J</b>	25 U	25 U	25 U	25 U
Phenol	1	10 U	10 U	10 U	10 U	10 U
Trichlorobenzene,1,2,4-	5	10 UJ	10 UJ	10 UJ	10 U	10 U
Trichlorophenol,2,4,5-	NE	25 U	25 U	25 U	25 U	25 U
Trichlorophenol,2,4,6-	NE	10 U	10 U	10 U	10 U	10 U
<b>Inorganics (UG/L)</b>						
Lead	25	<b>3</b>	0.7 U	<b>1</b>	0.7 U	<b>2.5</b>
Cyanide, Total	200	10 U	10 U	10 U	10 U	10 U

**Table 3**  
**Historic Groundwater Analytical Results - OU-1 Union Boulevard System Design**  
**Remedial Design Document - Appendix D**  
**Bay Shore/Brightwaters Former MGP Site**  
**Bay Shore, New York**

Sample ID: Depth (ft): Date Collected:	NYSDEC SCG	ETGP-04 (66 - 70) 7/14/2004	ETGP-05 (8 - 12) 7/16/2004	ETGP-05 (12 - 16) 7/16/2004	ETGP-05 (16 - 20) 7/16/2004	ETGP-05 (26 - 30) 7/16/2004
<b>BTEX (ug/L)</b>						
Benzene	1	10 U	10 U	46	1700 D	10 U
Toluene	5	10 U	10 U	10 U	39	1 J
Ethylbenzene	5	10 U	10 U	36	2400 D	53
Xylene, total	5	10 U	4 J	48	2100 D	540
Total BTEX	NE	ND	4	130	6239	594
<b>Other VOCs (ug/L)</b>						
Acetone	50*	10 U	8 J	10 U	10 U	10 U
Bromodichloromethane	50*	10 U	10 U	10 U	10 U	10 U
Bromoform	NE	10 U	10 U	10 U	10 U	10 U
Bromomethane	5	10 U	10 U	10 U	10 U	10 U
Butanone,2-	50*	10 U	10 U	10 U	10 U	10 U
Carbon disulfide	NE	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride	5	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	5	10 U	10 U	10 U	10 U	10 U
Chloroethane	5	10 U	10 U	10 U	10 U	10 U
Chloroform	7	10 U	10 U	10 U	10 U	10 U
Chloromethane	5	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	50*	10 U	10 U	10 U	10 U	10 U
Dichloroethane,1,1-	5	10 U	10 U	10 U	10 U	1 J
Dichloroethane,1,2-	0.6	10 U	10 U	10 U	10 U	10 U
Dichloroethene,1,1-	5	10 U	10 U	10 U	10 U	10 U
Dichloroethene,1,2- (total)	NE	10 U	10 U	10 U	10 U	10 U
Dichloropropane,1,2-	NE	10 U	10 U	10 U	10 U	10 U
Dichloropropene, cis-1,3	NE	10 U	10 U	10 U	10 U	10 U
Dichloropropene, trans-1,3	NE	10 U	10 U	10 U	10 U	10 U
Hexanone,2-	NE	10 UJ	10 UJ	10 UJ	10 UJ	10 U
Methyl tert-butyl ether	NE	10 U	1 J	10 U	10 U	2 J
Methyl-2-pentanone,4-	NE	10 U	10 U	10 U	10 U	10 U
Methylene chloride	5	10 U	10 U	10 U	10 U	10 U
Styrene	5	10 U	9 J	10 U	10 U	40
Tetrachloroethane,1,1,2,2-	5	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	5	10 U	10 U	10 U	10 U	2 J
Trichloroethane,1,1,1-	5	10 U	10 U	10 U	10 U	2 J
Trichloroethane,1,1,2-	1	10 U	10 U	10 U	10 U	10 U
Trichloroethene	5	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	2	10 U	10 U	10 U	10 U	10 U
<b>Non-carcinogenic PAHs (ug/L)</b>						
Anthracene	50*	10 U	10 U	6 J	4 J	11
Pyrene	50*	3 J	10	10	4 J	4 J
Benzo[g,h,i]perylene	NE	10 U	10 U	10 U	10 U	10 U
Fluoranthene	50*	2 J	5 J	6 J	3 J	2 J
Acenaphthylene	NE	10 U	27	41	24	320 DJ
Acenaphthene	20*	10 U	12	28	76	24
Phenanthrene	50*	3 J	10 U	8 J	22	61
Fluorene	50*	10 U	4 J	24	30	73
Naphthalene	10*	3 J	10 U	40	4400 D	4700 D
Methylnaphthalene,2-	NE	10 U	10 U	130 D	410 DJ	1100 DJ
<b>Carcinogenic PAHs (ug/L)</b>						
Indeno[1,2,3-cd]pyrene	0.002*	10 U	10 U	10 U	10 U	10 U
Benzo[b]fluoranthene	0.002*	10 U	10 U	10 U	10 U	10 U
Benzo[k]fluoranthene	0.002*	10 U	10 U	10 U	10 U	10 U
Chrysene	0.002*	10 U	2 J	2 J	10 U	10 U
Benzo[a]pyrene	ND	10 U	1 J	10 U	10 U	10 U
Dibenzo[a,h]anthracene	NE	10 U	10 U	10 U	10 U	10 U
Benzo[a]anthracene	0.002*	10 U	2 J	2 J	10 U	10 U
Total Carcinogenic PAHs	NE	ND	5	4	ND	ND
<b>Total PAHs (ug/L)</b>						
Total PAHs	NE	11	63	297	4973	6295

**Table 3**  
**Historic Groundwater Analytical Results - OU-1 Union Boulevard System Design**  
**Remedial Design Document - Appendix D**  
**Bay Shore/Brightwaters Former MGP Site**  
**Bay Shore, New York**

Sample ID: Depth (ft): Date Collected:	NYSDEC SCG	ETGP-04 (66 - 70) 7/14/2004	ETGP-05 (8 - 12) 7/16/2004	ETGP-05 (12 - 16) 7/16/2004	ETGP-05 (16 - 20) 7/16/2004	ETGP-05 (26 - 30) 7/16/2004
<b>Other SVOCs (ug/L)</b>						
Bis(2-chloroethoxy)methane	NE	10 U	10 U	10 U	10 UJ	10 UJ
Bis(2-chloroethyl)ether	1	10 U	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	5	10 U	10 U	<b>7 J</b>	10 U	10 U
Bis(chloroisopropyl)ether	NE	10 U	10 U	10 U	10 U	10 U
Bromophenyl phenyl ether,4-	NE	10 U	10 U	10 U	10 U	10 U
Butyl benzyl phthalate	50*	10 U	10 U	10 U	10 U	10 U
Carbazole	NE	10 U	10 U	10 U	<b>9 J</b>	<b>10</b>
Chloro-3-methylphenol,4-	NE	10 U	10 U	10 U	10 UJ	10 UJ
Chloroaniline,4-	5	10 U	10 U	10 U	10 UJ	10 UJ
Chloronaphthalene,2-	NE	10 U	10 U	10 U	10 U	10 U
Chlorophenol,2-	NE	10 U	10 U	10 U	10 U	10 U
Chlorophenyl phenyl ether,4-	NE	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	NE	10 U	10 U	10 U	<b>4 J</b>	<b>13</b>
Dichlorobenzene,1,2-	3	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene,1,3-	3	10 U	10 U	10 U	10 U	10 U
Dichlorobenzene,1,4-	3	10 U	10 U	10 U	10 U	10 U
Dichlorobenzidine,3,3-	NE	10 U	10 U	10 U	10 U	10 U
Dichlorophenol,2,4-	5	10 U	10 U	10 U	10 UJ	10 U
Diethyl phthalate	50*	10 U	10 U	10 U	10 U	10 U
Dimethyl phthalate	50*	10 U	10 U	10 U	10 U	10 U
Dimethylphenol, 2,4-	50*	10 U	10 U	10 U	10 UJ	10 UJ
Di-n-butyl phthalate	50	10 U	10 U	<b>3 J</b>	10 U	10 U
Dinitro-2-methylphenol,4,6-	NE	25 U	25 U	25 U	25 U	25 U
Dinitrophenol,2,4-	10*	25 U	25 U	25 U	25 U	25 U
Dinitrotoluene,2,4-	NE	10 U	10 U	10 U	10 U	10 U
Dinitrotoluene,2,6-	5	10 U	10 U	10 U	10 U	10 U
Di-n-octyl phthalate	50*	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	0.04	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	NE	10 U	10 U	10 U	10 UJ	10 UJ
Hexachlorocyclopentadiene	NE	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	NE	10 U	10 U	10 U	10 U	10 U
Isophorone	50*	10 U	10 U	10 U	10 UJ	10 UJ
Methylphenol, 4-	1	10 U	<b>2 J</b>	10 U	<b>6 J</b>	10 U
Methylphenol,2-	1	10 U	10 U	10 U	<b>2 J</b>	10 U
Nitroaniline,2-	5	25 U	25 U	25 U	25 U	25 U
Nitroaniline,3-	5	10 U	10 U	10 U	10 U	10 U
Nitroaniline,4-	NE	25 U	25 U	25 U	25 U	25 U
Nitrobenzene	0.4	10 U	10 U	10 U	10 UJ	10 UJ
Nitrophenol,2-	NE	10 U	10 U	10 U	10 UJ	10 UJ
Nitrophenol,4-	NE	25 U	25 U	25 U	25 U	25 U
N-Nitrosodi-n-propylamine	NE	10 U	10 U	10 U	10 U	10 U
N-Nitrosodiphenylamine	NE	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	NE	25 U	<b>1 J</b>	25 U	<b>1 J</b>	25 U
Phenol	1	10 U	10 U	10 U	10 U	10 U
Trichlorobenzene,1,2,4-	5	10 U	10 U	10 U	10 UJ	10 UJ
Trichlorophenol,2,4,5-	NE	25 U	25 U	25 U	25 U	25 U
Trichlorophenol,2,4,6-	NE	10 U	10 U	10 U	10 U	10 U
<b>Inorganics (UG/L)</b>						
Lead	25	<b>3.5</b>	0.7 U	0.7 U	0.7 U	<b>0.97</b>
Cyanide, Total	200	10 U	10 U	10 U	10 U	10 U

**Table 3**  
**Historic Groundwater Analytical Results - OU-1 Union Boulevard System Design**  
**Remedial Design Document - Appendix D**  
**Bay Shore/Brightwaters Former MGP Site**  
**Bay Shore, New York**

Sample ID: Depth (ft): Date Collected:	NYSDEC SCG	ETGP-05 (36 - 40) 7/15/2004	ETGP-05 (66 - 70) 7/15/2004
<b>BTEX (ug/L)</b>			
Benzene	1	10 U	10 U
Toluene	5	10 U	10 U
Ethylbenzene	5	2 J	10 U
Xylene, total	5	9 J	10 U
Total BTEX	NE	11	ND
<b>Other VOCs (ug/L)</b>			
Acetone	50*	10 U	10 U
Bromodichloromethane	50*	10 U	10 U
Bromoform	NE	10 U	10 U
Bromomethane	5	10 U	10 U
Butanone,2-	50*	10 U	10 U
Carbon disulfide	NE	10 U	10 U
Carbon tetrachloride	5	10 U	10 U
Chlorobenzene	5	10 U	10 U
Chloroethane	5	10 U	10 U
Chloroform	7	10 U	10 U
Chloromethane	5	10 U	10 U
Dibromochloromethane	50*	10 U	10 U
Dichloroethane,1,1-	5	10 U	10 U
Dichloroethane,1,2-	0.6	10 U	10 U
Dichloroethene,1,1-	5	10 U	10 U
Dichloroethene,1,2- (total)	NE	10 U	10 U
Dichloropropane,1,2-	NE	10 U	10 U
Dichloropropene, cis-1,3	NE	10 U	10 U
Dichloropropene, trans-1,3	NE	10 U	10 U
Hexanone,2-	NE	10 UJ	10 U
Methyl tert-butyl ether	NE	2 J	10 U
Methyl-2-pentanone,4-	NE	10 U	10 U
Methylene chloride	5	10 U	10 U
Styrene	5	10 U	10 U
Tetrachloroethane,1,1,2,2-	5	10 U	10 U
Tetrachloroethene	5	10 U	10 U
Trichloroethane,1,1,1-	5	10 U	10 U
Trichloroethane,1,1,2-	1	10 U	10 U
Trichloroethene	5	10 U	10 U
Vinyl chloride	2	10 U	10 U
<b>Non-carcinogenic PAHs (ug/L)</b>			
Anthracene	50*	10 U	10 U
Pyrene	50*	3 J	5 J
Benzo[g,h,i]perylene	NE	10 U	10 U
Fluoranthene	50*	2 J	3 J
Acenaphthylene	NE	14	2 J
Acenaphthene	20*	2 J	2 J
Phenanthrene	50*	4 J	3 J
Fluorene	50*	1 J	2 J
Naphthalene	10*	160 D	9 J
Methylnaphthalene,2-	NE	14	4 J
<b>Carcinogenic PAHs (ug/L)</b>			
Indeno[1,2,3-cd]pyrene	0.002*	10 U	10 U
Benzo[b]fluoranthene	0.002*	10 U	10 U
Benzo[k]fluoranthene	0.002*	10 U	10 U
Chrysene	0.002*	10 U	10 U
Benzo[a]pyrene	ND	10 U	10 U
Dibenz[a,h]anthracene	NE	10 U	10 U
Benzo[a]anthracene	0.002*	10 U	10 U
Total Carcinogenic PAHs	NE	ND	ND
<b>Total PAHs (ug/L)</b>			
Total PAHs	NE	200	30



**Table 3**  
**Historic Groundwater Analytical Results - OU-1 Union Boulevard System Design**  
**Remedial Design Document - Appendix D**  
**Bay Shore/Brightwaters Former MGP Site**  
**Bay Shore, New York**

Sample ID: Depth (ft): Date Collected:	NYSDEC SCG	ETGP-05 (36 - 40) 7/15/2004	ETGP-05 (66 - 70) 7/15/2004
<b>Other SVOCs (ug/L)</b>			
Bis(2-chloroethoxy)methane	NE	10 U	10 U
Bis(2-chloroethyl)ether	1	10 U	10 U
Bis(2-ethylhexyl)phthalate	5	4 J	3 J
Bis(chloroisopropyl)ether	NE	10 U	10 U
Bromophenyl phenyl ether,4-	NE	10 U	10 U
Butyl benzyl phthalate	50*	1 J	10 U
Carbazole	NE	10 U	10 U
Chloro-3-methylphenol,4-	NE	10 U	10 U
Chloroaniline,4-	5	10 U	10 U
Chloronaphthalene,2-	NE	10 U	10 U
Chlorophenol,2-	NE	10 U	10 U
Chlorophenyl phenyl ether,4-	NE	10 U	10 U
Dibenzofuran	NE	10 U	10 U
Dichlorobenzene,1,2-	3	10 U	10 U
Dichlorobenzene,1,3-	3	10 U	10 U
Dichlorobenzene,1,4-	3	10 U	10 U
Dichlorobenzidine,3,3-	NE	10 U	10 U
Dichlorophenol,2,4-	5	10 U	10 U
Diethyl phthalate	50*	10 U	10 U
Dimethyl phthalate	50*	10 U	10 U
Dimethylphenol, 2,4-	50*	10 U	10 U
Di-n-butyl phthalate	50	10 U	10 U
Dinitro-2-methylphenol,4,6-	NE	25 U	25 U
Dinitrophenol,2,4-	10*	25 U	25 U
Dinitrotoluene,2,4-	NE	10 U	10 U
Dinitrotoluene,2,6-	5	10 U	10 U
Di-n-octyl phthalate	50*	10 U	10 U
Hexachlorobenzene	0.04	10 U	10 U
Hexachlorobutadiene	NE	10 U	10 U
Hexachlorocyclopentadiene	NE	10 U	10 U
Hexachloroethane	NE	10 U	10 U
Isophorone	50*	10 U	10 U
Methylphenol, 4-	1	10 U	10 U
Methylphenol,2-	1	10 U	10 U
Nitroaniline,2-	5	25 U	25 U
Nitroaniline,3-	5	10 U	10 U
Nitroaniline,4-	NE	25 U	25 U
Nitrobenzene	0.4	10 U	10 U
Nitrophenol,2-	NE	10 U	10 U
Nitrophenol,4-	NE	25 U	25 U
N-Nitrosodi-n-propylamine	NE	10 U	10 U
N-Nitrosodiphenylamine	NE	10 U	10 U
Pentachlorophenol	NE	25 U	25 U
Phenol	1	10 U	10 U
Trichlorobenzene,1,2,4-	5	10 U	10 U
Trichlorophenol,2,4,5-	NE	25 U	25 U
Trichlorophenol,2,4,6-	NE	10 U	10 U
<b>Inorganics (UG/L)</b>			
Lead	25	11.1	22.1
Cyanide, Total	200	10 U	10 U

**Table 3**  
**Historic Groundwater Analytical Results - OU-1 Union Boulevard System Design**  
**Remedial Design Document - Appendix D**  
**Bay Shore/Brightwaters Former MGP Site**  
**Bay Shore, New York**

**Notes:**

The data presented on Table 3 were originally presented in the "Supplemental Field Program Report, Taylor Rental Property and Areas Adjacent to Expo Tires Property, Bay Shore/Brightwaters Former MGP Site, Site # 1-52-172" dated January 27, 2005.

NYSDEC SCG - New York State Department of Environmental Conservation regulatory standards, criteria and guidance values

\* = guidance value

ug/L is micrograms per liter

BTEX - Benzene, Toluene, Ethylbenzene, Xylene

VOCs - Volatile Organic Compounds

PAHs - Polycyclic Aromatic Hydrocarbons

SVOCs - Semivolatile Organic Compounds

U - not detected to the reporting limit shown

J - estimated value

D - result is from diluted sample analysis

NE - not established

ND - Not detected - no compound was detected in the group of compounds summed for total

UJ - not detected to estimated detection limit

EJ - estimated value exceeded the calibration range

DJ - estimated value completed at secondary dilution factor

Gray shading and bolding indicates concentration exceeds NYSDEC SCG

Bolding indicates detected result

**Table 4**  
**Historic Soil Analytical Results - OU-1 Union Boulevard System Design**  
**Remedial Design Document - Appendix D**  
**Bay Shore/Brightwaters Former MGP Site**  
**Bay Shore, New York**

Sample ID: Depth (ft): Date Collected:	NYSDEC SCG	ETSB-01 (2 - 4) 6/30/2004	ETSB-01 (4.5 - 6.5) 6/30/2004	ETSB-01 (9 - 11) 6/30/2004	ETSB-01 (12 - 14) 6/30/2004	ETSB-01 (36 - 38) 6/30/2004
<b>BTEX (mg/kg)</b>						
Benzene	0.06	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Toluene	1.5	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Ethylbenzene	5.5	<b>0.016</b>	0.01 U	0.057 U	0.012 UJ	0.012 U
Xylene, total	1.2	<b>0.05</b>	0.01 U	<b>0.024</b>	0.012 UJ	0.012 U
Total BTEX	NE	<b>0.066</b>	ND	<b>0.024</b>	ND	ND
<b>Other VOCs (mg/kg)</b>						
Acetone	0.2	<b>0.027</b>	0.01 U	0.057 U	0.012 UJ	0.012 U
Bromodichloromethane	NE	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Bromoform	NE	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Bromomethane	NE	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Butanone,2-	0.3	<b>0.009</b>	0.01 U	0.057 U	0.012 UJ	0.012 U
Carbon disulfide	2.7	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Carbon tetrachloride	0.6	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Chlorobenzene	1.7	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Chloroethane	1.9	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Chloroform	0.3	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Chloromethane	NE	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Dibromochloromethane	NE	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Dichloroethane,1,1-	0.2	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Dichloroethane,1,2-	0.1	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Dichloroethene,1,1-	0.4	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Dichloroethene,1,2- (total)	NE	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Dichloropropane,1,2-	NE	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Dichloropropene, cis-1,3	NE	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Dichloropropene, trans-1,3	NE	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Hexanone,2-	NE	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Methyl tert-butyl ether	NE	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Methyl-2-pentanone,4-	1	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Methylene chloride	0.1	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Styrene	NE	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Tetrachloroethane,1,1,2,2-	0.6	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Tetrachloroethene	1.4	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Trichloroethane,1,1,1-	0.8	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Trichloroethane,1,1,2-	NE	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Trichloroethene	0.7	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
Vinyl chloride	0.2	0.011 U	0.01 U	0.057 U	0.012 UJ	0.012 U
<b>Non-carcinogenic PAHs (mg/kg)</b>						
Anthracene	50	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Pyrene	50	<b>0.6</b>	0.34 U	<b>0.14 J</b>	<b>0.11</b>	0.38 U
Benzo[g,h,i]perylene	50	<b>0.14</b>	0.34 U	0.38 U	0.39 U	0.38 U
Fluoranthene	50	<b>0.65</b>	0.34 U	<b>0.14 J</b>	<b>0.11</b>	0.38 U
Acenaphthylene	41	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Acenaphthene	50	0.37 U	0.34 U	0.38 U	<b>0.1</b>	0.38 U
Phenanthrene	50	<b>0.3</b>	0.34 U	<b>0.17 J</b>	<b>0.14</b>	0.38 U
Fluorene	50	<b>0.075</b>	0.34 U	<b>0.11 J</b>	0.39 U	0.38 U
Naphthalene	13	<b>3.2</b>	<b>0.16</b>	<b>7.5 D</b>	<b>0.34</b>	<b>0.12</b>
Methylnaphthalene,2-	36.4	<b>2.2</b>	<b>0.11</b>	<b>11 D</b>	<b>0.18</b>	0.38 U
<b>Carcinogenic PAHs (mg/kg)</b>						
Indeno[1,2,3-cd]pyrene	3.2	<b>0.14</b>	0.34 U	0.38 U	0.39 U	0.38 U
Benzo[b]fluoranthene	1.1	<b>0.46</b>	0.34 U	0.38 U	0.39 U	0.38 U
Benzo[k]fluoranthene	1.1	<b>0.27</b>	0.34 U	0.38 U	0.39 U	0.38 U
Chrysene	0.4	<b>0.39</b>	0.34 U	0.38 U	0.39 U	0.38 U
Benzo[a]pyrene	0.061	<b>0.4</b>	0.34 U	0.38 U	0.39 U	0.38 U
Dibenz[a,h]anthracene	0.014	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Benzo[a]anthracene	0.224	<b>0.38</b>	0.34 U	0.38 U	0.39 U	0.38 U
Total Carcinogenic PAHs	NE	<b>2.04</b>	ND	ND	ND	ND
<b>Total PAHs (mg/kg)</b>						
Total PAHs	NE	<b>9.205</b>	<b>0.27</b>	<b>19.06</b>	<b>0.98</b>	<b>0.12</b>

**Table 4**  
**Historic Soil Analytical Results - OU-1 Union Boulevard System Design**  
**Remedial Design Document - Appendix D**  
**Bay Shore/Brightwaters Former MGP Site**  
**Bay Shore, New York**

Sample ID: Depth (ft): Date Collected:		ETSB-01 (2 - 4)	ETSB-01 (4.5 - 6.5)	ETSB-01 (9 - 11)	ETSB-01 (12 - 14)	ETSB-01 (36 - 38)
	NYSDEC SCG	6/30/2004	6/30/2004	6/30/2004	6/30/2004	6/30/2004
<b>Other SVOCs (mg/kg)</b>						
Bis(2-chloroethoxy)methane	NE	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Bis(2-chloroethyl)ether	NE	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Bis(2-ethylhexyl)phthalate	50	<b>0.089</b>	0.34 U	<b>0.16</b>	0.39 U	0.38 U
Bis(chloroisopropyl)ether	NE	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Bromophenyl phenyl ether,4-	NE	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Butyl benzyl phthalate	50	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Carbazole	NE	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Chloro-3-methylphenol,4-	0.24	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Chloroaniline,4-	0.22	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Chloronaphthalene,2-	NE	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Chlorophenol,2-	0.8	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Chlorophenyl phenyl ether,4-	NE	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Dibenzofuran	6.2	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Dichlorobenzene,1,2-	7.9	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Dichlorobenzene,1,3-	1.6	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Dichlorobenzene,1,4-	8.5	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Dichlorobenzidine,3,3-	NE	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Dichlorophenol,2,4-	0.4	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Diethyl phthalate	7.1	0.37 U	0.34 U	<b>0.14</b>	0.39 U	<b>0.12</b>
Dimethyl phthalate	2	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Dimethylphenol, 2,4-	NE	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Di-n-butyl phthalate	8.1	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Dinitro-2-methylphenol,4,6-	NE	0.92 U	0.86 U	0.95 U	0.99 U	0.96 U
Dinitrophenol,2,4-	0.2	0.92 U	0.86 U	0.95 U	0.99 U	0.96 U
Dinitrotoluene,2,4-	NE	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Dinitrotoluene,2,6-	1	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Di-n-octyl phthalate	50	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Hexachlorobenzene	0.41	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Hexachlorobutadiene	NE	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Hexachlorocyclopentadiene	NE	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Hexachloroethane	NE	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Isophorone	4.4	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Methylphenol, 4-	0.9	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Methylphenol,2-	0.1	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Nitroaniline,2-	0.43	0.92 U	0.86 U	0.95 U	0.99 U	0.96 U
Nitroaniline,3-	0.5	0.92 U	0.86 U	0.95 U	0.99 U	0.96 U
Nitroaniline,4-	NE	0.92 U	0.86 U	0.95 U	0.99 U	0.96 U
Nitrobenzene	0.2	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Nitrophenol,2-	0.33	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Nitrophenol,4-	0.1	0.92 U	0.86 U	0.95 U	0.99 U	0.96 U
N-Nitrosodi-n-propylamine	NE	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
N-Nitrosodiphenylamine	NE	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Pentachlorophenol	1	0.92 U	0.86 U	0.95 U	0.99 U	0.96 U
Phenol	0.03	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Trichlorobenzene,1,2,4-	3.4	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
Trichlorophenol,2,4,5-	0.1	0.92 U	0.86 U	0.95 U	0.99 U	0.96 U
Trichlorophenol,2,4,6-	NE	0.37 U	0.34 U	0.38 U	0.39 U	0.38 U
<b>Inorganics (MG/KG)</b>						
Lead	SB *	<b>1580</b>	<b>6.2</b>	<b>8.2</b>	<b>0.87</b>	<b>0.93</b>
Cyanide, Total	NE	0.55 U	0.52 U	0.57 U	0.6 U	0.58 U

**Table 4**  
**Historic Soil Analytical Results - OU-1 Union Boulevard System Design**  
**Remedial Design Document - Appendix D**  
**Bay Shore/Brightwaters Former MGP Site**  
**Bay Shore, New York**

Sample ID: Depth (ft): Date Collected:	NYSDEC SCG	ETSB-02 (5.5 - 7.5) 7/1/2004	ETSB-02 (9 - 11) 7/1/2004	ETSB-02 (12 - 14) 7/1/2004	ETSB-02 (40 - 42) 7/1/2004	ETSB-02 (76 - 78) 7/6/2004
<b>BTEX (mg/kg)</b>						
Benzene	0.06	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Toluene	1.5	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Ethylbenzene	5.5	0.01 UJ	<b>5.8 D</b>	<b>0.92</b>	0.012 U	0.012 U
Xylene, total	1.2	0.01 UJ	<b>4.7 D</b>	<b>0.75</b>	0.012 U	0.012 U
Total BTEX	NE	ND	<b>10.5</b>	<b>1.67</b>	ND	ND
<b>Other VOCs (mg/kg)</b>						
Acetone	0.2	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	<b>0.005</b>
Bromodichloromethane	NE	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Bromoform	NE	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Bromomethane	NE	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Butanone, 2-	0.3	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Carbon disulfide	2.7	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Carbon tetrachloride	0.6	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Chlorobenzene	1.7	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Chloroethane	1.9	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Chloroform	0.3	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Chloromethane	NE	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Dibromochloromethane	NE	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Dichloroethane, 1,1-	0.2	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Dichloroethane, 1,2-	0.1	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Dichloroethene, 1,1-	0.4	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Dichloroethene, 1,2- (total)	NE	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Dichloropropane, 1,2-	NE	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Dichloropropane, cis-1,3	NE	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Dichloropropene, trans-1,3	NE	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Hexanone, 2-	NE	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Methyl tert-butyl ether	NE	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Methyl-2-pentanone, 4-	1	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Methylene chloride	0.1	0.01 UJ	0.44 UJ	0.048 UJ	0.012 U	0.012 U
Styrene	NE	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Tetrachloroethane, 1,1,2,2-	0.6	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Tetrachloroethene	1.4	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Trichloroethane, 1,1,1-	0.8	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Trichloroethane, 1,1,2-	NE	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Trichloroethene	0.7	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
Vinyl chloride	0.2	0.01 UJ	0.058 UJ	0.012 UJ	0.012 U	0.012 U
<b>Non-carcinogenic PAHs (mg/kg)</b>						
Anthracene	50	<b>0.34 J</b>	<b>0.4</b>	<b>0.31 J</b>	0.39 U	0.41 U
Pyrene	50	<b>0.28 J</b>	<b>0.32 J</b>	<b>0.17 J</b>	0.39 U	0.41 U
Benzo[g,h,i]perylene	50	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Fluoranthene	50	<b>0.19 J</b>	<b>0.25 J</b>	<b>0.12 J</b>	0.39 U	0.41 U
Acenaphthylene	41	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Acenaphthene	50	<b>1.2</b>	<b>1.4</b>	<b>0.64</b>	0.39 U	0.41 U
Phenanthrene	50	<b>4.9</b>	<b>5.3</b>	<b>2.4</b>	0.39 U	0.41 U
Fluorene	50	<b>2.8</b>	<b>3</b>	<b>1.4</b>	0.39 U	0.41 U
Naphthalene	13	<b>0.99</b>	<b>1.8 D</b>	<b>1.4</b>	0.39 U	0.41 U
Methylnaphthalene, 2-	36.4	<b>34 D</b>	<b>51 D</b>	<b>32 D</b>	0.39 U	<b>0.13</b>
<b>Carcinogenic PAHs (mg/kg)</b>						
Indeno[1,2,3-cd]pyrene	3.2	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Benzo[b]fluoranthene	1.1	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Benzo[k]fluoranthene	1.1	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Chrysene	0.4	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Benzo[a]pyrene	0.061	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Dibenzo[a,h]anthracene	0.014	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Benzo[a]anthracene	0.224	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Total Carcinogenic PAHs	NE	ND	ND	ND	ND	ND
<b>Total PAHs (mg/kg)</b>						
Total PAHs	NE	<b>44.7</b>	<b>79.67</b>	<b>38.44</b>	ND	<b>0.13</b>

**Table 4**  
**Historic Soil Analytical Results - OU-1 Union Boulevard System Design**  
**Remedial Design Document - Appendix D**  
**Bay Shore/Brightwaters Former MGP Site**  
**Bay Shore, New York**

Sample ID: Depth (ft): Date Collected:	NYSDEC SCG	ETSB-02 (5.5 - 7.5) 7/1/2004	ETSB-02 (9 - 11) 7/1/2004	ETSB-02 (12 - 14) 7/1/2004	ETSB-02 (40 - 42) 7/1/2004	ETSB-02 (76 - 78) 7/6/2004
<b>Other SVOCs (mg/kg)</b>						
Bis(2-chloroethoxy)methane	NE	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Bis(2-chloroethyl)ether	NE	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Bis(2-ethylhexyl)phthalate	50	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Bis(chloroisopropyl)ether	NE	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Bromophenyl phenyl ether,4-	NE	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Butyl benzyl phthalate	50	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Carbazole	NE	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Chloro-3-methylphenol,4-	0.24	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Chloroaniline,4-	0.22	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Chloronaphthalene,2-	NE	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Chlorophenol,2-	0.8	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Chlorophenyl phenyl ether,4-	NE	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Dibenzofuran	6.2	<b>1.9</b>	<b>2</b>	<b>0.96</b>	0.39 U	0.41 U
Dichlorobenzene,1,2-	7.9	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Dichlorobenzene,1,3-	1.6	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Dichlorobenzene,1,4-	8.5	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Dichlorobenzidine,3,3-	NE	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Dichlorophenol,2,4-	0.4	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Diethyl phthalate	7.1	0.35 U	0.38 U	<b>0.25 J</b>	<b>0.094</b>	0.41 U
Dimethyl phthalate	2	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Dimethylphenol, 2,4-	NE	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Di-n-butyl phthalate	8.1	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Dinitro-2-methylphenol,4,6-	NE	0.87 U	0.97 U	1 U	0.97 U	1 U
Dinitrophenol,2,4-	0.2	0.87 U	0.97 U	1 U	0.97 U	1 U
Dinitrotoluene,2,4-	NE	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Dinitrotoluene,2,6-	1	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Di-n-octyl phthalate	50	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Hexachlorobenzene	0.41	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Hexachlorobutadiene	NE	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Hexachlorocyclopentadiene	NE	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Hexachloroethane	NE	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Isophorone	4.4	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Methylphenol, 4-	0.9	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Methylphenol,2-	0.1	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Nitroaniline,2-	0.43	0.87 U	0.97 U	1 U	0.97 U	1 U
Nitroaniline,3-	0.5	0.87 U	0.97 U	1 U	0.97 U	1 U
Nitroaniline,4-	NE	0.87 U	0.97 U	1 U	0.97 U	1 U
Nitrobenzene	0.2	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Nitrophenol,2-	0.33	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Nitrophenol,4-	0.1	0.87 U	0.97 U	1 U	0.97 U	1 U
N-Nitrosodi-n-propylamine	NE	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
N-Nitrosodiphenylamine	NE	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Pentachlorophenol	1	0.87 U	0.97 U	1 U	0.97 U	1 U
Phenol	0.03	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Trichlorobenzene,1,2,4-	3.4	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
Trichlorophenol,2,4,5-	0.1	0.87 U	0.97 U	1 U	0.97 U	1 U
Trichlorophenol,2,4,6-	NE	0.35 U	0.38 U	0.4 U	0.39 U	0.41 U
<b>Inorganics (MG/KG)</b>						
Lead	SB *	<b>1.1</b>	<b>2.4</b>	<b>0.76</b>	<b>0.48</b>	<b>4.2</b>
Cyanide, Total	NE	0.52 U	0.58 U	0.6 U	0.59 U	0.62 U

**Table 4**  
**Historic Soil Analytical Results - OU-1 Union Boulevard System Design**  
**Remedial Design Document - Appendix D**  
**Bay Shore/Brightwaters Former MGP Site**  
**Bay Shore, New York**

Sample ID: Depth (ft): Date Collected:	NYSDEC SCG	ETSB-03 (12 - 14) 7/6/2004	Duplicate Of ETSB-03 (12 - 14) 7/6/2004	ETSB-03 (40 - 43) 7/7/2004	ETSB-03 (68 - 70) 7/7/2004	ETSB-04 (10 - 12) 7/7/2004
<b>BTEX (mg/kg)</b>						
Benzene	0.06	<b>0.005</b>	0.012 U	0.012 U	0.013 U	0.012 U
Toluene	1.5	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Ethylbenzene	5.5	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Xylene, total	1.2	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Total BTEX	NE	<b>0.005</b>	ND	ND	ND	ND
<b>Other VOCs (mg/kg)</b>						
Acetone	0.2	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Bromodichloromethane	NE	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Bromoform	NE	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Bromomethane	NE	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Butanone,2-	0.3	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Carbon disulfide	2.7	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Carbon tetrachloride	0.6	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Chlorobenzene	1.7	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Chloroethane	1.9	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Chloroform	0.3	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Chloromethane	NE	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Dibromochloromethane	NE	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Dichloroethane,1,1-	0.2	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Dichloroethane,1,2-	0.1	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Dichloroethene,1,1-	0.4	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Dichloroethene,1,2- (total)	NE	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Dichloropropane,1,2-	NE	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Dichloropropene, cis-1,3	NE	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Dichloropropene, trans-1,3	NE	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Hexanone,2-	NE	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Methyl tert-butyl ether	NE	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Methyl-2-pentanone,4-	1	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Methylene chloride	0.1	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Styrene	NE	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Tetrachloroethane,1,1,2,2-	0.6	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Tetrachloroethene	1.4	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Trichloroethane,1,1,1-	0.8	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Trichloroethane,1,1,2-	NE	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Trichloroethene	0.7	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
Vinyl chloride	0.2	0.012 U	0.012 U	0.012 U	0.013 U	0.012 U
<b>Non-carcinogenic PAHs (mg/kg)</b>						
Anthracene	50	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Pyrene	50	0.4 U	<b>0.12</b>	0.4 U	0.43 U	0.4 U
Benzo[g,h,i]perylene	50	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Fluoranthene	50	0.4 U	<b>0.14</b>	0.4 U	0.43 U	0.4 U
Acenaphthylene	41	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Acenaphthene	50	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Phenanthrene	50	0.4 U	0.4 U	0.4 U	<b>0.13</b>	0.4 U
Fluorene	50	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Naphthalene	13	0.4 U	<b>0.33</b>	0.4 U	0.43 U	<b>0.12</b>
Methylnaphthalene,2-	36.4	0.4 U	<b>0.08</b>	0.4 U	<b>0.17</b>	<b>0.45</b>
<b>Carcinogenic PAHs (mg/kg)</b>						
Indeno[1,2,3-cd]pyrene	3.2	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Benzo[b]fluoranthene	1.1	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Benzo[k]fluoranthene	1.1	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Chrysene	0.4	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Benzo[a]pyrene	0.061	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Dibenz[a,h]anthracene	0.014	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Benz[a]anthracene	0.224	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Total Carcinogenic PAHs	NE	ND	ND	ND	ND	ND
<b>Total PAHs (mg/kg)</b>						
Total PAHs	NE	ND	<b>0.67</b>	ND	<b>0.3</b>	<b>0.57</b>

**Table 4**  
**Historic Soil Analytical Results - OU-1 Union Boulevard System Design**  
**Remedial Design Document - Appendix D**  
**Bay Shore/Brightwaters Former MGP Site**  
**Bay Shore, New York**

Sample ID: Depth (ft): Date Collected:	NYSDEC SCG	ETSB-03 (12 - 14) 7/6/2004	Duplicate Of ETSB-03 (12 - 14) 7/6/2004	ETSB-03 (40 - 43) 7/7/2004	ETSB-03 (68 - 70) 7/7/2004	ETSB-04 (10 - 12) 7/7/2004
<b>Other SVOCs (mg/kg)</b>						
Bis(2-chloroethoxy)methane	NE	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Bis(2-chloroethyl)ether	NE	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Bis(2-ethylhexyl)phthalate	50	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Bis(chloroisopropyl)ether	NE	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Bromophenyl phenyl ether,4-	NE	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Butyl benzyl phthalate	50	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Carbazole	NE	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Chloro-3-methylphenol,4-	0.24	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Chloroaniline,4-	0.22	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Chloronaphthalene,2-	NE	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Chlorophenol,2-	0.8	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Chlorophenyl phenyl ether,4-	NE	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Dibenzofuran	6.2	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Dichlorobenzene,1,2-	7.9	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Dichlorobenzene,1,3-	1.6	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Dichlorobenzene,1,4-	8.5	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Dichlorobenzidine,3,3-	NE	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Dichlorophenol,2,4-	0.4	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Diethyl phthalate	7.1	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Dimethyl phthalate	2	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Dimethylphenol, 2,4-	NE	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Di-n-butyl phthalate	8.1	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Dinitro-2-methylphenol,4,6-	NE	1 U	1 U	1 U	1.1 U	1 U
Dinitrophenol,2,4-	0.2	1 U	1 U	1 U	1.1 U	1 U
Dinitrotoluene,2,4-	NE	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Dinitrotoluene,2,6-	1	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Di-n-octyl phthalate	50	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Hexachlorobenzene	0.41	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Hexachlorobutadiene	NE	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Hexachlorocyclopentadiene	NE	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Hexachloroethane	NE	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Isophorone	4.4	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Methylphenol, 4-	0.9	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Methylphenol,2-	0.1	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Nitroaniline,2-	0.43	1 U	1 U	1 U	1.1 U	1 U
Nitroaniline,3-	0.5	1 U	1 U	1 U	1.1 U	1 U
Nitroaniline,4-	NE	1 U	1 U	1 U	1.1 U	1 U
Nitrobenzene	0.2	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Nitrophenol,2-	0.33	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Nitrophenol,4-	0.1	1 U	1 U	1 U	1.1 U	1 U
N-Nitrosodi-n-propylamine	NE	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
N-Nitrosodiphenylamine	NE	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Pentachlorophenol	1	1 U	1 U	1 U	1.1 U	1 U
Phenol	0.03	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Trichlorobenzene,1,2,4-	3.4	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
Trichlorophenol,2,4,5-	0.1	1 U	1 U	1 U	1.1 U	1 U
Trichlorophenol,2,4,6-	NE	0.4 U	0.4 U	0.4 U	0.43 U	0.4 U
<b>Inorganics (MG/KG)</b>						
Lead	SB *	0.69	0.89	0.42	1	0.56
Cyanide, Total	NE	0.61 U	0.6 U	0.61 U	0.65 U	0.6 U



**Table 4**  
**Historic Soil Analytical Results - OU-1 Union Boulevard System Design**  
**Remedial Design Document - Appendix D**  
**Bay Shore/Brightwaters Former MGP Site**  
**Bay Shore, New York**

Sample ID: Depth (ft): Date Collected:	NYSDEC SCG	ETSB-04 (16 - 18) 7/9/2004	ETSB-04 (40 - 42) 7/9/2004	ETSB-04 (68 - 70) 7/12/2004	ETSB-05 (12 - 14) 7/13/2004	Duplicate OF ETSB-05 (12 - 14) 7/13/2004
<b>BTEX (mg/kg)</b>						
Benzene	0.06	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Toluene	1.5	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Ethylbenzene	5.5	<b>0.008</b>	0.012 U	0.012 U	0.012 U	0.012 U
Xylene, total	1.2	<b>0.008</b>	0.012 U	0.012 U	0.012 U	0.012 U
Total BTEX	NE	<b>0.016</b>	ND	ND	ND	ND
<b>Other VOCs (mg/kg)</b>						
Acetone	0.2	0.012 U	0.012 U	0.012 U	0.012 U	<b>0.01</b>
Bromodichloromethane	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Bromoform	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Bromomethane	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Butanone, 2-	0.3	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Carbon disulfide	2.7	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Carbon tetrachloride	0.6	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Chlorobenzene	1.7	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Chloroethane	1.9	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Chloroform	0.3	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Chloromethane	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Dibromochloromethane	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Dichloroethane, 1,1-	0.2	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Dichloroethane, 1,2-	0.1	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Dichloroethene, 1,1-	0.4	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Dichloroethene, 1,2- (total)	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Dichloropropane, 1,2-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Dichloropropene, cis-1,3	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Dichloropropene, trans-1,3	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Hexanone, 2-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Methyl tert-butyl ether	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Methyl-2-pentanone, 4-	1	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Methylene chloride	0.1	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Styrene	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Tetrachloroethane, 1,1,2,2-	0.6	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Tetrachloroethene	1.4	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Trichloroethane, 1,1,1-	0.8	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Trichloroethane, 1,1,2-	NE	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Trichloroethene	0.7	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
Vinyl chloride	0.2	0.012 U	0.012 U	0.012 U	0.012 U	0.012 U
<b>Non-carcinogenic PAHs (mg/kg)</b>						
Anthracene	50	0.4 U	0.4 U	0.4 U	<b>0.12</b>	0.41 U
Pyrene	50	0.4 U	<b>0.24</b>	0.4 U	<b>0.25</b>	<b>0.15</b>
Benzo[g,h,i]perylene	50	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Fluoranthene	50	0.4 U	<b>0.15</b>	0.4 U	<b>0.13</b>	0.41 U
Acenaphthylene	41	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Acenaphthene	50	0.4 U	<b>0.26</b>	0.4 U	<b>0.17</b>	0.41 U
Phenanthrene	50	<b>0.088</b>	<b>0.48</b>	0.4 U	<b>0.45</b>	<b>0.24</b>
Fluorene	50	0.4 U	<b>0.15</b>	0.4 U	<b>0.15</b>	0.41 U
Naphthalene	13	<b>0.18</b>	<b>0.11</b>	0.4 U	0.4 U	0.41 U
Methylnaphthalene, 2-	36.4	<b>0.11</b>	0.4 U	0.4 U	<b>0.41</b>	<b>0.15</b>
<b>Carcinogenic PAHs (mg/kg)</b>						
Indeno[1,2,3-cd]pyrene	3.2	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Benzo[b]fluoranthene	1.1	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Benzo[k]fluoranthene	1.1	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Chrysene	0.4	0.4 U	<b>0.094</b>	0.4 U	0.4 U	0.41 U
Benzo[a]pyrene	0.061	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Dibenz[a,h]anthracene	0.014	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Benz[a]anthracene	0.224	0.4 U	<b>0.12</b>	0.4 U	<b>0.089</b>	0.41 U
Total Carcinogenic PAHs	NE	ND	<b>0.214</b>	ND	<b>0.089</b>	ND
<b>Total PAHs (mg/kg)</b>						
Total PAHs	NE	<b>0.378</b>	<b>1.604</b>	ND	<b>1.769</b>	<b>0.54</b>

**Table 4**  
**Historic Soil Analytical Results - OU-1 Union Boulevard System Design**  
**Remedial Design Document - Appendix D**  
**Bay Shore/Brightwaters Former MGP Site**  
**Bay Shore, New York**

Sample ID: Depth (ft): Date Collected:	NYSDEC SCG	ETSB-04 (16 - 18) 7/9/2004	ETSB-04 (40 - 42) 7/9/2004	ETSB-04 (68 - 70) 7/12/2004	ETSB-05 (12 - 14) 7/13/2004	Duplicate OF ETSB-05 (12 - 14) 7/13/2004
<b>Other SVOCs (mg/kg)</b>						
Bis(2-chloroethoxy)methane	NE	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Bis(2-chloroethyl)ether	NE	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Bis(2-ethylhexyl)phthalate	50	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Bis(chloroisopropyl)ether	NE	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Bromophenyl phenyl ether,4-	NE	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Butyl benzyl phthalate	50	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Carbazole	NE	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Chloro-3-methylphenol,4-	0.24	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Chloroaniline,4-	0.22	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Chloronaphthalene,2-	NE	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Chlorophenol,2-	0.8	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Chlorophenyl phenyl ether,4-	NE	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Dibenzofuran	6.2	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Dichlorobenzene,1,2-	7.9	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Dichlorobenzene,1,3-	1.6	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Dichlorobenzene,1,4-	8.5	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Dichlorobenzidine,3,3-	NE	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Dichlorophenol,2,4-	0.4	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Diethyl phthalate	7.1	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Dimethyl phthalate	2	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Dimethylphenol, 2,4-	NE	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Di-n-butyl phthalate	8.1	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Dinitro-2-methylphenol,4,6-	NE	1 U	1 U	1 U	1 U	1 U
Dinitrophenol,2,4-	0.2	1 U	1 U	1 U	1 U	1 U
Dinitrotoluene,2,4-	NE	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Dinitrotoluene,2,6-	1	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Di-n-octyl phthalate	50	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Hexachlorobenzene	0.41	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Hexachlorobutadiene	NE	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Hexachlorocyclopentadiene	NE	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Hexachloroethane	NE	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Isophorone	4.4	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Methylphenol, 4-	0.9	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Methylphenol,2-	0.1	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Nitroaniline,2-	0.43	1 U	1 U	1 U	1 U	1 U
Nitroaniline,3-	0.5	1 U	1 U	1 U	1 U	1 U
Nitroaniline,4-	NE	1 U	1 U	1 U	1 U	1 U
Nitrobenzene	0.2	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Nitrophenol,2-	0.33	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Nitrophenol,4-	0.1	<b>0.22</b>	1 U	1 U	1 U	1 U
N-Nitrosodi-n-propylamine	NE	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
N-Nitrosodiphenylamine	NE	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Pentachlorophenol	1	<b>0.14</b>	1 U	1 U	1 U	1 U
Phenol	0.03	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Trichlorobenzene,1,2,4-	3.4	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
Trichlorophenol,2,4,5-	0.1	1 U	1 U	1 U	1 U	1 U
Trichlorophenol,2,4,6-	NE	0.4 U	0.4 U	0.4 U	0.4 U	0.41 U
<b>Inorganics (MG/KG)</b>						
Lead	SB *	<b>0.83</b>	<b>0.76</b>	<b>1.7</b>	<b>0.88</b>	<b>0.81</b>
Cyanide, Total	NE	0.61 U	0.61 U	0.61 U	0.61 U	0.62 U

**Table 4**  
**Historic Soil Analytical Results - OU-1 Union Boulevard System Design**  
**Remedial Design Document - Appendix D**  
**Bay Shore/Brightwaters Former MGP Site**  
**Bay Shore, New York**

Sample ID: Depth (ft): Date Collected:	NYSDEC SCG	ETSB-05 (40 - 42) 7/13/2004	ETSB-05 (70 - 72) 7/19/2004
<b>BTEX (mg/kg)</b>			
Benzene	0.06	0.012 U	0.013 U
Toluene	1.5	0.012 U	0.013 U
Ethylbenzene	5.5	0.012 U	0.013 U
Xylene, total	1.2	0.012 U	0.013 U
Total BTEX	NE	ND	ND
<b>Other VOCs (mg/kg)</b>			
Acetone	0.2	0.012 U	0.013 U
Bromodichloromethane	NE	0.012 U	0.013 U
Bromoform	NE	0.012 U	0.013 U
Bromomethane	NE	0.012 U	0.013 U
Butanone,2-	0.3	0.012 U	0.013 UJ
Carbon disulfide	2.7	0.012 U	0.013 U
Carbon tetrachloride	0.6	0.012 U	0.013 U
Chlorobenzene	1.7	0.012 U	0.013 U
Chloroethane	1.9	0.012 U	0.013 U
Chloroform	0.3	0.012 U	0.013 U
Chloromethane	NE	0.012 U	0.013 U
Dibromochloromethane	NE	0.012 U	0.013 U
Dichloroethane,1,1-	0.2	0.012 U	0.013 U
Dichloroethane,1,2-	0.1	0.012 U	0.013 U
Dichloroethene,1,1-	0.4	0.012 U	0.013 U
Dichloroethene,1,2- (total)	NE	0.012 U	0.013 U
Dichloropropane,1,2-	NE	0.012 U	0.013 U
Dichloropropene, cis-1,3	NE	0.012 U	0.013 U
Dichloropropene, trans-1,3	NE	0.012 U	0.013 U
Hexanone,2-	NE	0.012 U	0.013 U
Methyl tert-butyl ether	NE	0.012 U	0.013 U
Methyl-2-pentanone,4-	1	0.012 U	0.013 U
Methylene chloride	0.1	0.012 U	0.013 U
Styrene	NE	0.012 U	0.013 U
Tetrachloroethane,1,1,2,2-	0.6	0.012 U	0.013 U
Tetrachloroethene	1.4	0.012 U	0.013 U
Trichloroethane,1,1,1-	0.8	0.012 U	0.013 U
Trichloroethane,1,1,2-	NE	0.012 U	0.013 U
Trichloroethene	0.7	0.012 U	0.013 U
Vinyl chloride	0.2	0.012 U	0.013 U
<b>Non-carcinogenic PAHs (mg/kg)</b>			
Anthracene	50	0.4 U	0.42 U
Pyrene	50	0.4 UJ	0.42 U
Benzo[g,h,i]perylene	50	0.4 U	0.42 U
Fluoranthene	50	0.4 U	0.42 U
Acenaphthylene	41	0.4 U	0.42 U
Acenaphthene	50	0.4 U	0.42 U
Phenanthrene	50	0.4 U	0.42 U
Fluorene	50	0.4 U	0.42 U
Naphthalene	13	0.4 U	0.42 U
Methylnaphthalene,2-	36.4	0.4 U	0.42 U
<b>Carcinogenic PAHs (mg/kg)</b>			
Indeno[1,2,3-cd]pyrene	3.2	0.4 U	0.42 U
Benzo[b]fluoranthene	1.1	0.4 U	0.42 U
Benzo[k]fluoranthene	1.1	0.4 U	0.42 U
Chrysene	0.4	0.4 UJ	0.42 U
Benzo[a]pyrene	0.061	0.4 U	0.42 U
Dibenzo[a,h]anthracene	0.014	0.4 U	0.42 U
Benzo[a]anthracene	0.224	0.4 UJ	0.42 U
Total Carcinogenic PAHs	NE	ND	ND
<b>Total PAHs (mg/kg)</b>			
Total PAHs	NE	ND	ND

**Table 4**  
**Historic Soil Analytical Results - OU-1 Union Boulevard System Design**  
**Remedial Design Document - Appendix D**  
**Bay Shore/Brightwaters Former MGP Site**  
**Bay Shore, New York**

Sample ID: Depth (ft): Date Collected:	NYSDEC SCG	ETSB-05 (40 - 42) 7/13/2004	ETSB-05 (70 - 72) 7/19/2004
<b>Other SVOCs (mg/kg)</b>			
Bis(2-chloroethoxy)methane	NE	0.4 U	0.42 U
Bis(2-chloroethyl)ether	NE	0.4 U	0.42 U
Bis(2-ethylhexyl)phthalate	50	<b>0.16</b>	0.42 U
Bis(chloroisopropyl)ether	NE	0.4 U	0.42 U
Bromophenyl phenyl ether,4-	NE	0.4 U	0.42 U
Butyl benzyl phthalate	50	0.4 UJ	0.42 U
Carbazole	NE	0.4 U	0.42 U
Chloro-3-methylphenol,4-	0.24	0.4 U	0.42 U
Chloroaniline,4-	0.22	0.4 U	0.42 U
Chloronaphthalene,2-	NE	0.4 U	0.42 U
Chlorophenol,2-	0.8	0.4 U	0.42 U
Chlorophenyl phenyl ether,4-	NE	0.4 U	0.42 U
Dibenzofuran	6.2	0.4 U	0.42 U
Dichlorobenzene,1,2-	7.9	0.4 U	0.42 U
Dichlorobenzene,1,3-	1.6	0.4 U	0.42 U
Dichlorobenzene,1,4-	8.5	0.4 U	0.42 U
Dichlorobenzidine,3,3-	NE	0.4 UJ	0.42 U
Dichlorophenol,2,4-	0.4	0.4 U	0.42 U
Diethyl phthalate	7.1	0.4 U	0.42 U
Dimethyl phthalate	2	0.4 U	0.42 U
Dimethylphenol, 2,4-	NE	0.4 U	0.42 U
Di-n-butyl phthalate	8.1	0.4 U	0.42 U
Dinitro-2-methylphenol,4,6-	NE	1 U	1.1 U
Dinitrophenol,2,4-	0.2	1 U	1.1 U
Dinitrotoluene,2,4-	NE	0.4 U	0.42 U
Dinitrotoluene,2,6-	1	0.4 U	0.42 U
Di-n-octyl phthalate	50	0.4 U	0.42 U
Hexachlorobenzene	0.41	0.4 U	0.42 U
Hexachlorobutadiene	NE	0.4 U	0.42 U
Hexachlorocyclopentadiene	NE	0.4 U	0.42 U
Hexachloroethane	NE	0.4 U	0.42 U
Isophorone	4.4	0.4 U	0.42 U
Methylphenol, 4-	0.9	0.4 U	0.42 U
Methylphenol,2-	0.1	0.4 U	0.42 U
Nitroaniline,2-	0.43	1 U	1.1 U
Nitroaniline,3-	0.5	1 U	1.1 U
Nitroaniline,4-	NE	1 U	1.1 U
Nitrobenzene	0.2	0.4 U	0.42 U
Nitrophenol,2-	0.33	0.4 U	0.42 U
Nitrophenol,4-	0.1	1 U	1.1 U
N-Nitrosodi-n-propylamine	NE	0.4 U	0.42 U
N-Nitrosodiphenylamine	NE	0.4 U	0.42 U
Pentachlorophenol	1	1 U	1.1 U
Phenol	0.03	0.4 U	0.42 U
Trichlorobenzene,1,2,4-	3.4	0.4 U	0.42 U
Trichlorophenol,2,4,5-	0.1	1 U	1.1 U
Trichlorophenol,2,4,6-	NE	0.4 U	0.42 U
<b>Inorganics (MG/KG)</b>			
Lead	SB *	<b>0.5</b>	<b>0.97</b>
Cyanide, Total	NE	0.61 U	0.64 U

**Table 4**  
**Historic Soil Analytical Results - OU-1 Union Boulevard System Design**  
**Remedial Design Document - Appendix D**  
**Bay Shore/Brightwaters Former MGP Site**  
**Bay Shore, New York**

**Notes:**

The data presented on Table 4 were originally presented in the "Supplemental Field Program Report, Taylor Rental Property and Areas Adjacent to Expo Tires Property, Bay Shore/Brightwaters Former MGP Site, Site # 1-52-172" dated January 27, 2005.

NYSDEC SCG - New York State Department of Environmental Conservation regulatory standards, criteria and guidance values

\* = guidance value

ug/L is micrograms per liter

BTEX - Benzene, Toluene, Ethylbenzene, Xylene

VOCs - Volatile Organic Compounds

PAHs - Polycyclic Aromatic Hydrocarbons

SVOCs - Semivolatile Organic Compounds

U - not detected to the reporting limit shown

J - estimated value

D - result is from diluted sample analysis

NE - not established

ND - Not detected - no compound was detected in the group of compounds summed for total

UJ - not detected to estimated detection limit

EJ - estimated value exceeded the calibration range

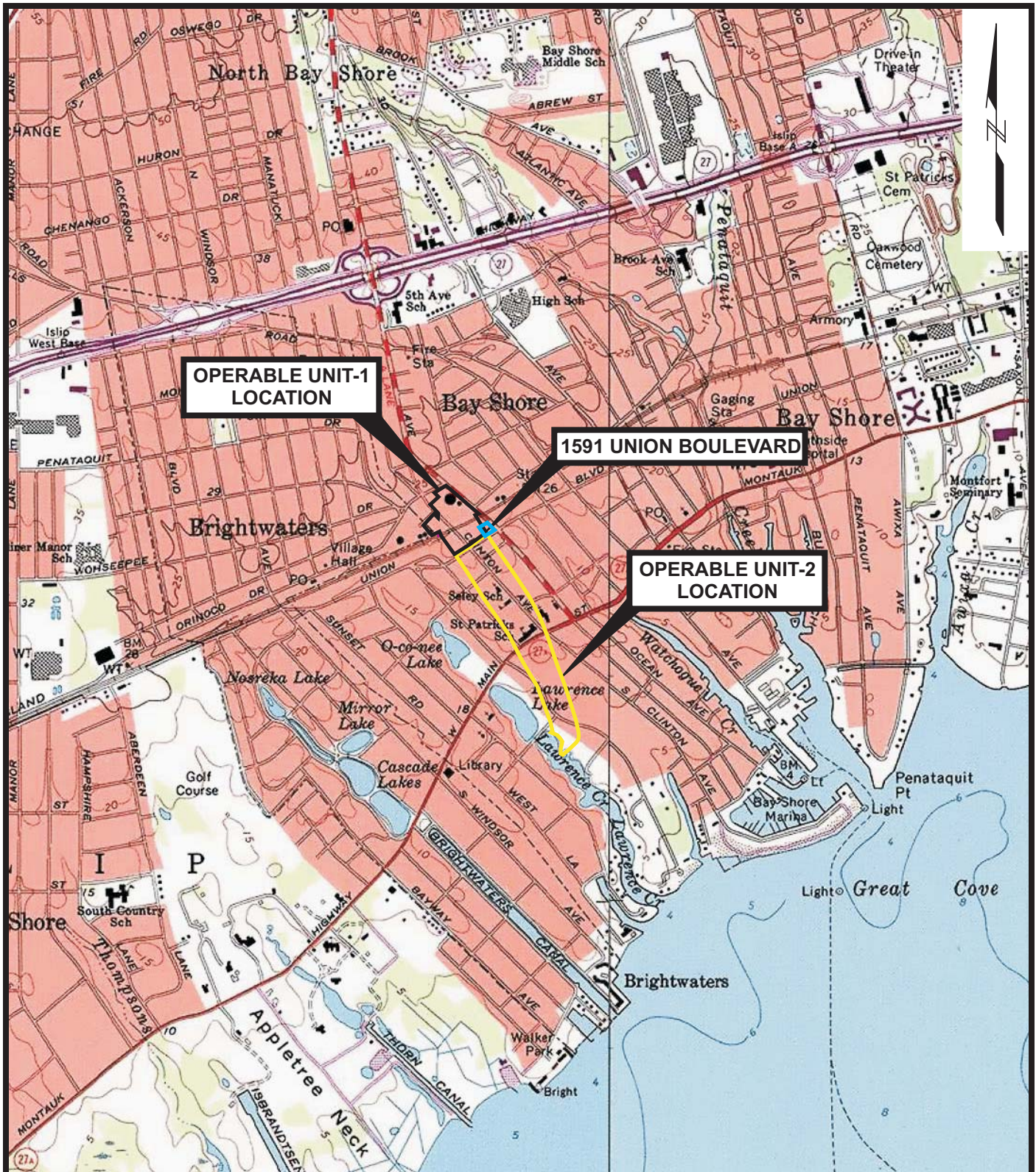
DJ - estimated value completed at secondary dilution factor

Gray shading and bold indicates concentration exceeds NYSDEC SCG

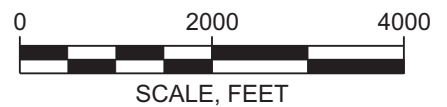
Bolding indicates detected result

## Figures

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SOURCE: Map created with TOPO!® ©2001 National Geographic (www.nationalgeographic.com/topo)



OU-1 UNION BOULEVARD SYSTEM DESIGN  
REMEDIAL DESIGN DOCUMENT - APPENDIX D  
BAY SHORE/BRIGHTWATERS FORMER MGP SITE  
BAY SHORE, NEW YORK

**nationalgrid**

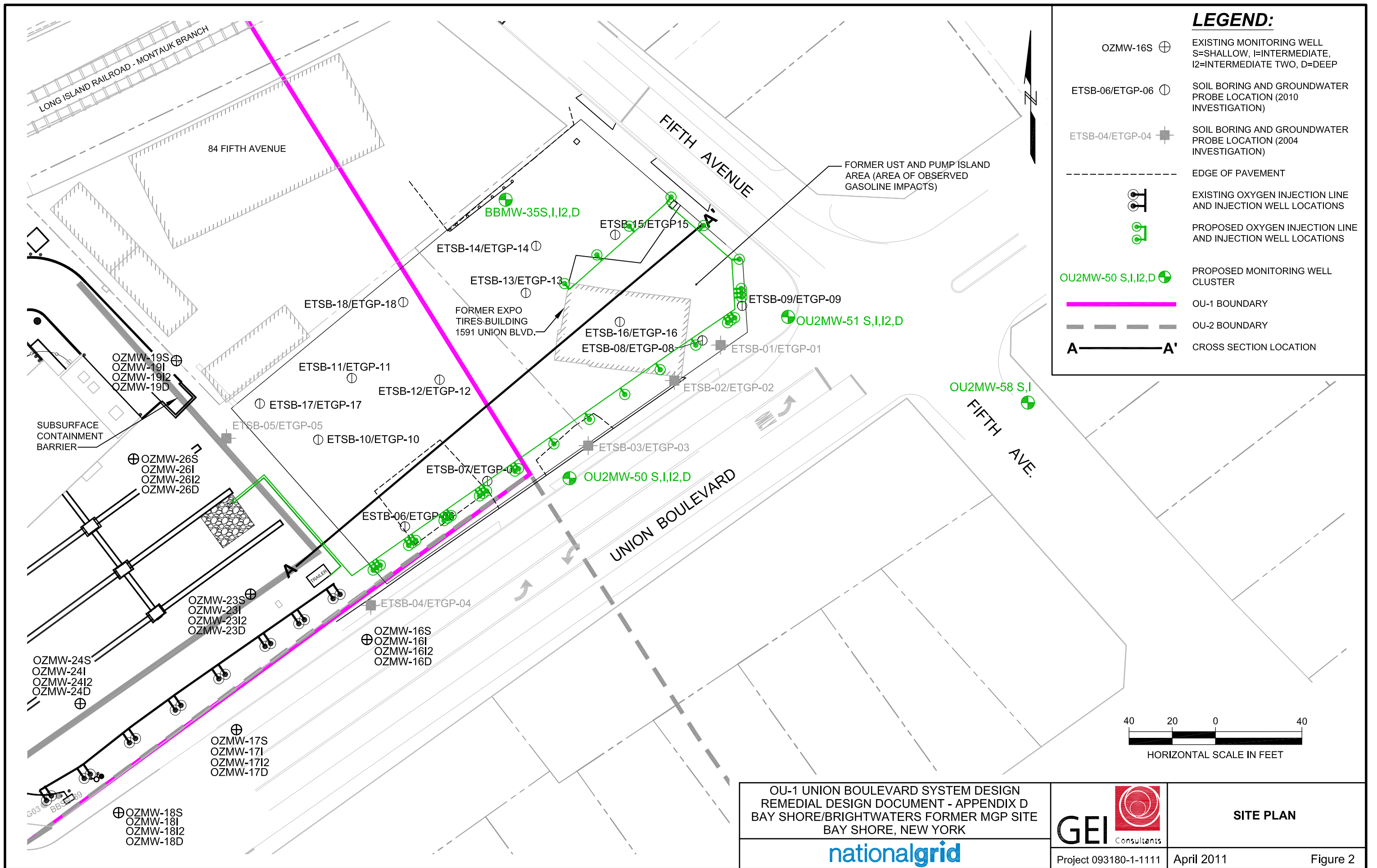


Project 093180-1-1111

**SITE LOCATION MAP**

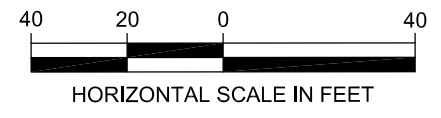
April 2011

Figure 1



**LEGEND:**

- OZMW-16S ⊕ EXISTING MONITORING WELL  
S=SHALLOW, I=INTERMEDIATE,  
I2=INTERMEDIATE TWO, D=DEEP
- ETSB-06/ETGP-06 ⊙ SOIL BORING AND GROUNDWATER  
PROBE LOCATION (2010  
INVESTIGATION)
- ETSB-04/ETGP-04 ⊕ SOIL BORING AND GROUNDWATER  
PROBE LOCATION (2004  
INVESTIGATION)
- EDGE OF PAVEMENT
- ⊕ EXISTING OXYGEN INJECTION LINE  
AND INJECTION WELL LOCATIONS
- ⊕ PROPOSED OXYGEN INJECTION LINE  
AND INJECTION WELL LOCATIONS
- ⊕ PROPOSED MONITORING WELL  
CLUSTER
- OU-1 BOUNDARY
- OU-2 BOUNDARY
- A-----A' CROSS SECTION LOCATION



OU-1 UNION BOULEVARD SYSTEM DESIGN  
REMEDIAL DESIGN DOCUMENT - APPENDIX D  
BAY SHORE/BRIGHTWATERS FORMER MGP SITE  
BAY SHORE, NEW YORK



**SITE PLAN**

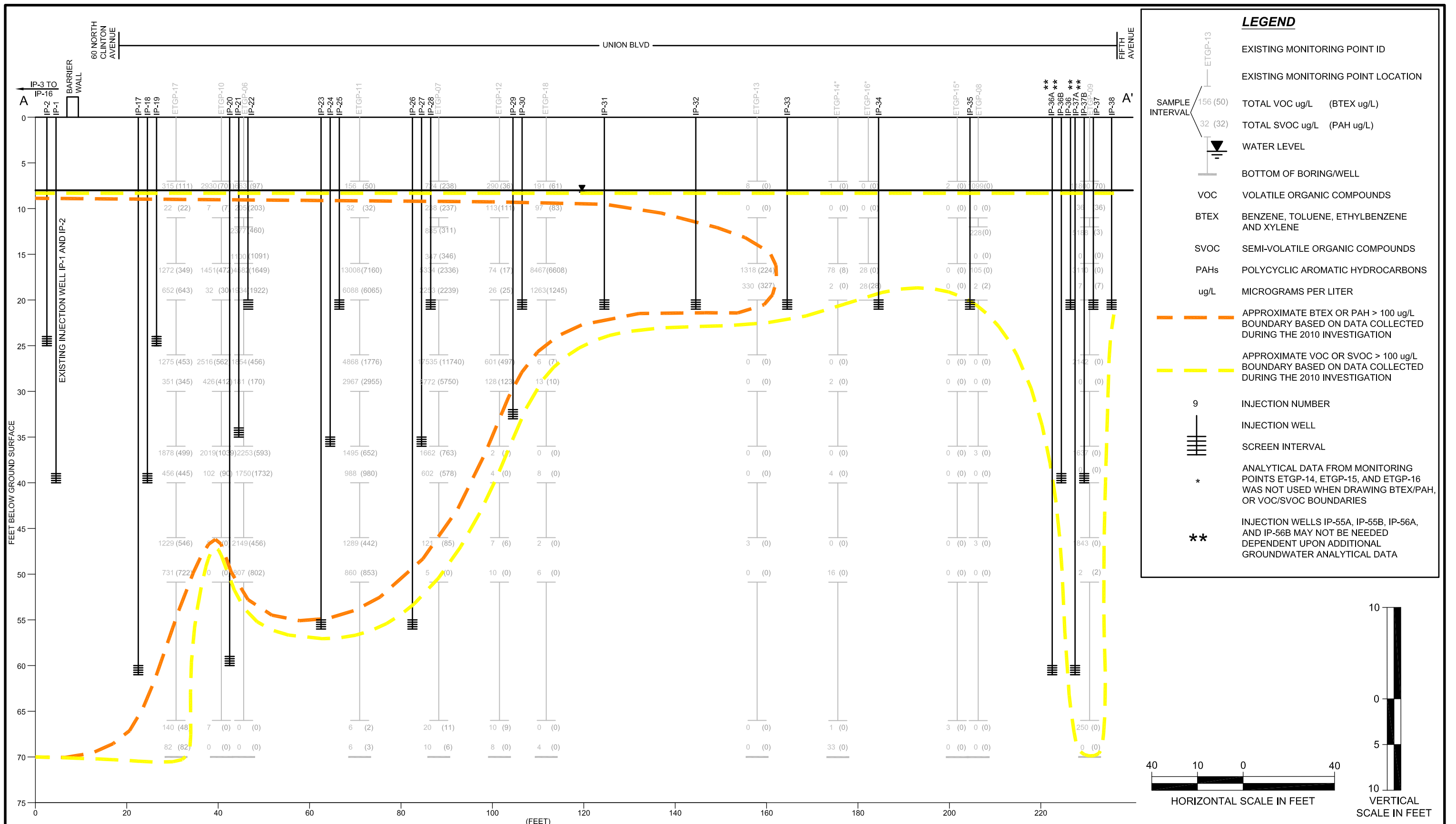
**nationalgrid**

Project 093180-1-1111

April 2011

Figure 2





**NOTE:**

IP-1 THROUGH IP-16 WERE PREVIOUSLY INSTALLED AND ARE CURRENTLY IN OPERATION.

OU-1 UNION BOULEVARD SYSTEM DESIGN  
 REMEDIAL DESIGN DOCUMENT - APPENDIX D  
 BAY SHORE/BRIGHTWATERS FORMER MGP SITE  
 BAY SHORE, NEW YORK



**OXYGEN INJECTION SYSTEM  
 CROSS SECTION**

Project 093180-1-1111

April 2011

Figure 3

## Appendix A

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**Design Drawings (electronic only)**

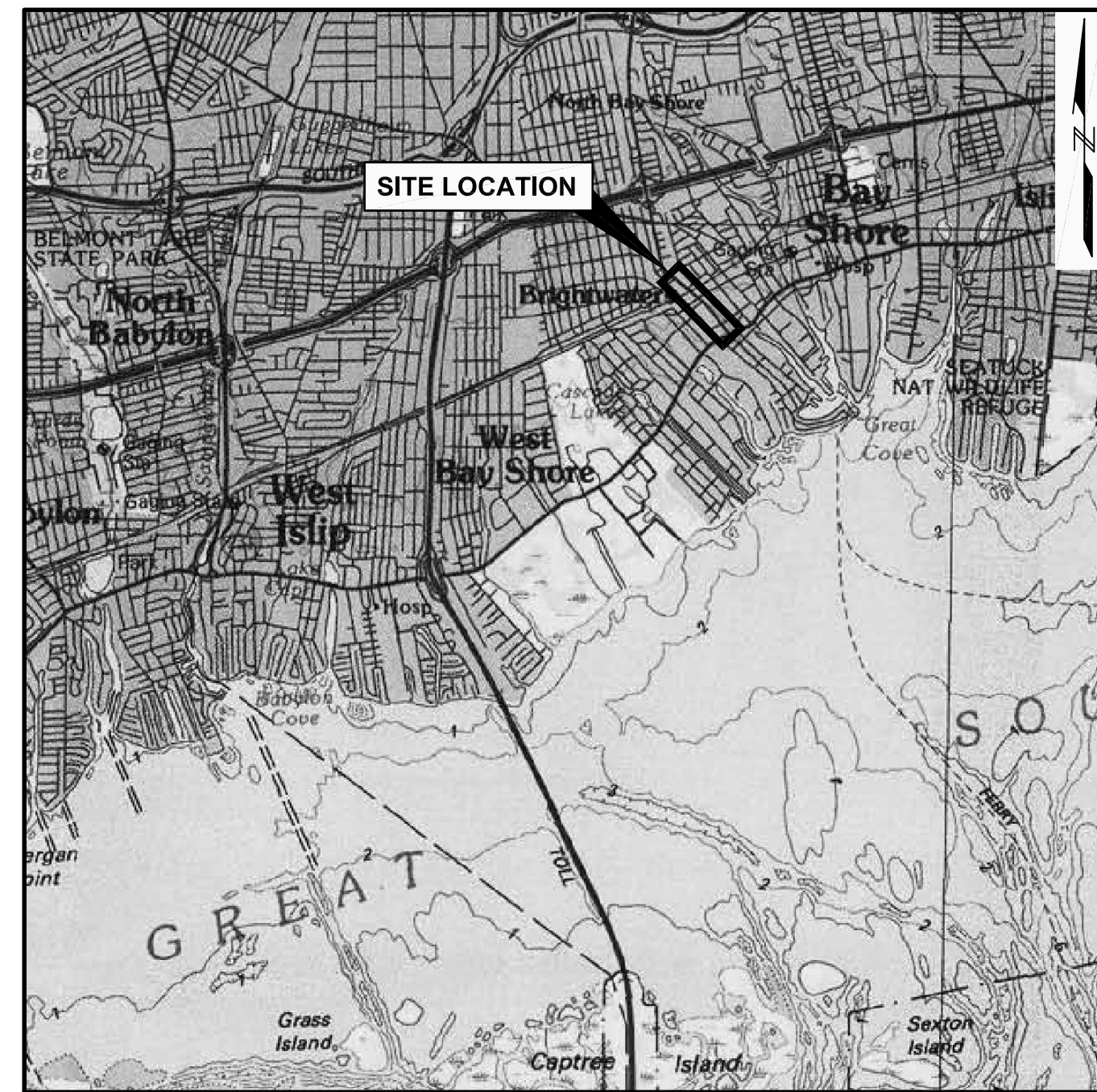
# REMEDIAL DESIGN DRAWINGS

## 1591 UNION BOULEVARD

### OPERABLE UNIT NO. 1

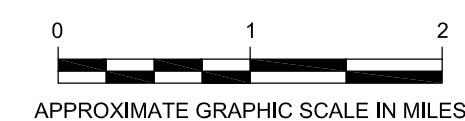
## BAY SHORE/BRIGHTWATERS FORMER MANUFACTURED GAS PLANT SITE

### BAY SHORE, NEW YORK

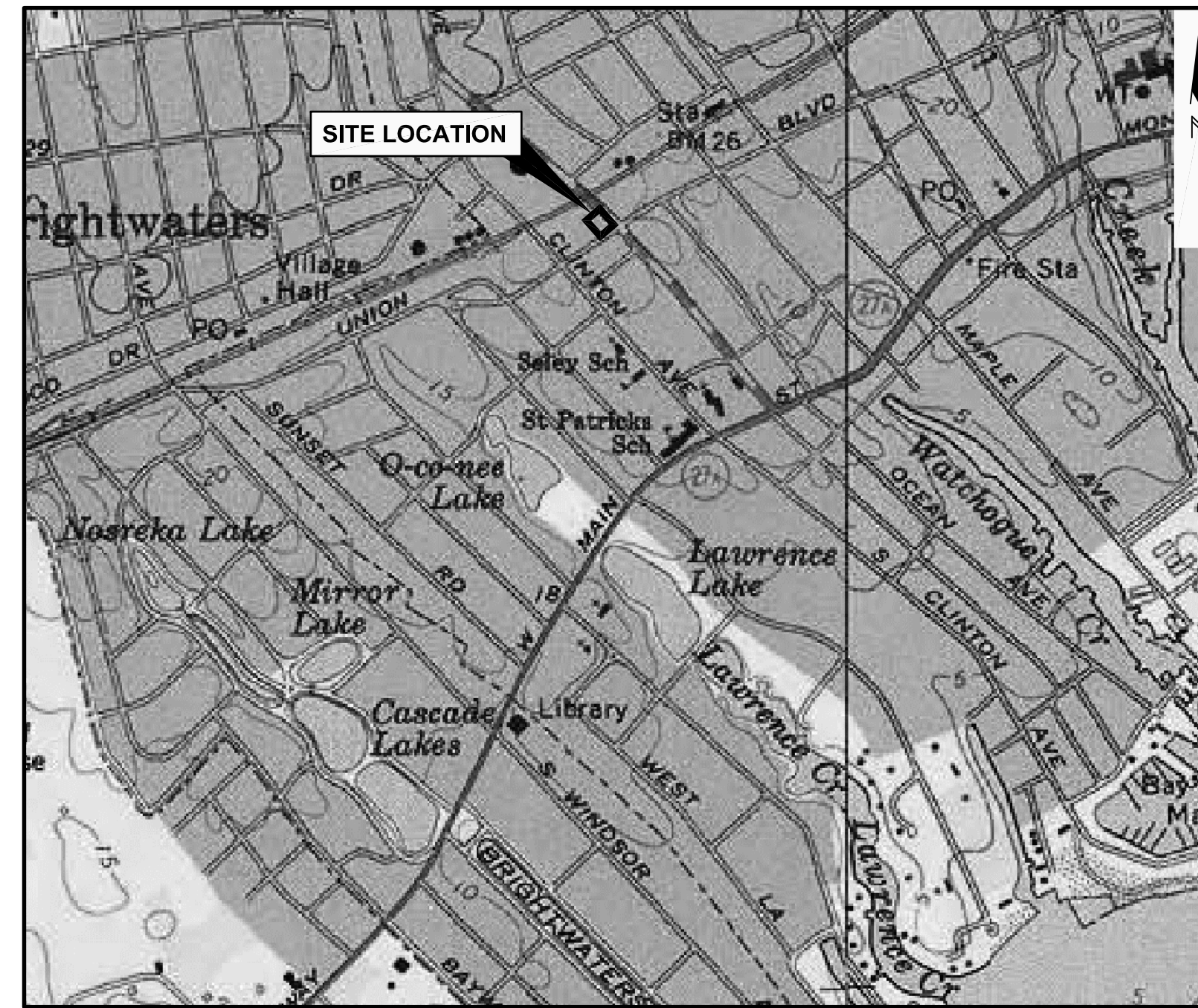


SOURCE:  
MAP CREATED WITH TOPOI © 2001 NATIONAL GEOGRAPHIC (www.nationalgeographic.com/topo).

**REGIONAL MAP**

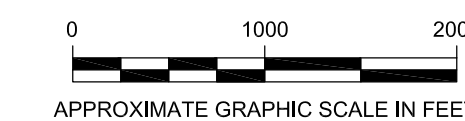


APPROXIMATE GRAPHIC SCALE IN MILES



SOURCE:  
MAP CREATED WITH TOPOI © 2001 NATIONAL GEOGRAPHIC (www.nationalgeographic.com/topo).

**SITE LOCATION**



APPROXIMATE GRAPHIC SCALE IN FEET

PREPARED FOR:

**NATIONAL GRID**  
**175 EAST OLD COUNTRY ROAD**  
**HICKSVILLE, NEW YORK**



**PROJECT NUMBER: 093180-1-1111**  
**APRIL 11, 2011**

### SCHEDULE OF DRAWINGS

- 1 EXISTING CONDITIONS
- 2 TRAFFIC CONTROL PLAN
- 3 DEMOLITION AND PROTECTION PLAN
- 4 SITE MANAGEMENT PLAN
- 5 OXYGEN INJECTION SYSTEM INSTALLATION PLAN
- 6 SUBSURFACE CROSS SECTION A
- 7 TRENCH AND INJECTION POINT DETAILS
- 8 SITE MANAGEMENT DETAILS
- 9 RESTORATION PLAN AND DETAILS

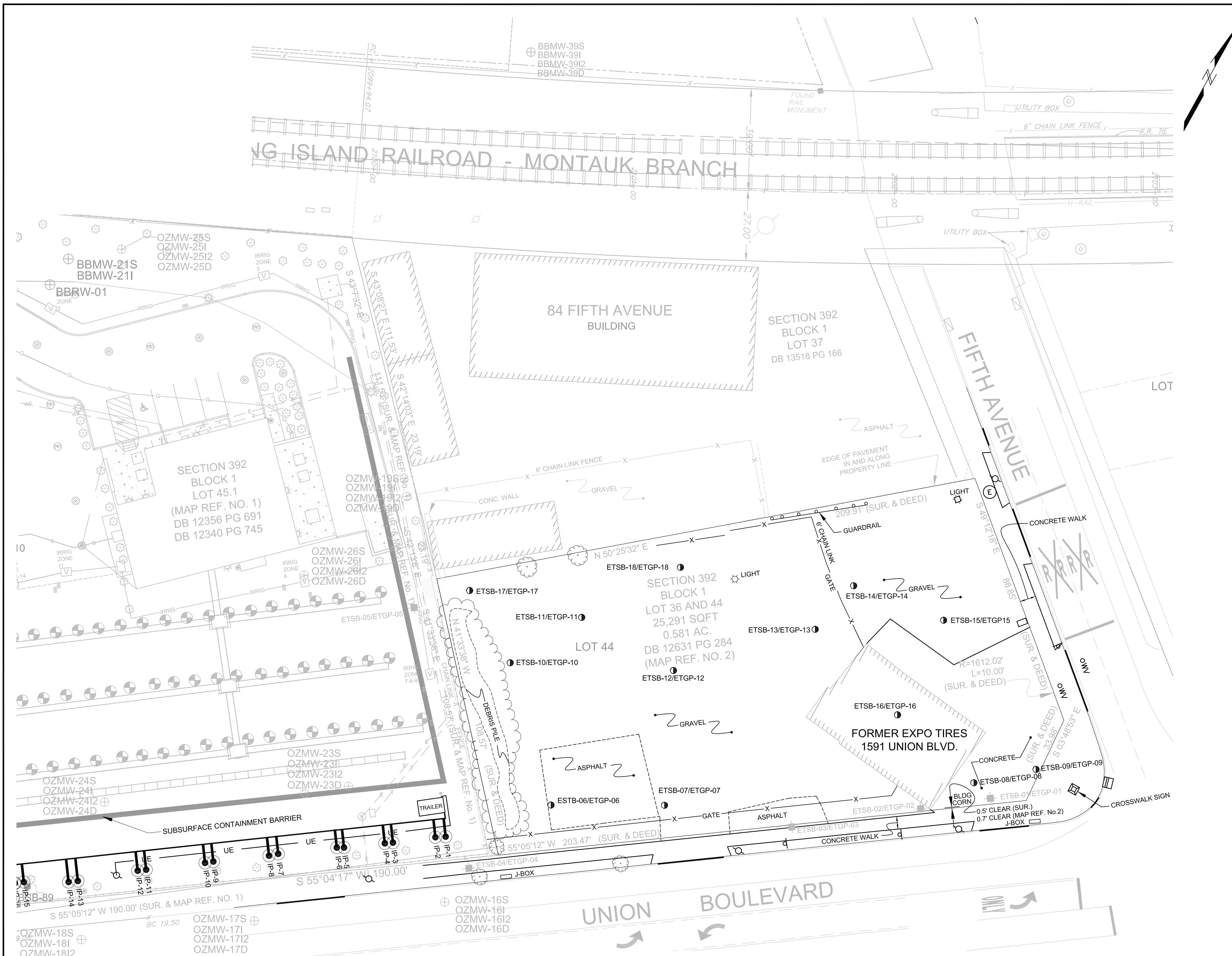


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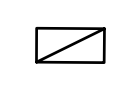
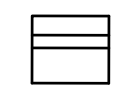

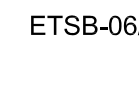
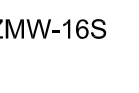

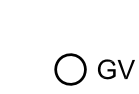

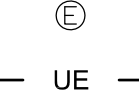
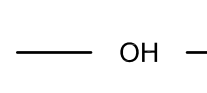
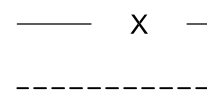





FOR CONSTRUCTION

PROFESSIONAL ENGINEER		LIC. NO. 087851				
Brandon M. Nathe		EXP. DATE: 12/31/12				
NO.	DATE	DESCRIPTION	DES	DR	CH	APP
1	04/11/11	ISSUED FOR CONSTRUCTION	JRP	DTE	CRP	BMN





**LEGEND:**

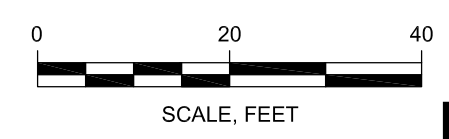
-  INLET (RECT.)
-  "B" INLET
-  UTILITY POLE
-  ETSB-06/ETGP-06 SOIL BORING AND GROUNDWATER PROBE LOCATION (2010 INVESTIGATION)
-  OZMW-16S EXISTING MONITORING WELL  
S=SHALLOW, I=INTERMEDIATE, I2=INTERMEDIATE TWO, D=DEEP
-  ETSB-04/ETGP-04 SOIL BORING AND GROUNDWATER PROBE LOCATION (2004 INVESTIGATION)
-  GV GAS VALVE MARKOUT
-  WV WATER VALVE MARKOUT
-  EV ELECTRICAL VAULT MARKOUT
-  UE UNDERGROUND ELECTRIC LINE
-  OH OVERHEAD WIRE
-  X FENCE
-  - - - - - EDGE OF PAVEMENT
-  d SIGN
-  EXISTING OXYGEN INJECTION LINE AND INJECTION WELL LOCATIONS
-  DECIDUOUS TREE

**NOTES:**

1. UTILITY LOCATIONS SHOWN ARE APPROXIMATE.
2. LOCATIONS SHOWN ARE BASED ON A SURVEY OF A UTILITY MARKOUT, NOT CONFIRMED.
3. CONTRACTOR IS RESPONSIBLE FOR UTILITY LOCATION AND IDENTIFICATION.
4. FLOOR SLAB OF THE FORMER EXPO TIRES BUILDING HAS BEEN LEFT IN PLACE.

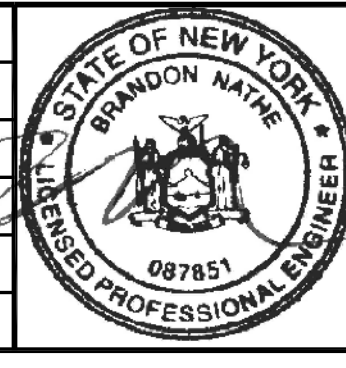
**SOURCES:**

1. HORIZONTAL DATUM: NEW YORK STATE PLANE LONG ISLAND ZONE (NAD 83).
2. VERTICAL DATUM: NORTH ATLANTIC VERTICAL DATUM (NAVD 88).
3. "BOUNDARY AND TOPOGRAPHIC SURVEY", SECTION 392, BLOCK 1, LOTS 36 AND 44 TOWN OF ISLIP, COUNTY OF SUFFOLK, NEW YORK, SCALE 1" = 30', DATED 10/29/10, PREPARED BY KSE ENGINEERS.



**FOR CONSTRUCTION**

NO.	DATE	ISSUE/REVISION	APP
1	04/11/11	ISSUED FOR CONSTRUCTION	BMN
		ISSUE/REVISION	APP



Designed: JRP  
 Checked: CRP  
 Drawn: DTE  
 Submitted By: BMN  
 NY P.E. No.: 087851  
 Submittal Date: 04/11/11

**GEI** Consultants  
 110 WALT WHITMAN RD, SUITE 204  
 Huntington Station, NY 11746  
 631-760-9300, FAX 631-760-9301

National Grid  
 175 East Old Country Road,  
 Hicksville, NY  
**nationalgrid**  
 GEI Project 093180-1-1111

Remedial Design Drawings  
 1591 Union Boulevard  
 Bay Shore, New York  
**EXISTING CONDITIONS**

DWG. NO.  
**1**  
 REV  
**0**



**LEGEND:**

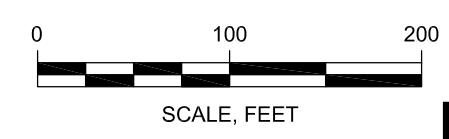
- SITE BOUNDARY
- TRAFFIC DIRECTION
- TRANSIT ROUTE TO SITE
- TRANSIT ROUTE FROM SITE

**DIRECTIONS TO SITE:**

- FROM ROUTE I-495 E**
1. TAKE EXIT 52 TOWARD CR-4/COMMACK RD/COMMACK/N BABYLON 0.2 MILES
  2. STAY STRAIGHT TO GO ONTO S SERVICE RD 0.1 MILES
  3. S SERVICE RD BECOMES EXPRESS DR S 0.4 MILES
  4. TURN RIGHT ONTO CROOKED HILL RD/CR-13 S. CONTINUE TO FOLLOW CR-13 S 6.4 MILES
  5. CR-13 S BECOMES CR-13A S/N CLINTON AVE 0.3 MILES
  6. TURN LEFT ONTO UNION BLVD/CR-50 0.1 MILES
  7. TURN LEFT ONTO 5TH AVE/CR-13N
  8. 1591 UNION BLVD IS ON THE LEFT
- TO ROUTE I-495 W**
1. TURN LEFT ONTO 5TH AVE/CR-13 N. CONTINUE TO FOLLOW CR-13 N 6.4 MILES
  2. TURN LEFT ONTO N SERVICE ROAD 0.4 MILES
  3. MERGE ONTO I-495 W/LONG ISLAND EXPY TOWARD NEW YORK

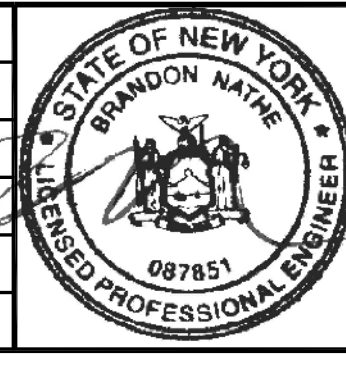
**SOURCES:**

1. MAP TITLED "BAY SHORE/BRIGHTWATERS, FORMER MGP SITE FINAL REMEDIAL INVESTIGATION, BAY SHORE, NEW YORK, OFF-SITE SAMPLE LOCATION MAP" DATED: SEPT. 2002 BY DVIRKA AND BARTILUCCI.
2. FIGURE 2, GROUNDWATER MONITORING WELL AND SURFACE WATER GAUGING STATION LOCATION MAP, BAY SHORE/BRIGHTWATERS FORMER MGP SITE, SCALE: 1"=200', DATED JANUARY 2004, PREPARED BY VANASSE HANGEN BRUSTLIN, INC., MIDDLETOWN, CONNECTICUT.
3. DRAWING C-1, OFF-SITE SAMPLE LOCATION MAP, BAY SHORE/BRIGHTWATERS FINAL REMEDIAL INVESTIGATION, SCALE: 1"=200', DATED OCTOBER 15, 2003, PREPARED BY VANASSE HANGEN BRUSTLIN, INC., MIDDLETOWN, CONNECTICUT.
4. PROPERTY BOUNDARY LOCATIONS WERE DETERMINED BY OTHERS USING AERIAL PHOTOGRAPHS AND TAX MAPS. PROPERTY BOUNDARIES ARE APPROXIMATE AND MONITORING WELLS LOCATED NEAR OR AT PROPERTY BOUNDARIES DEPICTED ON THE MAP ARE WITHIN THE ROAD RIGHT-OF-WAY.



**FOR CONSTRUCTION**

Attention:			
NO.	DATE	ISSUE/REVISION	APP
1	04/11/11	ISSUED FOR CONSTRUCTION	BMN
		ISSUE/REVISION	APP



Designed: JRP  
 Checked: CRP  
 Drawn: DTE  
 Submitted By: BMN  
 NY P.E. No.: 087851  
 Submittal Date: 04/11/11

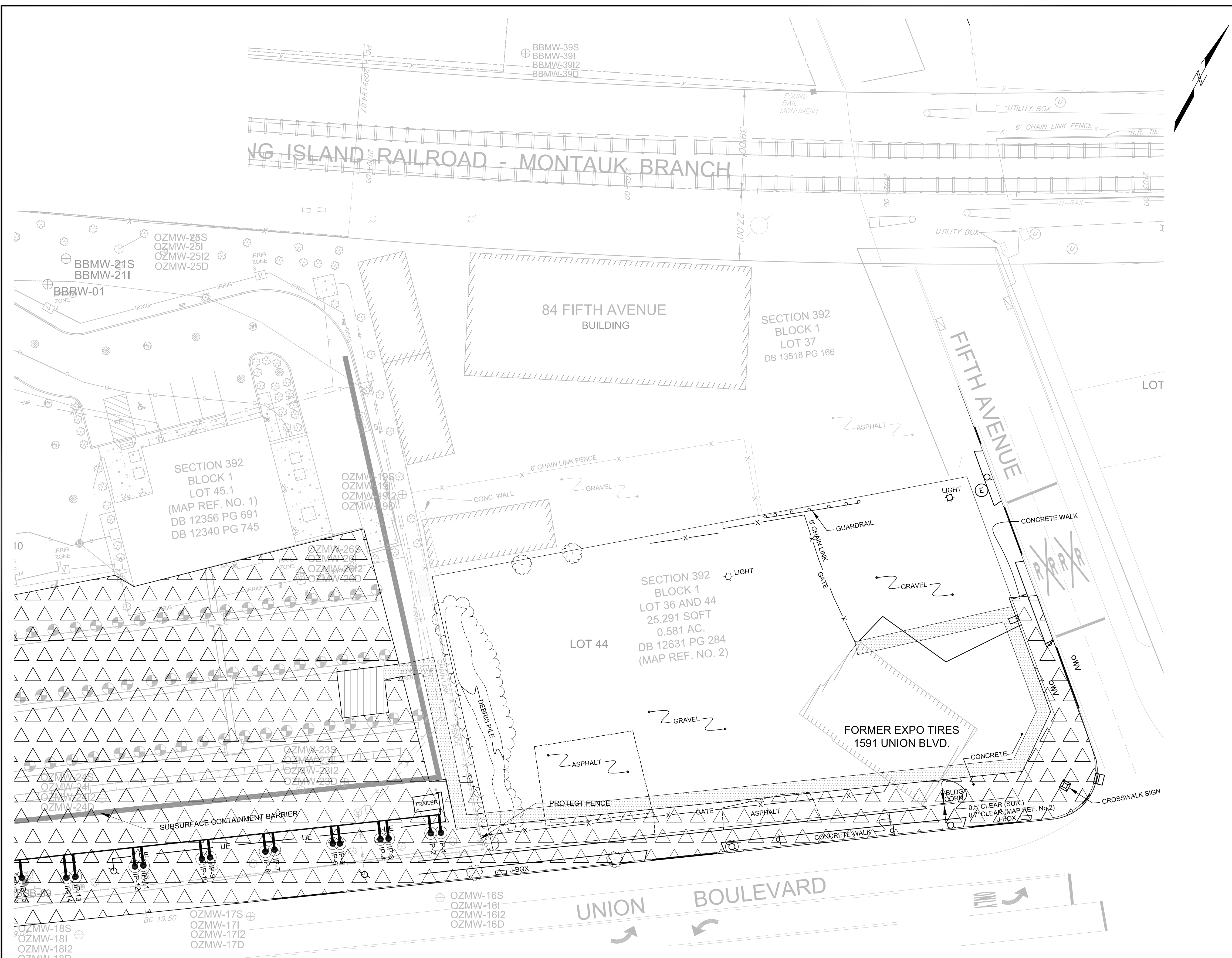
**GEI** Consultants  
 110 WALT WHITMAN RD, SUITE 204  
 Huntington Station, NY 11746  
 631-760-9300, FAX 631-760-9301

National Grid  
 175 East Old Country Road,  
 Hicksville, NY  
**nationalgrid**  
 GEI Project 093180-1-1111

Remedial Design Drawings  
 1591 Union Boulevard  
 Bay Shore, New York

**TRAFFIC CONTROL PLAN**

DWG. NO.	2
REV	0

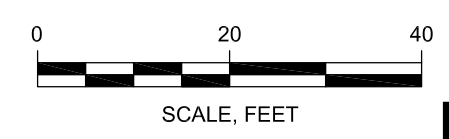


**LEGEND:**

- DEMOLISH / TRENCH
- PROTECT
- PREPARE AREA (GRAVEL PAD)
- OH OVERHEAD WIRE
- UE UNDERGROUND ELECTRIC
- FENCE
- EDGE OF PAVEMENT
- EXISTING OXYGEN INJECTION LINE AND INJECTION WELL LOCATIONS

- NOTES:**
- IP-1 THROUGH IP-16 WERE PREVIOUSLY INSTALLED AND ARE CURRENTLY IN OPERATION.
  - THE EXISTING OXYGEN TRAILER IS TO BE REMOVED AND REPLACED WITH A STEEL FRAMED SHED PROVIDED BY OTHERS.
  - UTILITY LOCATIONS SHOWN ARE APPROXIMATE.
  - LOCATIONS SHOWN ARE BASED ON A SURVEY OF A UTILITY MARKOUT, NOT CONFIRMED.
  - CONTRACTOR IS RESPONSIBLE FOR UTILITY LOCATION AND IDENTIFICATION.

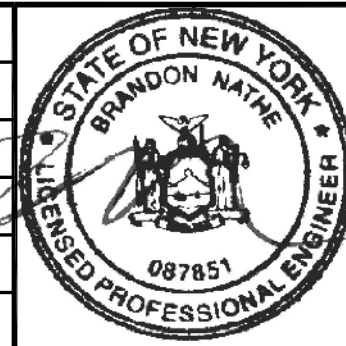
- SOURCES:**
- "BOUNDARY AND TOPOGRAPHIC SURVEY", SECTION 392, BLOCK 1, LOTS 36 AND 44 TOWN OF ISLIP, COUNTY OF SUFFOLK, NEW YORK, SCALE 1" = 30', DATED 10/29/10, PREPARED BY KSE ENGINEERS.



**FOR CONSTRUCTION**

OZMW-18S	OZMW-17S	OZMW-16S
OZMW-181	OZMW-171	OZMW-161
OZMW-182	OZMW-172	OZMW-162
OZMW-18D	OZMW-17D	OZMW-16D

Attention:			
1	04/11/11	ISSUED FOR CONSTRUCTION	BMN
NO.	DATE	ISSUE/REVISION	APP



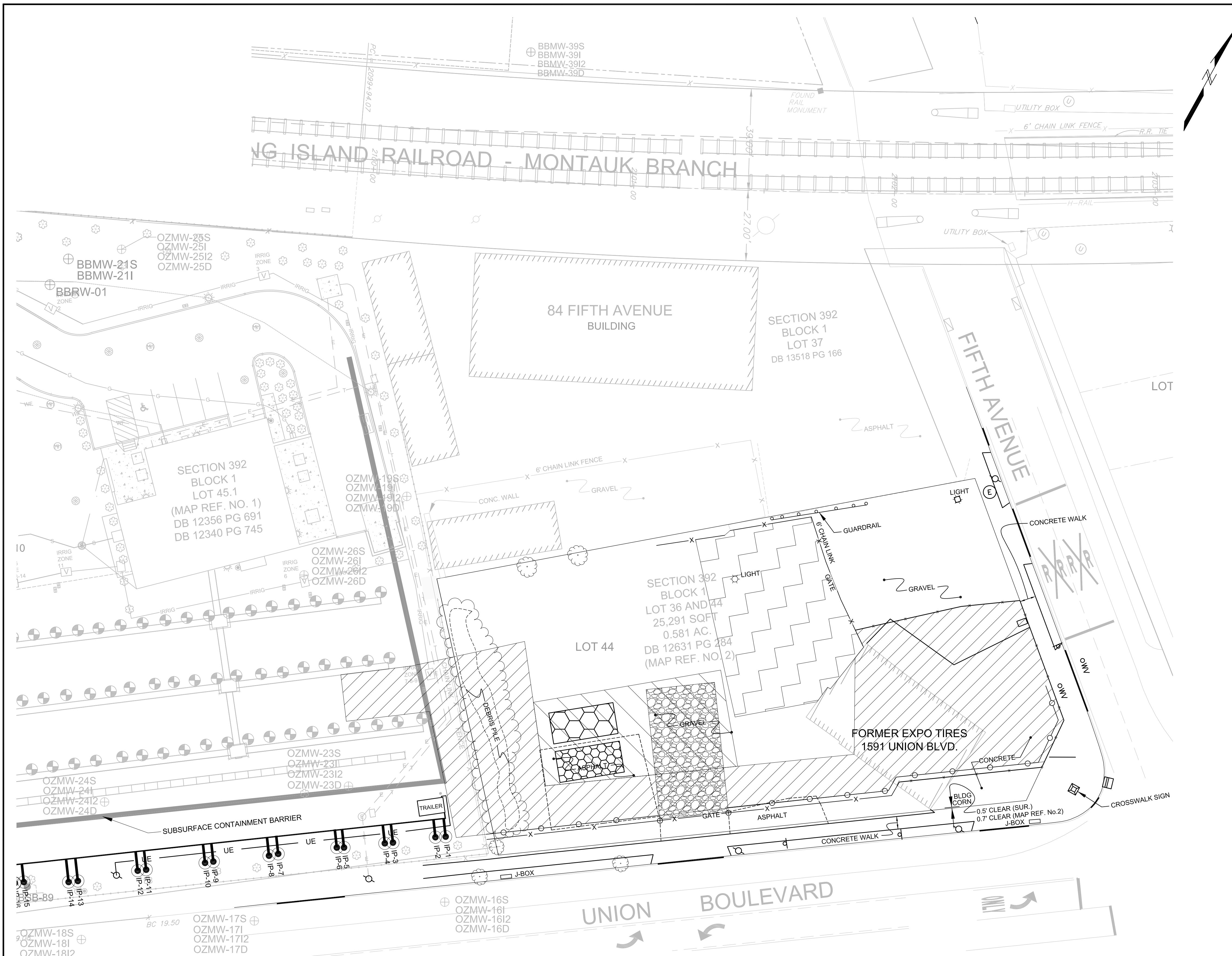
Designed:	JRP
Checked:	CRP
Drawn:	DTE
Submitted By:	BMN
NY P.E. No.:	087851
Submittal Date:	04/11/11

**GEI** Consultants  
 110 WALT WHITMAN RD, SUITE 204  
 Huntington Station, NY 11746  
 631-760-9300, FAX 631-760-9301

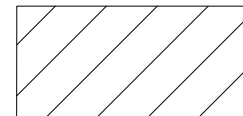
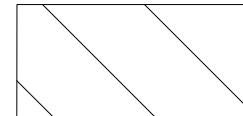
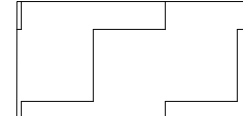
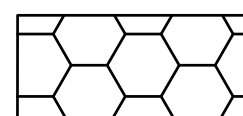
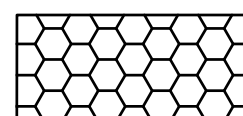
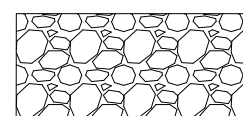
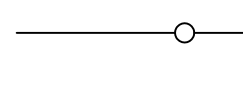
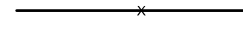
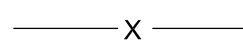

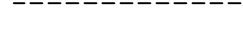

National Grid  
 175 East Old Country Road,  
 Hicksville, NY  
**nationalgrid**  
 GEI Project 093180-1-1111

Remedial Design Drawings  
 1591 Union Boulevard  
 Bay Shore, New York  
**DEMOLITION AND PROTECTION PLAN**

DWG. NO.	<b>3</b>
REV	<b>0</b>

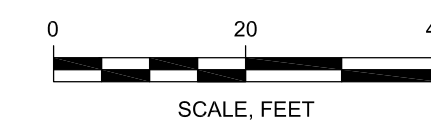


**LEGEND:**

-  EXCLUSION ZONE
-  CONTAMINANT REDUCTION ZONE
-  SUPPORT ZONE
-  DECONTAMINATION PAD (2/8)  
(ACTUAL SIZE TO BE DETERMINED IN FIELD)
-  PERSONNEL DECONTAMINATION STATION  
(ACTUAL SIZE TO BE DETERMINED IN FIELD)
-  ANTI-TRACKING PAD (3/7)
-  SILT FENCE (1/8)
-  TEMPORARY SECURITY FENCE
-  EXISTING WOOD FENCE
-  EDGE OF PAVEMENT
-  OVERHEAD WIRE
-  EXISTING MONITORING WELL  
S=SHALLOW, I=INTERMEDIATE,  
I2=INTERMEDIATE TWO, D=DEEP

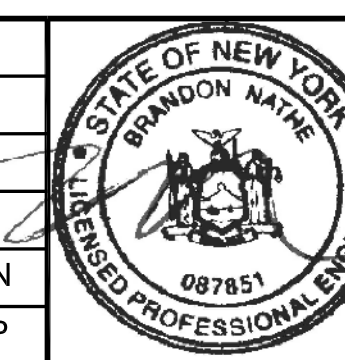
**SOURCES:**

1. "BOUNDARY AND TOPOGRAPHIC SURVEY", SECTION 392, BLOCK 1, LOTS 36 AND 44 TOWN OF ISLIP, COUNTY OF SUFFOLK, NEW YORK, SCALE 1" = 30', DATED 10/29/10, PREPARED BY KSE ENGINEERS.



**FOR CONSTRUCTION**

NO.	DATE	ISSUE/REVISION	APP
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		ISSUE/REVISION	APP



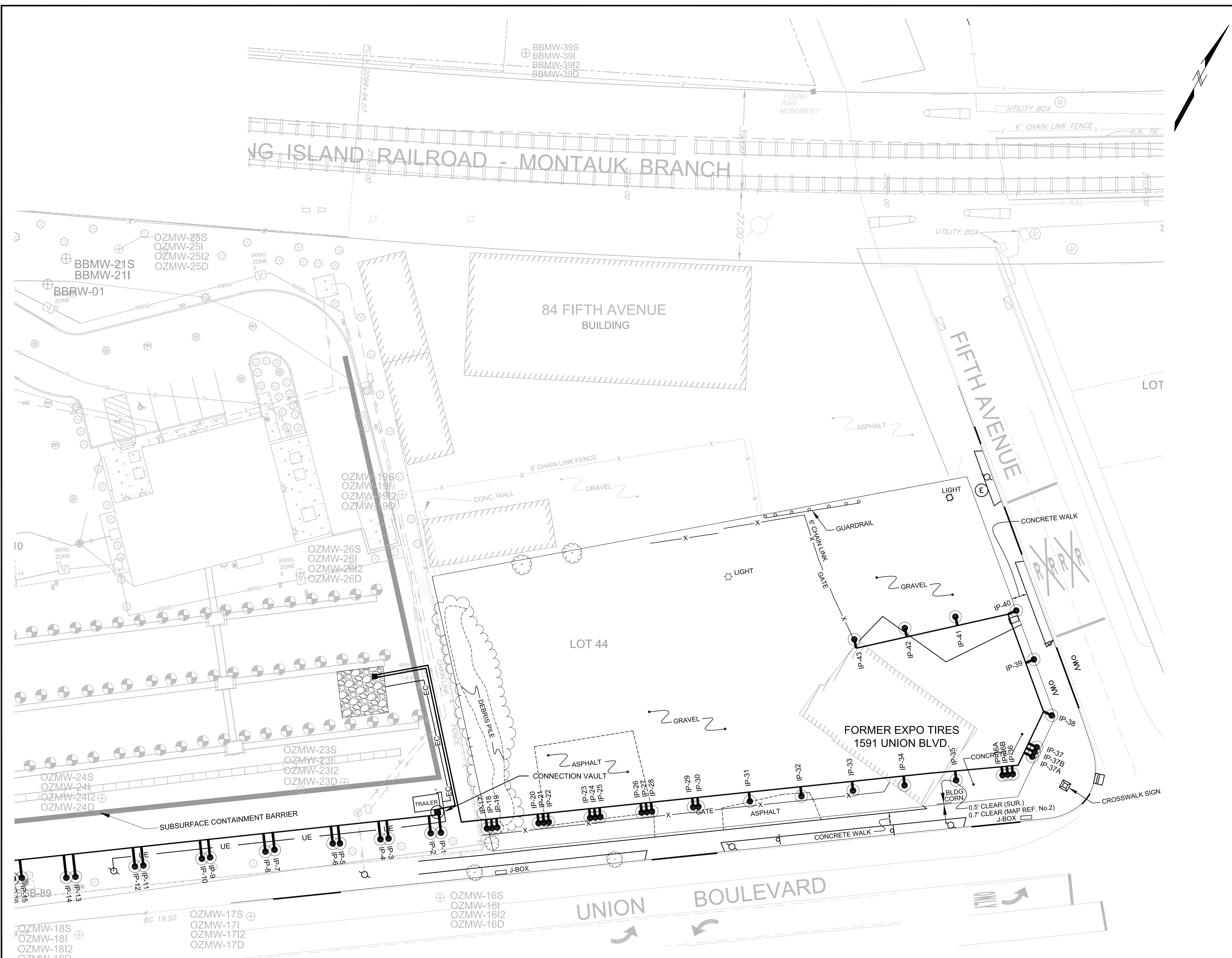
Designed: JRP  
 Checked: CRP  
 Drawn: DTE  
 Submitted By: BMN  
 NY P.E. No.: 087851  
 Submittal Date: 04/11/11

**GEI** Consultants  
 110 WALT WHITMAN RD, SUITE 204  
 Huntington Station, NY 11746  
 631-760-9300, FAX 631-760-9301

National Grid  
 175 East Old Country Road,  
 Hicksville, NY  
**nationalgrid**  
 GEI Project 093180-1-1111

Remedial Design Drawings  
 1591 Union Boulevard  
 Bay Shore, New York  
**SITE MANAGEMENT PLAN**

DWG. NO.  
**4**  
 REV  
**0**



**LEGEND:**

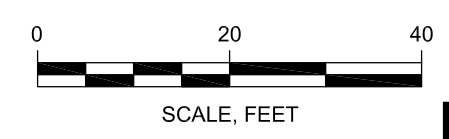
- INJECTION WELL - SEE DETAIL (1)
- EXCAVATE UTILITY TRENCH (2, 3, 4)
- INJECTION LINE STUB UP - SEE DETAIL (5)
- EXISTING MONITORING WELL  
S=SHALLOW, I=INTERMEDIATE, I2=INTERMEDIATE TWO, D=DEEP
- OH OVERHEAD WIRE
- EDGE OF PAVEMENT
- FENCE
- 3" CRUSHED STONE PAD - 4" THICK
- ETSB-13/ETGP-13
- CONNECTION VAULT (6, 7)
- EC 2" PVC ELECTRICAL CONDUIT

**NOTES:**

1. IP-1 THROUGH IP-16 WERE PREVIOUSLY INSTALLED AND ARE CURRENTLY IN OPERATION.
2. DISCONNECT EXISTING OXYGEN INJECTION TRAILER AND RELOCATE TO A NEW POSITION ON-SITE AS DIRECTED BY THE ENGINEER.
3. UTILITY LOCATIONS SHOWN ARE APPROXIMATE.
4. LOCATIONS SHOWN ARE BASED ON A SURVEY OF A UTILITY MARKOUT, NOT CONFIRMED.
5. CONTRACTOR IS RESPONSIBLE FOR UTILITY LOCATION AND IDENTIFICATION.
6. ELECTRICAL CONDUIT STUB UP WILL BE LOCATED IN THE FIELD.

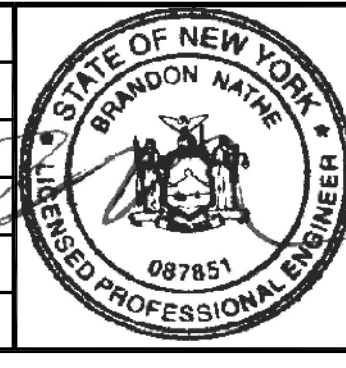
**SOURCES:**

1. "BOUNDARY AND TOPOGRAPHIC SURVEY", SECTION 392, BLOCK 1, LOTS 36 AND 44 TOWN OF ISLIP, COUNTY OF SUFFOLK, NEW YORK, SCALE 1" = 30', DATED 10/29/10, PREPARED BY KSE ENGINEERS.



**FOR CONSTRUCTION**

Attention:			
NO.	DATE	ISSUE/REVISION	APP
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		ISSUE/REVISION	APP



Designed: JRP  
 Checked: CRP  
 Drawn: DTE  
 Submitted By: BMN  
 NY P.E. No.: 087851  
 Submittal Date: 04/11/11

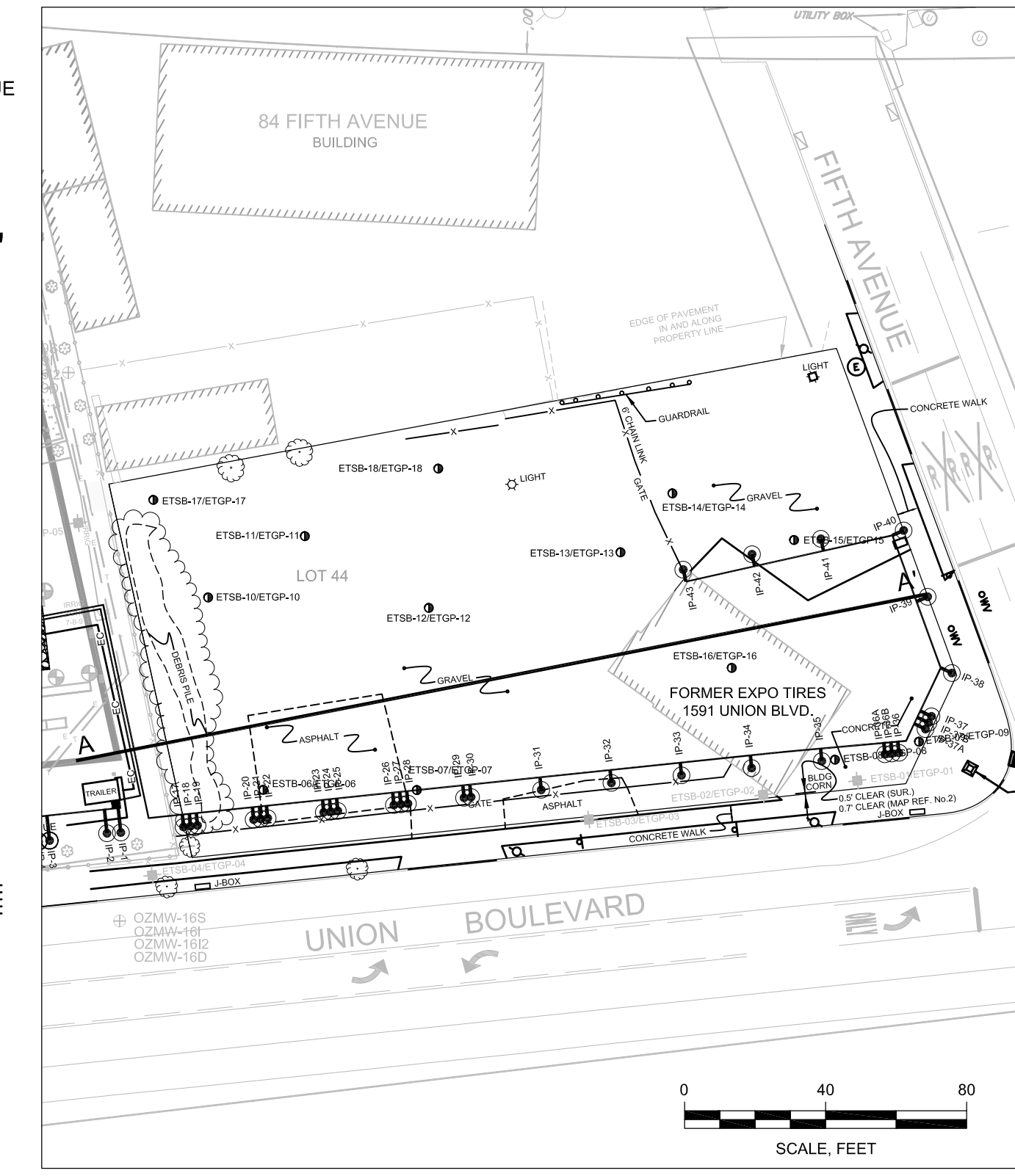
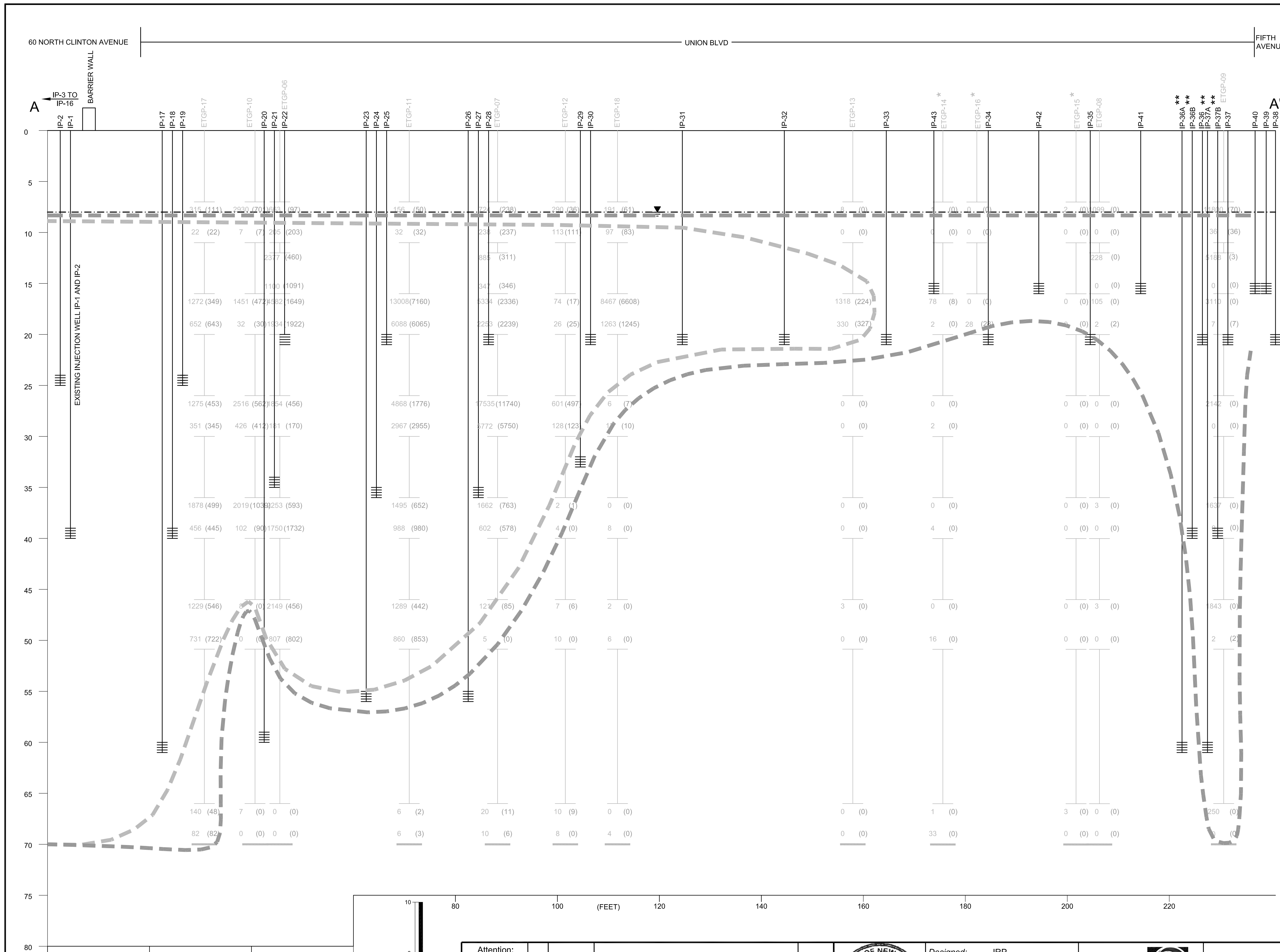
**GEI** Consultants  
 110 WALT WHITMAN RD, SUITE 204  
 Huntington Station, NY 11746  
 631-760-9300, FAX 631-760-9301

National Grid  
 175 East Old Country Road,  
 Hicksville, NY  
**nationalgrid**  
 GEI Project 093180-1-1111

Remedial Design Drawings  
 1591 Union Boulevard  
 Bay Shore, New York  
**OXYGEN INJECTION SYSTEM  
 INSTALLATION PLAN**

DWG. NO.  
**5**  
 REV  
**0**

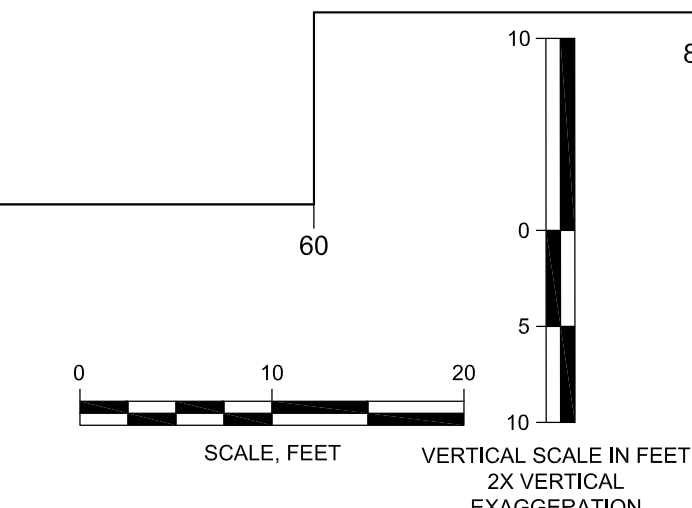




INJECTION WELL ID	SCREEN INTERVAL (FEET BELOW GROUND SURFACE)
17	60-61
18	39-40
19	24-25
20	59-60
21	35-36
22	20-21
23	55-56
24	35-36
25	20-21
26	55-56
27	35-36
28	20-21
29	32-33
30	20-21
31	20-21
32	20-21
33	20-21
34	20-21
35	20-21
36	20-21
36A **	39-40
36B **	60-61
37	20-21
37A **	39-40
37B **	60-61
38	20-21
39	15-16
40	15-16
41	15-16
42	15-16
43	15-16

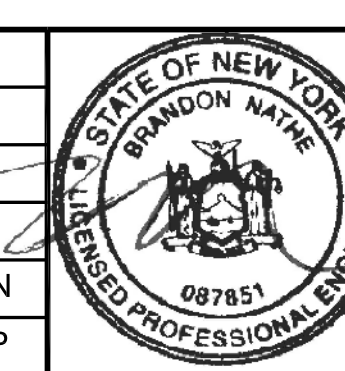
LEGEND	
ETGP-13	GROUNDWATER PROBE LOCATION
EXISTING MONITORING POINT ID	
EXISTING MONITORING POINT LOCATION	
TOTAL VOC ug/L	(TOTAL BTEX ug/L)
TOTAL SVOC ug/L	(TOTAL PAH ug/L)
WATER LEVEL	
BOTTOM OF BORING/WELL	
VOC	VOLATILE ORGANIC COMPOUNDS
BTEX	BENZENE, TOLUENE, ETHYLBENZENE AND XYLENE
SVOC	SEMI-VOLATILE ORGANIC COMPOUNDS
PAHs	POLYCYCLIC AROMATIC HYDROCARBONS
ug/L	MICROGRAMS PER LITER
9	INJECTION NUMBER
	INJECTION WELL
	SCREEN INTERVAL
	APPROXIMATE TBTEX OR TPAH > 100 ug/L BOUNDARY BASED OFF OF DATA COLLECTED DURING THE 2010 INVESTIGATION
	APPROXIMATE TVOC OR TSVOC > 100 ug/L BOUNDARY BASED OFF OF DATA COLLECTED DURING THE 2010 INVESTIGATION
*	ANALYTICAL DATA FROM MONITORING POINTS ETGP-14, ETGP-15, AND ETGP-16 WAS NOT USED WHEN DRAWING TBTEX/TPAH, OR TVOC/TSVOC BOUNDARIES
**	INJECTION WELLS IP-55A, IP-55B, IP-56A, AND IP-56B MAY NOT BE NEEDED DEPENDENT UPON ADDITIONAL GROUNDWATER ANALYTICAL DATA

**NOTES:**  
 1. IP-1 THROUGH IP-16 WERE PREVIOUSLY INSTALLED AND ARE CURRENTLY IN OPERATION.



NO.	DATE	ISSUE/REVISION	APP
1	04/11/11	ISSUED FOR CONSTRUCTION	BMN
		ISSUE/REVISION	APP

Attention: [Blank]  
 If this scale bar does not measure 1" then drawing is not original scale.  
 Designed: JRP  
 Checked: CRP  
 Drawn: DTE  
 Submitted By: BMN  
 NY P.E. No.: 087851  
 Submission Date: 04/11/11

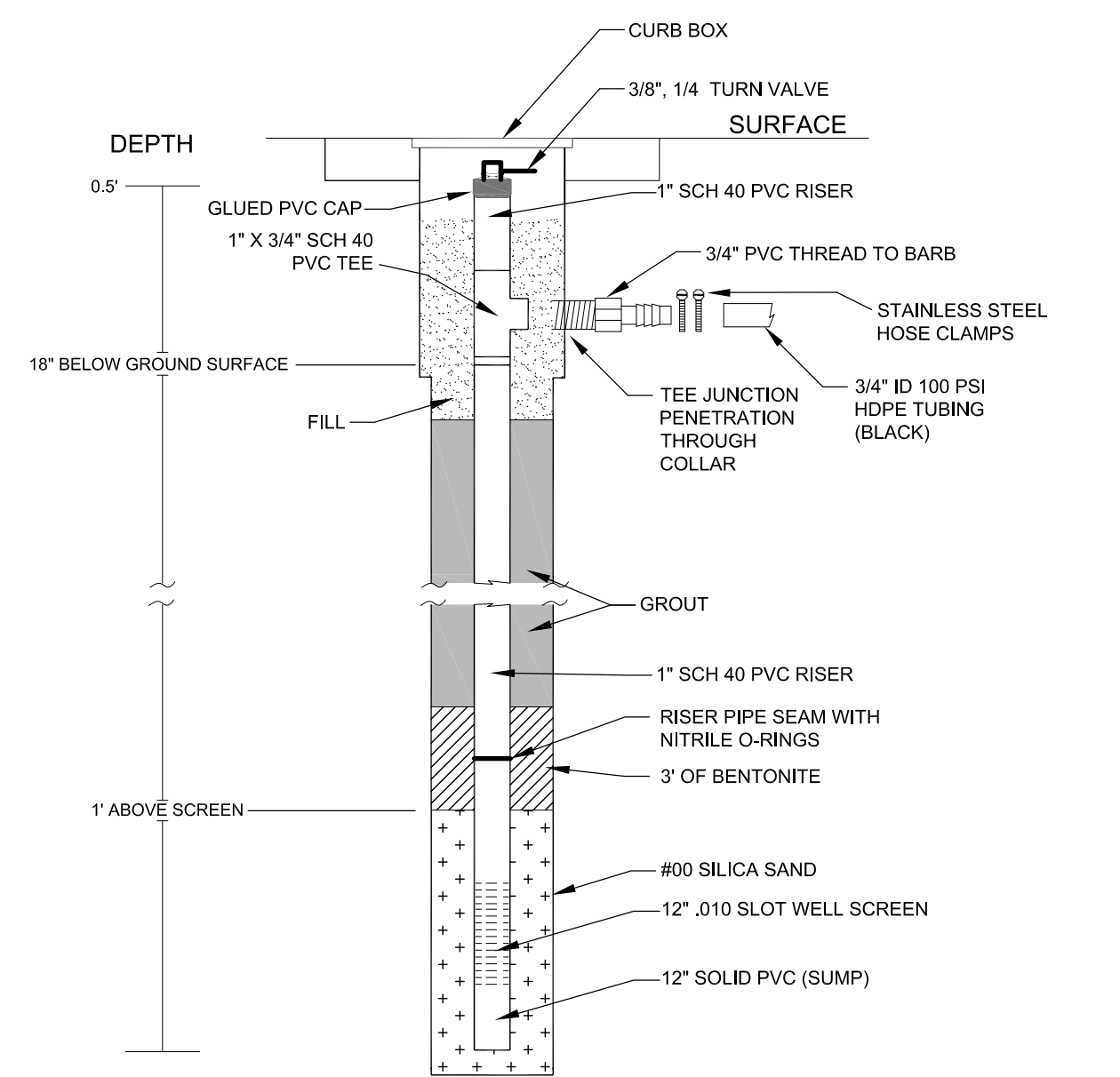


**GEI** Consultants  
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 Huntington Station, NY 11746  
 631-760-9300, FAX 631-760-9301

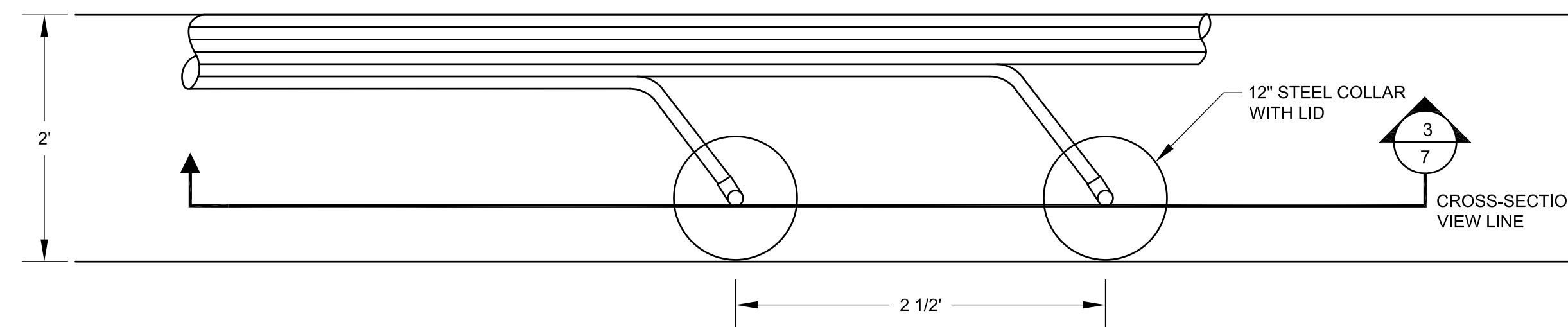
National Grid  
 175 East Old Country Road,  
 Hicksville, NY  
**nationalgrid**  
 GEI Project 093180-1-1111

Remedial Design Drawings  
 1591 Union Boulevard  
 Bay Shore, New York  
**SUBSURFACE CROSS SECTION A**  
 DWG. NO. **6**  
 REV **0**

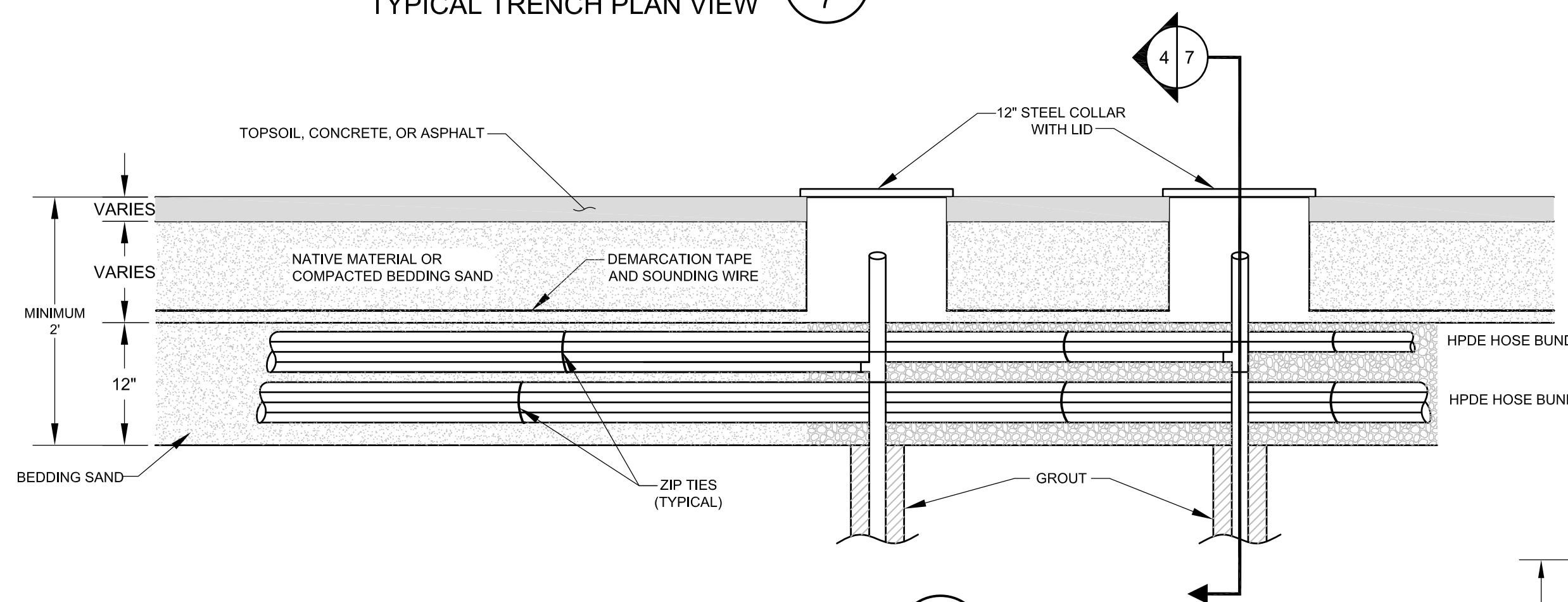
**FOR CONSTRUCTION**



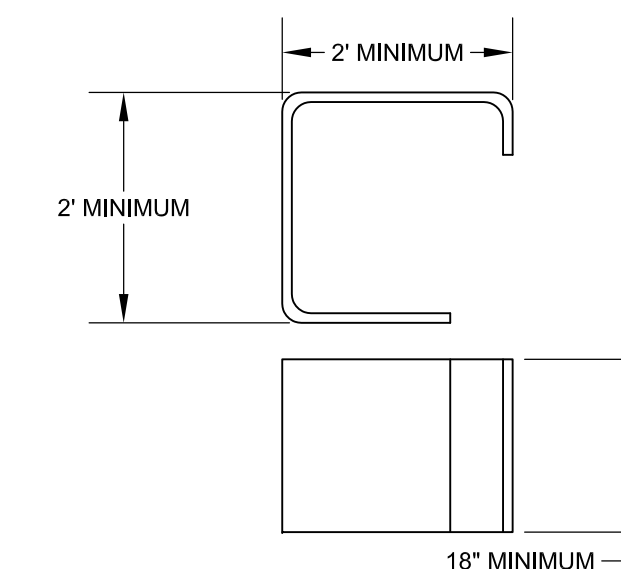
DETAIL 1  
TYPICAL INJECTION WELL CONSTRUCTION DIAGRAM 7



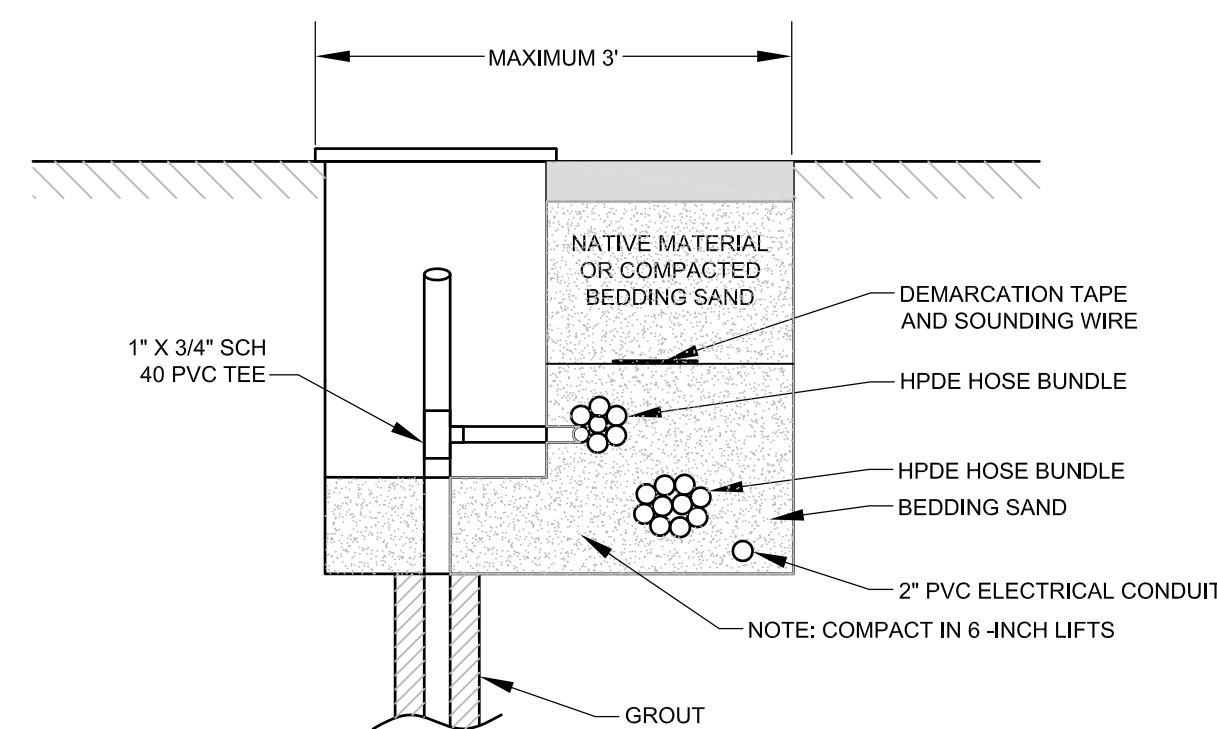
DETAIL 2  
TYPICAL TRENCH PLAN VIEW 7



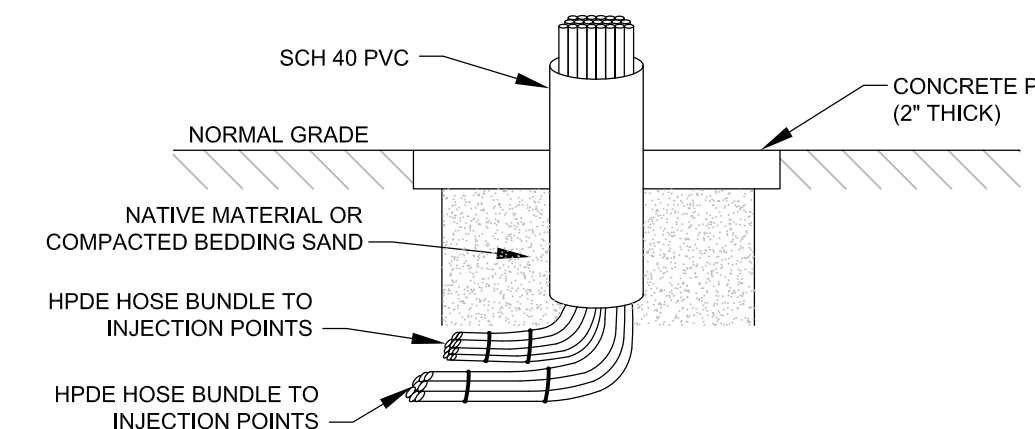
DETAIL 3  
TYPICAL TRENCH CROSS SECTION (NE TO SW) 7



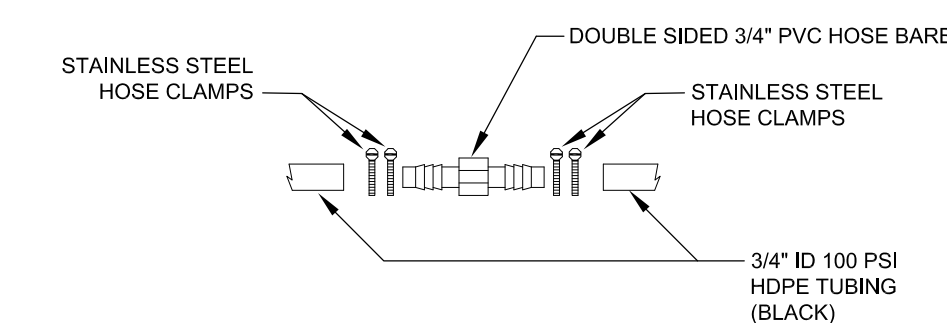
DETAIL 6  
VAULT 7



DETAIL 4  
TYPICAL TRENCH DETAIL 7



DETAIL 5  
STUB-UP SCHEMATIC 7



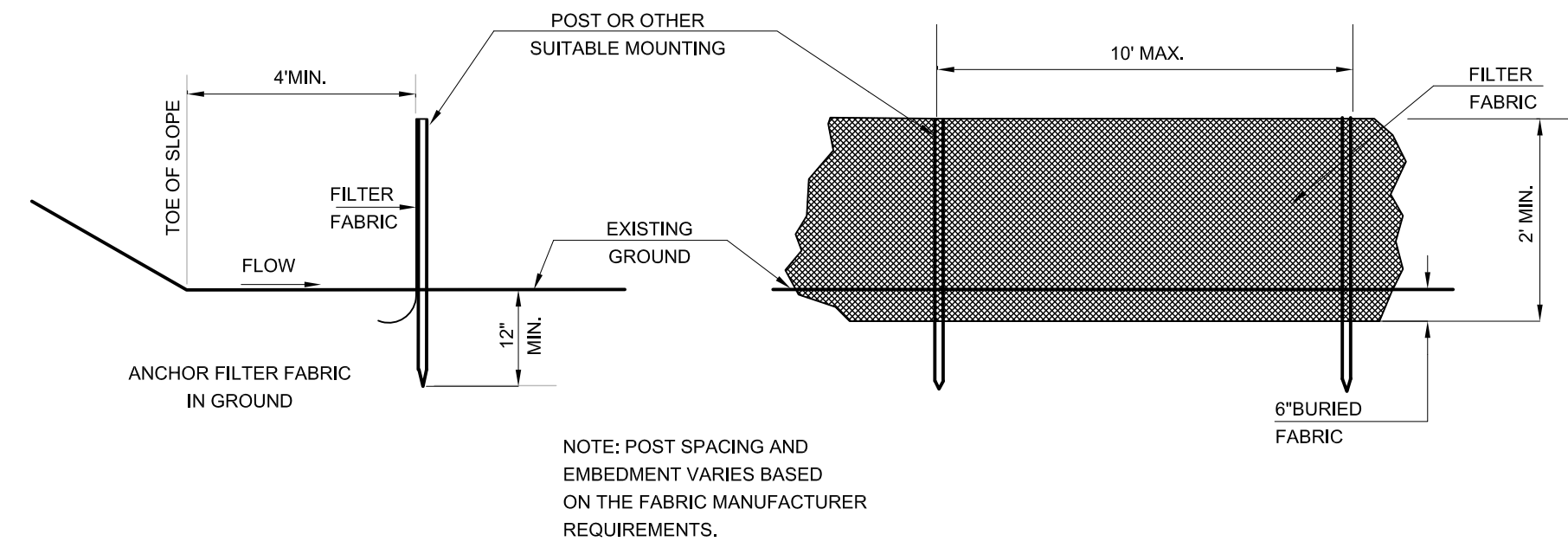
DETAIL 7  
CONNECTION DETAIL 7

**NOTES:**

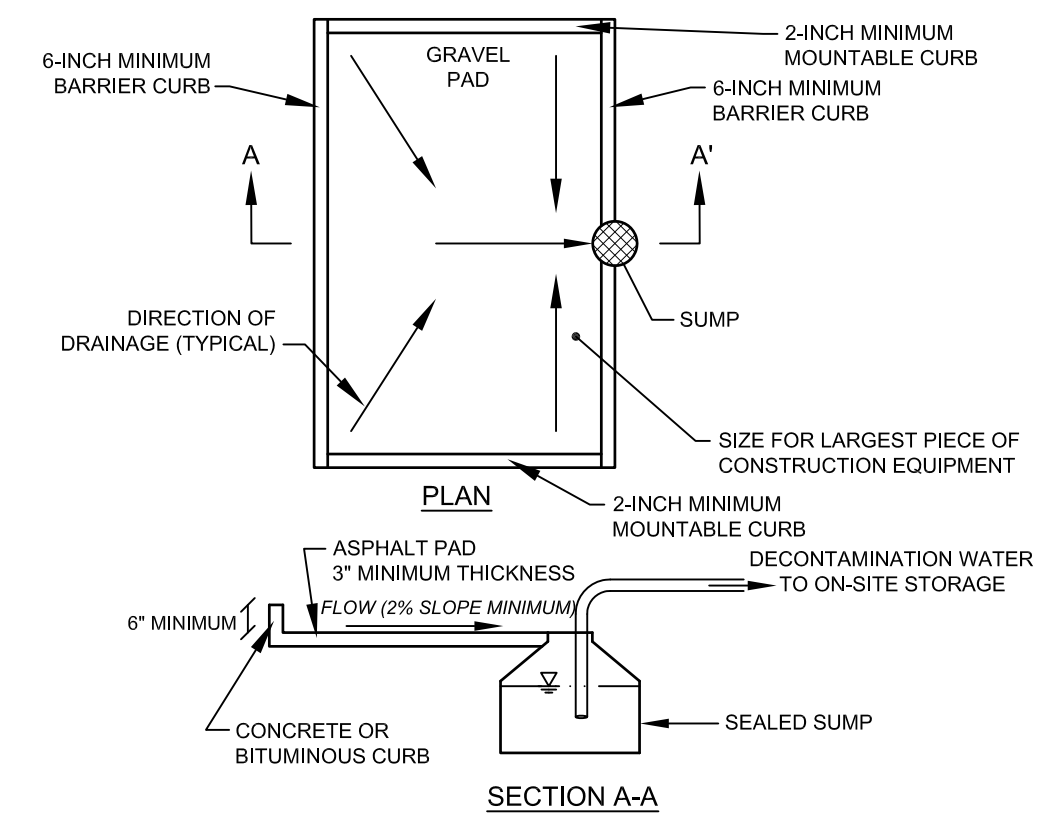
- SCALE: 1" = 10' EXCEPT PIPE/HOSE SIZE.
- CONNECTION TO INJECTION POINT SHOULD BE MADE WITH SCH 40 PVC TEE AT A MINIMUM OF 18" BELOW GROUND SURFACE.
- NATIVE MATERIAL OR BEDDING SAND WILL BE COMPACTED IN 6-INCH LIFTS.
- EACH HDPE HOSE LINE WILL BE LABELED ACCORDING TO ITS RESPECTIVE INJECTION POINT EVERY TWENTY FEET.

FOR CONSTRUCTION

Attention:  If this scale bar does not measure 1' then drawing is not original scale.					Designed: JRP Checked: CRP Drawn: DTE Submitted By: BMN	 110 WALT WHITMAN RD, SUITE 204 Huntington Station, NY 11746 631-760-9300, FAX 631-760-9301	National Grid 175 East Old Country Road, Hicksville, NY <b>nationalgrid</b>	Remedial Design Drawings 1591 Union Boulevard Bay Shore, New York	DWG. NO. <b>7</b>
	1	04/11/11	ISSUED FOR CONSTRUCTION		BMN				NY P.E. No.: 087851
	NO.	DATE	ISSUE/REVISION	APP	Submittal Date: 04/11/11				



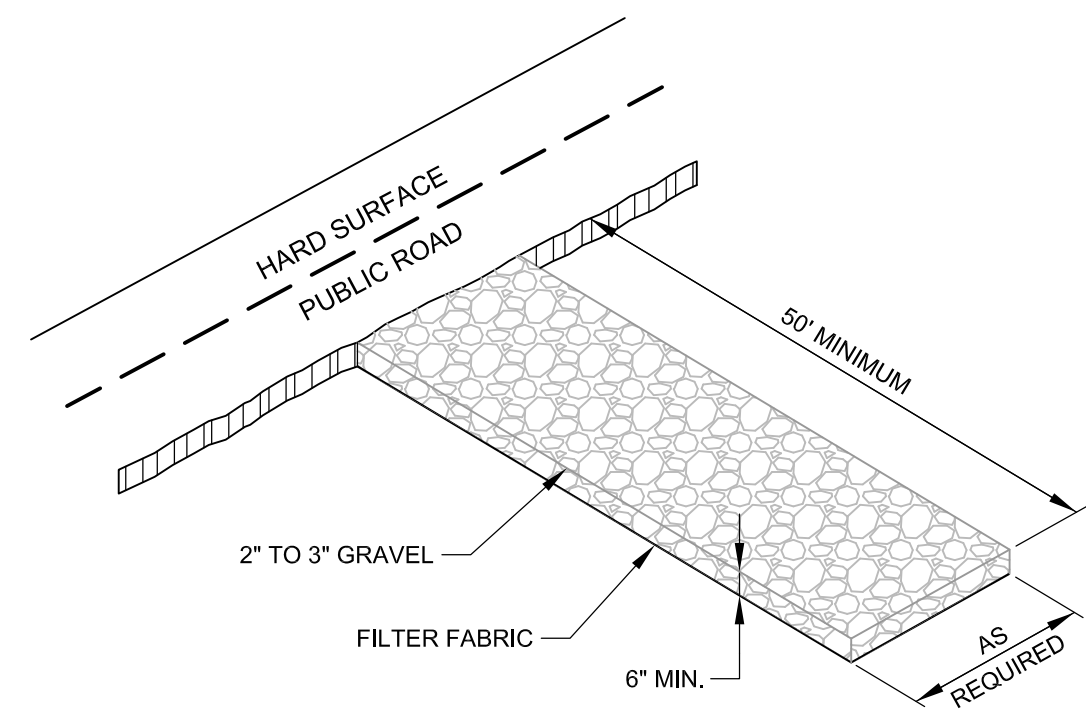
DETAIL 1  
SILT FENCE 8



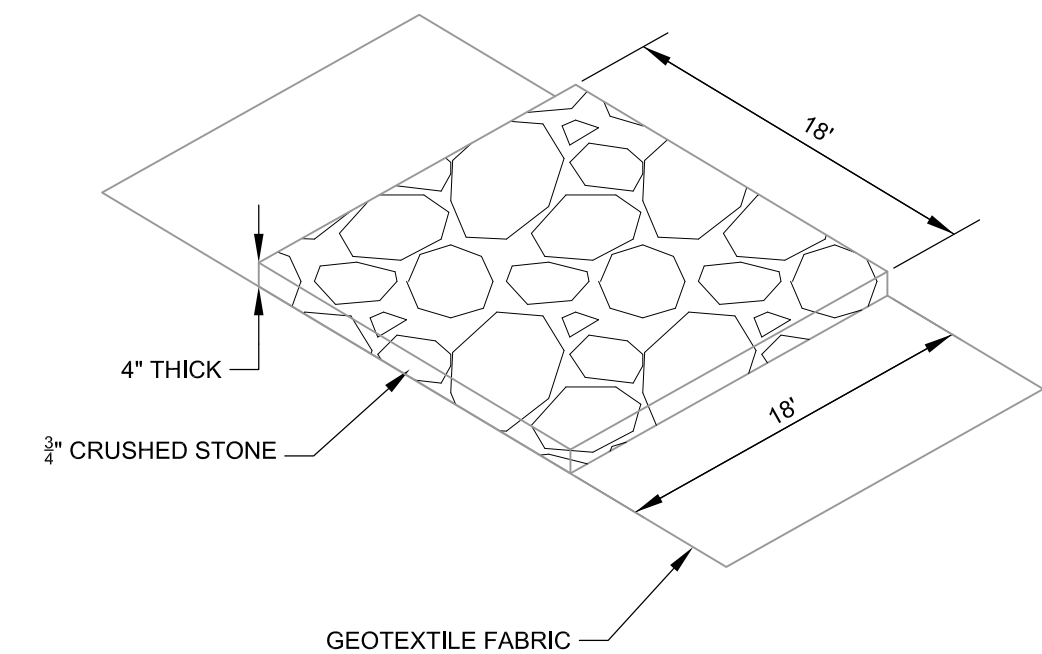
DETAIL 2  
EQUIPMENT DECONTAMINATION PAD 8

**A. DECONTAMINATION NOTES:**

1. ALL VEHICLES EXITING EXCLUSION ZONE MUST PASS THROUGH THE CONTAMINANT REDUCTION ZONE. USE EQUIPMENT DECONTAMINATION PAD AS REQUIRED BY ENGINEER AND NYSDEC. CONTROL OVERSPRAY.



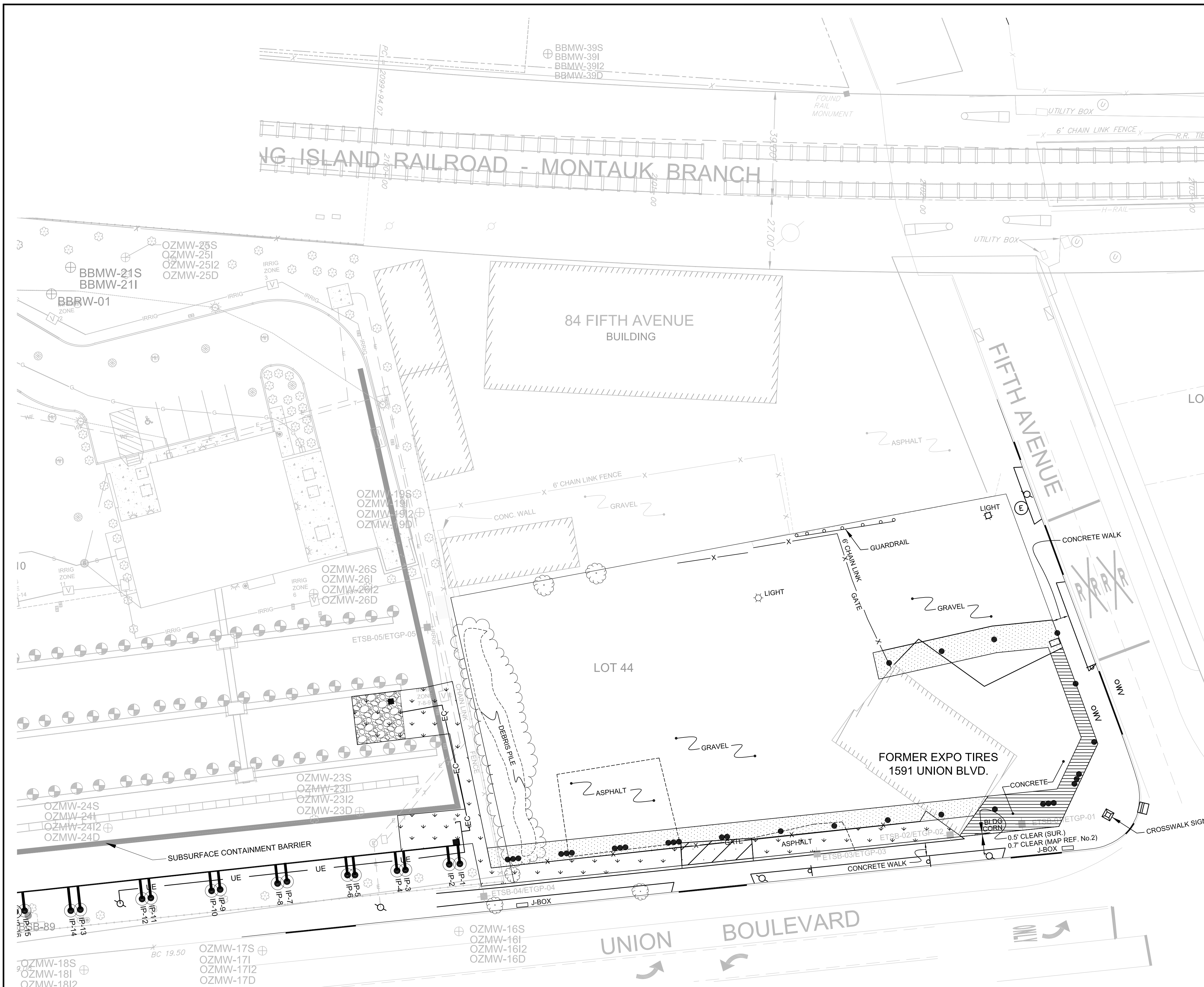
DETAIL 3  
ANTI-TRACKING PAD 8



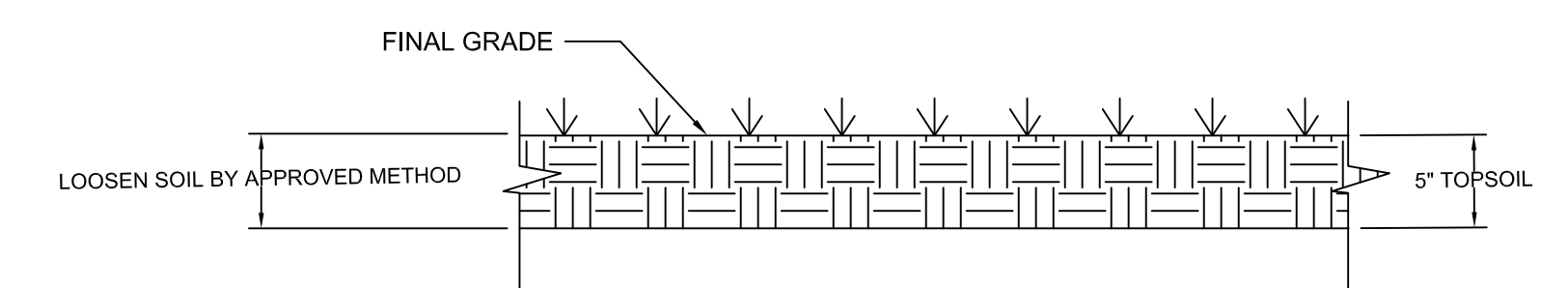
DETAIL 4  
GRAVEL PAD 8

FOR CONSTRUCTION

Attention:  If this scale bar does not measure 1" then drawing is not original scale.					Designed: JRP Checked: CRP Drawn: DTE Submitted By: BMN NY P.E. No.: 087851 Submittal Date: 04/11/11	 National Grid 175 East Old Country Road, Hicksville, NY nationalgrid 110 WALT WHITMAN RD, SUITE 204 Huntington Station, NY 11746 631-760-9300, FAX 631-760-9301	Remedial Design Drawings 1591 Union Boulevard Bay Shore, New York SITE MANAGEMENT DETAILS GEI Project 093180-1-1111	DWG. NO. <b>8</b>
	NO. DATE 1 04/11/11	ISSUE/REVISION ISSUED FOR CONSTRUCTION	APP BMN		REV <b>0</b>			



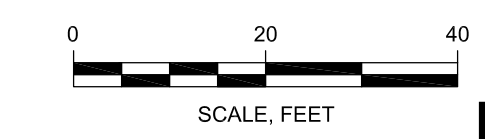
- LEGEND:**
- RESTORE ASPHALT (IN KIND)
  - RESTORE LAWN - SEE DETAIL 1/9
  - RESTORE CONCRETE
  - RESTORE GRAVEL
  - GRAVEL PAD
  - OXYGEN INJECTION WELL
  - EXISTING MONITORING WELL  
S=SHALLOW, I=INTERMEDIATE, I2=INTERMEDIATE TWO, D=DEEP
  - INJECTION LINE STUB UP
  - OVERHEAD WIRE
  - FENCE



**SEED DETAIL** 1/9  
 SOURCE: BASED ON DESCRIPTION  
 LOCATED IN NYCDOT SPECIFICATION 4.20  
 NOT TO SCALE

- A. SEED NOTES:**
- SEED SHALL BE A MIX OF RED FESCUE, RYE, AND KENTUCKY BLUE. CONTRACTOR MAY SUBMIT REQUEST TO ENGINEER FOR ALTERNATE SEED MIXTURE TO TAKE ADVANTAGE OF PROVEN VARIETIES.
  - APPLY AT A RATE OF 75 LBS/ACRE.
  - HYDROSEEDING OR OTHER MECHANICAL METHODS OF APPLICATION THAT WILL NOT DAMAGE THE WORK ARE ACCEPTABLE.
  - MOW THE PROPERTY TWICE ONCE A SATISFACTORY STAND OF GRASS HAS BEEN ESTABLISHED.
  - WARRANTY PLANTINGS FOR 90 DAYS FOLLOWING ESTABLISHMENT OF A SATISFACTORY STAND OF GRASS.

- SOURCES:**
- "BOUNDARY AND TOPOGRAPHIC SURVEY", SECTION 392, BLOCK 1, LOTS 36 AND 44 TOWN OF ISLIP, COUNTY OF SUFFOLK, NEW YORK, SCALE 1" = 30', DATED 10/29/10, PREPARED BY KSE ENGINEERS.



**FOR CONSTRUCTION**

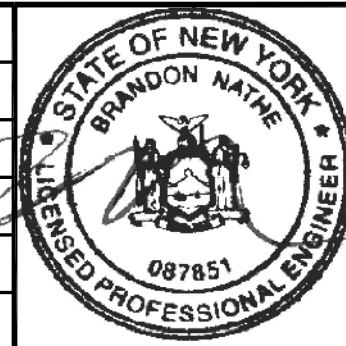
Attention:

0 1"

If this scale bar does not measure 1" then drawing is not original scale.

NO.	DATE	ISSUE/REVISION	APP
1	04/11/11	ISSUED FOR CONSTRUCTION	BMN
		ISSUE/REVISION	APP

Designed:	JRP
Checked:	CRP
Drawn:	DTE
Submitted By:	BMN
NY P.E. No.:	087851
Submittal Date:	04/11/11



**GEI** Consultants  
 110 WALT WHITMAN RD, SUITE 204  
 Huntington Station, NY 11746  
 631-760-9300, FAX 631-760-9301

National Grid  
 175 East Old Country Road,  
 Hicksville, NY  
**nationalgrid**  
 GEI Project 093180-1-1111

Remedial Design Drawings 1591 Union Boulevard Bay Shore, New York	DWG. NO. <b>9</b>
RESTORATION PLAN AND DETAILS	REV <b>0</b>

## Appendix B

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### Boring Logs

# **Historical Boring Logs**



GEI Consultants, Inc.  
188 Norwich Avenue  
Colchester, CT 06415

PROJECT NAME: BayshoreGeo

CITY/STATE: Bay Shore, New York

GEI PROJECT NUMBER: 982482-3-1412

BORING LOG

PAGE

1 of 2

ETSB-01

BORING ID: ETSB-01

LOCATION: Expo Tire

GROUND SURFACE ELEVATION (FT):

TOTAL DEPTH (FT): 48.00

NORTHING: EASTING:

VERT. DATUM:

DRILLED BY: Zebra Env. Charles Green

HOR. DATUM:

LOGGED BY: John Schafer

DATE START / END: 6/30/2004 - 6/30/2004

DEPTH FT.	SAMPLE INFORMATION				STRATA	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN IN.	REC IN.	PID (ppm)		
0	S1	48	48	0-101	[Pattern]	S1(Top 12"): Moist, brown, loose, fine sand with some asphalt and gravel (SP). No visual or olfactory evidence of contamination.
2						S1(Middle 34.2"): Moist, dark brown to black, soft, slightly plastic, silt (ML). Petroleum like odors .
4	S2	48	30	27-800	[Pattern]	S1(Bottom 1.8"): Fine to coarse gravel (SW), with wood fragments.
6						S2(Top 13.8"): Moist, dark gray to brown, soft, plastic, silt (ML), contains 1/2 " of red brick at the bottom. Petroleum like odors.
8	S3	48	36	1435->2000	[Pattern]	S2(Bottom 16.2") Moist, tan to brown, loose, fine to coarse sand with some fine to coarse gravel (SW). Solvent to Hydrocarbon like odor.
10						S3: Wet, gray, loose, fine to coarse sand with some fine gravel, larger gravel at 9.5' (SW). Black stained. Strong hydrocarbon like odor.
12	S4	48	30	62-1180	[Pattern]	S4: Wet, gray, loose, fine to coarse sand with fine to coarse gravel (SW). Slightly stained black. Strong hydrocarbon odor.
14						
16	S5	48	18	5-414	[Pattern]	S5: Wet, brown to orange-brown, loose, fine to coarse sand with some fine to coarse gravel (SW). Hydrocarbon like odor.
18						
20	S6	48	18	0.6-6.6	[Pattern]	S6: Wet, brown, loose, fine to coarse sand with some fine gravel (SW). Petroleum/Hydrocarbon like odor.
22						
24	S7	48	18	0	[Pattern]	S7: Wet, light brown, loose, fine to coarse sand with some fine gravel (SW). No visual or olfactory evidence of contamination.
26						
28	S8	48	12	0	[Pattern]	S8: Wet, brown, loose, fine to coarse sand with trace fine to coarse gravel (SW). Dark brown natural staining.

**NOTES:**

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL  
 REC = RECOVERY LENGTH OF SAMPLE  
 PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)  
 NM = NOT MEASURED

(ppm) = PARTS PER MILLION  
 IN. = INCHES  
 FT. = FEET

Used hand augers in upper 5 feet, then advanced with Geoprobos.



GEI Consultants, Inc.  
188 Norwich Avenue  
Colchester, CT 06415

PROJECT NAME: BayshoreGeo

CITY/STATE: Bay Shore, New York

GEI PROJECT NUMBER: 982482-3-1412

BORING LOG

PAGE

2 of 2

ETSB-01

DEPTH FT.	SAMPLE INFORMATION				STRATA	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN IN.	REC IN.	PID (ppm)		
30						
32	S9	48	24	0.2-3		S9: Wet, brown, loose to medium dense, fine to medium sand with some coarse sand and trace fine gravel (SW). No visual or olfactory evidence of contamination.
34						
36	S10	48	24	0		S10: Wet, brown, loose, fine to coarse sand with trace of fine gravel (SW). No visual or olfactory evidence of contamination.
38						
40	S11	48	0	NM		S11: NO RECOVERY.
42						
44	S12	48	0	NM		S12: NO RECOVERY.
46						
48						

**NOTES:**

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL  
REC = RECOVERY LENGTH OF SAMPLE  
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)  
NM = NOT MEASURED

(ppm) = PARTS PER MILLION  
IN. = INCHES  
FT. = FEET

Used hand augers in upper 5 feet, then advanced with Geoprobos.





GEI Consultants, Inc.  
188 Norwich Avenue  
Colchester, CT 06415

PROJECT NAME: BayshoreGeo

CITY/STATE: Bay Shore, New York

GEI PROJECT NUMBER: 982482-3-1412

BORING LOG

PAGE

1 of 3

ETSB-02

BORING ID: ETSB-02

LOCATION: Expo Tire

GROUND SURFACE ELEVATION (FT):

TOTAL DEPTH (FT): 80.00

NORTHING: EASTING:

VERT. DATUM:

DRILLED BY: Zebra Env. Charles Green

HOR. DATUM:

LOGGED BY: John Schafer

DATE START / END: 7/1/2004 - 7/6/2004

DEPTH FT.	SAMPLE INFORMATION				STRATA	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN IN.	REC IN.	PID (ppm)		
0	S1	48	48	0-0.6		S1: Dry, brown, loose, fine to coarse sand with some fine to coarse gravel (SW). No visual or olfactory evidence of contamination.
2						
4	S2	48	42	0-620		S2: Moist, brown to gray, loose, impacted, fine to coarse sand with some fine to coarse gravel (SW). Petroleum like odor.
6						
8	S3	48	36	400-1853		S3: Wet, gray, loose, impacted, fine to coarse sand with some fine to coarse gravel (SW). Strong petroleum like odor.
10						
12	S4	48	30	120-1631		S4: Wet, gray to brown to orange brown, loose, fine to coarse sand with some fine to coarse gravel, sandy gravel lenses (SW). Strong petroleum like odor.
14						
16	S5	48	6	37	S5: Wet, brown, loose, fine to coarse sand with some fine to coarse gravel (SW). Petroleum like odor.	
18						
20	S6	48	18	135-200	S6: Wet, brown, loose, fine to coarse sand with trace fine gravel (SW). No visual or olfactory evidence of contamination.	
22						
24	S7	48	24	0-22	S7: Wet, brown, loose, fine to coarse sand some fine to coarse gravel (SW). No visual or olfactory evidence of contamination.	
26						
28	S8	48	24	0	S8: Wet, brown, loose to medium dense, fine to medium sand with some coarse sand and trace fine to coarse gravel (SP). No visual or olfactory evidence of	

**NOTES:**

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL  
 REC = RECOVERY LENGTH OF SAMPLE  
 PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)  
 NM = NOT MEASURED

(ppm) = PARTS PER MILLION  
 IN. = INCHES  
 FT. = FEET  
 Used hand augers in upper 5 feet, then advanced with Geoprobos.



GEI Consultants, Inc.  
188 Norwich Avenue  
Colchester, CT 06415

PROJECT NAME: BayshoreGeo

CITY/STATE: Bay Shore, New York

GEI PROJECT NUMBER: 982482-3-1412

BORING LOG

PAGE

2 of 3

ETSB-02

DEPTH FT.	SAMPLE INFORMATION				STRATA	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN IN.	REC IN.	PID (ppm)		
30						contamination.
32	S9	48	18	0		S9: Wet, brown, loose, fine to coarse sand with some fine to coarse gravel (SW). No visual or olfactory evidence of contamination.
34						
36	S10	48	24	0		S10: Wet, brown, loose, fine to medium sand with some coarse sand and trace fine gravel (SP). No visual or olfactory evidence of contamination.
38						
40	S11	48	24	3-10		S11: Wet, brown, loose, fine to medium sand with some coarse sand and trace fine gravel (SP). Coarse sand lenses at ~ 41.0'. No visual or olfactory evidence of contamination.
42						
44	S12	48	30	0		S12: Wet, brown, loose, fine to medium sand with some coarse sand and some fine to medium gravel and trace coarse gravel (SP). No visual or olfactory evidence of contamination.
46						
48	S13	48	18	0		S13: Wet, brown, medium dense, fine to medium micaceous sand (SP). No visual or olfactory evidence of contamination.
50						
52	S14	48	18	0		S14: Wet, brown, medium dense, fine to medium micaceous sand (SP). No visual or olfactory evidence of contamination.
54						
56	S15	48	NR	NM		S15: Wet, brown, medium dense, fine micaceous sand (SP). No visual or olfactory evidence of contamination.
58						
60	S16	48	24	0		S16: Wet, brown, dense, fine sand (SP). No visual or olfactory evidence of contamination.
62						
64	S17	48	18	0		S17: Wet, brown, medium dense, fine to medium micaceous sand (SP). No visual

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 NM = NOT MEASURED

(ppm) = PARTS PER MILLION  
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 FT. = FEET

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PROJECT NAME: BayshoreGeo

CITY/STATE: Bay Shore, New York

GEI PROJECT NUMBER: 982482-3-1412

BORING LOG

PAGE

3 of 3

ETSB-02

DEPTH FT.	SAMPLE INFORMATION				STRATA	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN IN.	REC IN.	PID (ppm)		

66						or olfactory evidence of contamination.
68	S18	48	18	0		S18: Wet, gray, dense, very fine to fine micaceous sand (SP). No visual or olfactory evidence of contamination.
70						
72	S19	48	24	0		S19(72-72.5'0): Moist, gray, slightly plastic, silt with some fine gravel and trace black clay (ML). No visual or olfactory evidence of contamination. S19(72.5-74'): Wet, gray, dense, silty fine sand with trace black clay (SM). No visual or olfactory evidence of contamination.
74						
76	S20	48	24	0		S20: Wet, gray-black, soft, slightly plastic, interbanded, micaceous, silty very fine sand and clay (SM). No visual or olfactory evidence of contamination.
78						
80						

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NM = NOT MEASURED

(ppm) = PARTS PER MILLION  
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FT. = FEET

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Colchester, CT 06415

PROJECT NAME: BayshoreGeo

CITY/STATE: Bay Shore, New York

GEI PROJECT NUMBER: 982482-3-1412

BORING LOG

PAGE

1 of 3

ETSB-03

BORING ID: ETSB-03 LOCATION: Expo Tire  
GROUND SURFACE ELEVATION (FT): TOTAL DEPTH (FT): 70.00  
NORTHING: EASTING: VERT. DATUM:  
DRILLED BY: Zebra Env. Charles Green HOR. DATUM:  
LOGGED BY: John Schafer/Melissa Felter DATE START / END: 7/6/2004 - 7/7/2004

DEPTH FT.	SAMPLE INFORMATION				STRATA	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN IN.	REC IN.	PID (ppm)		
0	S1	60	60	0		S1(0-0.5'): Asphalt, and crushed rock.
2						S1(0.5-3'): Dry, brown, loose, silty fine to medium sand with some coarse sand and some fine to coarse gravel (SM). No visual or olfactory evidence of
4						S1(3-3.5'): Moist, gray, plastic, soft, clay (CH). No visual or olfactory evidence of contamination.
6	S2	36	24	0		S1(3.5-5'): Moist, brown, loose, medium to coarse sand with fine to coarse gravel (SP). No visual or olfactory evidence of contamination.
8						S2: Dry, tan, loose, fine to coarse sand with some fine and trace coarse gravel (SW). No visual or olfactory evidence of contamination.
10	S3	48	36	0		S3: Wet, tan to orange brown, loose, fine to coarse sand with some fine to coarse gravel (SW). No visual or olfactory evidence of contamination.
12						
14	S4	48	24	0-2		S4: Wet, brown to gray to dark gray, loose, fine to coarse sand with fine to coarse gravel (SW). No visual or olfactory evidence of contamination.
16						
18	S5	48	24	0		S5: Wet, brown, loose, fine to coarse sand with fine to coarse gravel (SW). No visual or olfactory evidence of contamination.
20						
22	S6	48	18	0		S6: Wet, brown, loose, fine to coarse sand with some fine gravel (SW). No visual or olfactory evidence of contamination.
24						
26	S7	48	6	0		S7: Wet, brown, loose, fine to coarse sand with some fine gravel (SW). No visual or olfactory evidence of contamination.
28						
	S8	48	24	0		S8: Wet, brown, loose, fine to coarse sand with trace fine gravel (SW). No visual or olfactory evidence of contamination.

**NOTES:**

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REC = RECOVERY LENGTH OF SAMPLE  
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)  
NM = NOT MEASURED

(ppm) = PARTS PER MILLION  
IN. = INCHES  
FT. = FEET

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Colchester, CT 06415

PROJECT NAME: BayshoreGeo

CITY/STATE: Bay Shore, New York

GEI PROJECT NUMBER: 982482-3-1412

BORING LOG

PAGE

2 of 3

ETSB-03

DEPTH FT.	SAMPLE INFORMATION				STRATA	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN IN.	REC IN.	PID (ppm)		
30						
32	S9	48	24	0		S9: Wet, brown, loose, fine to medium sand, with some coarse sand and trace fine gravel (SP). No visual or olfactory evidence of contamination.
34						
36	S10	48	16	0		S10: Wet, tan, loose, non-cohesive, well sorted, medium to coarse sand with trace fines (SP-SM). No visual or olfactory evidence of contamination.
38						
40	S11	48	24	0		S11: Wet, tan, loose, non-cohesive, well sorted, medium to coarse sand with trace fines and trace fine well rounded gravel (SP). No visual or olfactory evidence of contamination.
42						
44	S12	48	15	0		S12: Wet, tan, loose, non-cohesive, well sorted, fine to medium sand with some coarse sand and trace fines and fine well rounded gravel (SP). No visual or olfactory evidence of contamination.
46						
48	S13	48	20	0		S13: Wet, tan, loose, non-cohesive, well sorted, fine to medium sand with trace fines and trace fine gravel (SP). No visual or olfactory evidence of contamination.
50						
52	S14	48	24	0		S14: Wet, tan, loose, non-cohesive, well sorted, fine to medium sand with trace fines and trace fine gravel and trace brown and black grains (SP). No visual or olfactory evidence of contamination.
54						
56	S15	48	20	0		S15: Wet, tan and brown, loose, non-cohesive, well sorted, fine to medium sand with few fines (SP). No visual or olfactory evidence of contamination.
58						
60	S16	48	40	0		S16: Wet, tan, medium dense, non-cohesive, well sorted, fine to medium sand with orange to black banding, some fines (SP). No visual or olfactory evidence of contamination.
62						
64	S17	48	18	0		S17: Wet, brown, medium dense, non-cohesive, well sorted fine to medium sand

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 FT. = FEET

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PROJECT NAME: **BayshoreGeo**

CITY/STATE: **Bay Shore, New York**

GEI PROJECT NUMBER: **982482-3-1412**

BORING LOG

PAGE

3 of 3

**ETSB-03**

**SAMPLE INFORMATION**

DEPTH  
FT.

TYPE  
and  
NO.

PEN  
IN.

REC  
IN.

PID  
(ppm)

STRATA

SOIL / BEDROCK DESCRIPTION

66					
68	S18	24	24	0	
70					

with some fines (SP-SM). No visual or olfactory evidence of contamination.

S18: Wet, brown, medium dense, non-cohesive, well sorted, fine to medium sand with some fines (SP-SM). No visual or olfactory evidence of contamination.

**NOTES:**

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REC = RECOVERY LENGTH OF SAMPLE  
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)  
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(ppm) = PARTS PER MILLION  
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PROJECT NAME: BayshoreGeo

CITY/STATE: Bay Shore, New York

GEI PROJECT NUMBER: 982482-3-1412

BORING LOG

PAGE

1 of 3

ETSB-04

BORING ID: ETSB-04 LOCATION: Expo Tire  
GROUND SURFACE ELEVATION (FT): TOTAL DEPTH (FT): 68.00  
NORTHING: EASTING: VERT. DATUM:  
DRILLED BY: Zebra Env. Charles Green HOR. DATUM:  
LOGGED BY: John Schafer/Melissa Felter DATE START / END: 7/7/2004 - 7/8/2004

DEPTH FT.	SAMPLE INFORMATION				STRATA	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN IN.	REC IN.	PID (ppm)		
0	S1	60	48	0		S1(0-0.5'): Asphalt.
2						S1(0.5-2.5'): Dry, tan, loose, non-cohesive, poorly sorted, fine to medium sand with some silt, and some fine to medium well rounded gravel (SP-SM). No visual or olfactory evidence of contamination.
4	S2	48	44	0		S2: Dry, tan, loose, non-cohesive, poorly sorted, fine sand with some fine to medium well rounded gravel (SP). Wet at 7.5'. No visual or olfactory evidence of contamination.
6						
8	S3	48	24	0		S3: Wet, tan, moderately dense, non-cohesive, poorly sorted, medium to coarse sand, some well rounded gravel, trace fines (SP). Very faint odor, possibly naphthalene.
10						
12	S4	48	0	NM		S4: NO RECOVERY
14						
16	S5	48	24	10-26		S5: Wet, brown, loose, fine to coarse sand with fine to coarse gravel (SW). Slight, indefinable odor.
18						
20	S6	48	24	5-13		S6: Wet, brown, loose, fine to coarse sand with some fine to coarse gravel (SW). Slight naphthalene like odor.
22						
24	S7	48	0	NM		S7: NO RECOVERY.
26						
28	S8	48	24	0		S8: Wet, brown, loose, fine to coarse sand with trace fine to coarse gravel (SW). Slight natural dark brown staining at 29.5'. No visual or olfactory evidence of

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Colchester, CT 06415

PROJECT NAME: BayshoreGeo

CITY/STATE: Bay Shore, New York

GEI PROJECT NUMBER: 982482-3-1412

BORING LOG

PAGE

2 of 3

ETSB-04

DEPTH FT.	SAMPLE INFORMATION				STRATA	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN IN.	REC IN.	PID (ppm)		
30						contamination
32	S9	48	30	0		S9: Wet, light brown, loose, fine to coarse sand with some fine to coarse gravel (SW). No visual or olfactory evidence of contamination.
34						
36	S10	48	30	0		S10: Wet, brown, loose, fine to coarse sand with some fine to coarse gravel (SW). No visual or olfactory evidence of contamination.
38						
40	S11	48	30	0		S11: Wet, brown to darker brown, loose, fine to medium sand with some coarse sand and trace fine to coarse gravel (SP). No visual or olfactory evidence of contamination.
42						
44	S12	48	18	0		S12: Wet, brown, loose, fine to medium sand with some coarse sand and trace fine gravel (SP). No visual or olfactory evidence of contamination.
46						
48	S13	48	24	0		S13: Wet, brown, loose, fine to medium sand with trace coarse sand and some fine gravel (SP). No visual or olfactory evidence of contamination.
50						
52	S14	48	24	0		S14: Wet, brown, medium dense, fine to medium micaceous sand (SP). No visual or olfactory evidence of contamination.
54						
56	S15	48	30	0		S15: Wet, brown, dense, fine micaceous sand (SP). No visual or olfactory evidence of contamination.
58						
60	S16	48	24	0		S16: Wet, brown, dense, fine to very fine micaceous sand (SP). No visual or olfactory evidence of contamination.
62						
64	S17	48	24	0		S17: Wet, brown, dense, very fine to fine micaceous sand (SP). No visual or

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Used hand augers in upper 5 feet, then advanced with Geoprobos.





GEI Consultants, Inc.  
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Colchester, CT 06415

PROJECT NAME: BayshoreGeo

CITY/STATE: Bay Shore, New York

GEI PROJECT NUMBER: 982482-3-1412

BORING LOG

PAGE  
3 of 3

ETSB-04

DEPTH FT.	SAMPLE INFORMATION				STRATA	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN IN.	REC IN.	PID (ppm)		

66						olfactory evidence of contamination.
68						

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Colchester, CT 06415

PROJECT NAME: BayshoreGeo

CITY/STATE: Bay Shore, New York

GEI PROJECT NUMBER: 982482-3-1412

BORING LOG

PAGE

1 of 3

ETSB-05

BORING ID: ETSB-05 LOCATION: Expo Tire  
GROUND SURFACE ELEVATION (FT): TOTAL DEPTH (FT): 86.00  
NORTHING: EASTING: VERT. DATUM:  
DRILLED BY: Zebra Env. Luke Caberriello HOR. DATUM:  
LOGGED BY: John Schafer DATE START / END: 7/13/2004 - 7/19/2004

DEPTH FT.	SAMPLE INFORMATION				STRATA	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN IN.	REC IN.	PID (ppm)		
0	S1	60	60	0		S1: Dry, brown, non-plastic, non-cohesive silt with fine to coarse gravel (ML). No visual or olfactory evidence of contamination.
2						
4						
6	S2	36	36	0		S2: Dry, brown, loose, fine to coarse sand, some fine to coarse gravel (SW). No visual or olfactory evidence of contamination.
8	S3	48	42	0-200		S3 (8-11'): Brown, fine to coarse sand, some fine to coarse gravel (SW). Wet at 11.0'. S3 (11-11.5'): Silty Sand (SM). Petroleum-like odor.
10						
12	S4	48	30	0-240		S4: Wet, brown, loose, fine to coarse sand with some fine to coarse gravel (SW). Petroleum-like odor.
14						
16	S5	48	10	0		S5: Wet, black, loose, impacted fine to coarse sand with some fine to coarse gravel (SW).
18						
20	S6	48	12	0-8		S6: Wet, dark gray, loose, fine to coarse sand with some fine to coarse gravel (SW). Slight odor.
22						
24	S7	48	12	0-12		S7: Wet, brown, loose, fine to coarse sand with some fine to coarse gravel (SW). Possible slight naphthalene-like odor.
26						
28	S8	48	24	0		S8: Wet, loose, brown, fine to coarse sand with some fine to coarse gravel (SW). Possible slight naphthalene-like odor.

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BORING LOG

PAGE

2 of 3

ETSB-05

DEPTH FT.	SAMPLE INFORMATION				STRATA	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN IN.	REC IN.	PID (ppm)		
30						
32	S9	48	0	NM		S9: No Recovery.
34						
36	S10	48	24	0		S10: Wet, brown, loose, fine to coarse sand with trace fine gravel (SW). No visual or olfactory evidence of contamination.
38						
40	S11	48	36	0		S11: Wet, brown, loose, fine to medium sand, some coarse sand and fine gravel (SW). No visual or olfactory evidence of contamination.
42						
44	S12	48	30	0		S12: Wet, brown, loose, fine to medium sand, some coarse sand and fine gravel (SW). No visual or olfactory evidence of contamination.
46						
48	S13	48	30	0		S13: Wet, brown, medium dense, fine sand (SP). No visual or olfactory evidence of contamination.
50						
52	S14	48	24	0		S14: Wet, brown, medium dense, fine sand (SP). No visual or olfactory evidence of contamination.
54						
56	S15	48	30	0		S15: Wet, dark brown, dense, fine sand (SP). No visual or olfactory evidence of contamination.
58						
60	S16	48	18	0		S16: Wet, brown, dense, very fine to fine sand (SP). No visual or olfactory evidence of contamination.
62						
64	S17	48	42	0		S17: Wet, brown, dense, very fine to fine sand (SP). No visual or olfactory

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 IN. = INCHES  
 FT. = FEET

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Colchester, CT 06415

PROJECT NAME: BayshoreGeo

CITY/STATE: Bay Shore, New York

GEI PROJECT NUMBER: 982482-3-1412

BORING LOG

PAGE

3 of 3

ETSB-05

DEPTH FT.	SAMPLE INFORMATION				STRATA	SOIL / BEDROCK DESCRIPTION
	TYPE and NO.	PEN IN.	REC IN.	PID (ppm)		
66						evidence of contamination.
68	S18	24	24	0		S18: Moist, brown, medium dense, very fine sand (SP). No visual or olfactory evidence of contamination.
70	S19	24	18	0		S19: Wet, brown, medium dense, fine sand (SP). No visual or olfactory evidence of contamination.
72	S20	24	12	0		S20: Wet, brown, medium dense, fine sand (SP). No visual or olfactory evidence of contamination.
74	S21	24	21	0		S21 (74-75'): Wet, brown, fine to medium sand (SP), fine gravel in bottom 3". No visual or olfactory evidence of contamination.
76	S22	24	12	0		S21 (75-75.25'): Wet, gray, plastic, sandy clay (CL). No visual or olfactory evidence of contamination.
78	S23	24	24	0		S21 (75.25-75.5'): Wet, brown to black, dense, silty sand (SM). No visual or olfactory evidence of contamination.
80	S24	24	18	0		S22: Wet, brown to black, dense, silty and clayey very fine to fine sand (SM). No visual or olfactory evidence of contamination.
82	S25	24	24	0		S23: Wet, gray, dense, fine to medium sand with some silt (SP-SM), contains lenses of black silty clay. No visual or olfactory evidence of contamination.
84						S24 (80-80.75'): Wet, gray, dense, silty very fine to fine sand (SM). No visual or olfactory evidence of contamination.
86						S24 (80.75-81.5'): Wet, gray to black, soft, plastic, laminated lenses of sandy clay/silt (CL). No visual or olfactory evidence of contamination.
						S25: Wet, gray to black, soft, plastic, laminated lenses of very fine sandy clay (CL). No visual or olfactory evidence of contamination.

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(ppm) = PARTS PER MILLION  
 IN. = INCHES  
 FT. = FEET

Used hand augers in upper 5 feet, then advanced with Geoprobos.

# **Pre-Design Investigation Boring Logs**



GEI Consultants, Inc.  
455 Winding Brook Road  
Glastonbury, CT 06033  
(860) 368-5300

CLIENT: National Grid  
PROJECT: Bay Shore Former MGP Site  
CITY/STATE: Bay Shore, New York  
GEI PROJECT NUMBER: 093180

BORING LOG  
PAGE 1 of 3  
ETSB-06

GROUND SURFACE ELEVATION (FT): 21.29 LOCATION: Expo Tire  
NORTHING (FT): 203453.7 EASTING (FT): 1190442.7 TOTAL DEPTH (FT): 70.0  
DRILLED BY: Zebra Environmental / L. Reiss DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY Long Island Zone  
LOGGED BY: C. Anastasiou DATE START / END: 8/24/2010 - 8/24/2010  
DRILLING DETAILS:  
WATER LEVEL DEPTHS (FT):  
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
0	0		60/60	PID= 0.0				(0'- 1') TOPSOIL; loam, stone 0.25"- 0.5".	
20	20			PID= 0.0				(1'- 2') WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); ~50% sand, fine to coarse, ~30% gravel, fine to coarse, ~10% fines; ~10% brick fragments, dark brown, no odor, NVS.	
				PID= 0.0				(2'- 5') NARROWLY GRADED SAND WITH GRAVEL (SP); ~70% sand, fine, ~25% gravel, fine to coarse, ~5% fines; light brown, no odor, NVS.	
5	5		60/42	PID= 0.0				S-1 (5'- 9.2') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; light brown, no odor, NVS.	
15	15			PID= 0.0				(9.2'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, ~5% fines; wet, light brown, no odor, NVS.	
				PID= 0.0				S-2 (10'- 10.8') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, ~5% fines; wet, light brown, no odor, NVS.	
10	10		60/43	PID= 1.0				(10.8'- 12.4') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; wet, light brown, no odor, NVS.	
				PID= 1.3				(12.4'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; moderate naphthalene-like odor, wet, light brown, gray stained.	
				PID= 2.5					
				PID= 2.6					
				PID= 2.7		NLO	Env. Sample ID= ETSB-6 (14-15)		
				PID= 2.5					
				PID= 4.0					
15	15		60/36	PID= 8.8				S-3 (15'- 16.7') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, ~5% fines; moderate naphthalene-like odor, wet, black stained.	
				PID= 6.6					
				PID= 6.5		NLO		(16.7'- 17.8') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; moderate naphthalene-like odor, wet, light gray, stained.	
				PID= 6.1				(17.8'- 20') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; moderate naphthalene-like odor, wet, light brown, NVS.	
				PID= 6.0		NLO			
				PID= 5.7					
20	20		60/38	PID= 1.9				S-4 (20'- 25') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5%	

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 REC = RECOVERY LENGTH OF SAMPLE FT. = FEET  
 PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION TSF = TONS PER SQUARE FOOT  
 NLO = NAPHTHALENE LIKE ODOR  
 PLO = PETROLEUM LIKE ODOR  
 TLO = TAR LIKE ODOR  
 CLO = CHEMICAL LIKE ODOR  
 ALO = ASPHALT LIKE ODOR  
 CrLO = CREOSOTE LIKE ODOR  
 OLO = ORGANIC LIKE ODOR  
 SLO = SULFUR LIKE ODOR  
 MLO = MUSTY LIKE ODOR  
 SeLO = SEWAGE LIKE ODOR  
 NA = NOT APPLICABLE Qp = POCKET PENETROMETER IN TSF  
 NM = NOT MEASURED Sv = TORVANE PEAK IN TSF

ENVIRONMENTAL BORING LOG OU-1 GINT DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 12/29/10



GEI Consultants, Inc.  
455 Winding Brook Road  
Glastonbury, CT 06033  
(860) 368-5300

CLIENT: National Grid  
PROJECT: Bay Shore Former MGP Site  
CITY/STATE: Bay Shore, New York  
GEI PROJECT NUMBER: 093180

BORING LOG  
PAGE 2 of 3  
ETSB-06

ENVIRONMENTAL BORING LOG OU-1 GINT DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION		
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA							
0				PID= 1.8 PID= 2.5 PID= 2.3 PID= 1.9 PID= 1.9				finer; moderate naphthalene-like odor, wet, light brown, NVS.			
	25	60/55		PID= 1.1 PID= 2.6 PID= 0.9				S-5 (25'- 26.1') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; moderate naphthalene-like odor, wet, light brown, NVS. (26.1'- 26.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, ~5% fines; moderate naphthalene-like odor, light brown, NVS. (26.5'- 30') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; moderate naphthalene-like odor, wet, light brown, NVS.			
	-5			PID= 1.1 PID= 2.5 PID= 2.9 PID= 0.6 PID= 1.8 PID= 1.1							
	30		60/50		PID= 0.8 PID= 1.1 PID= 1.2 PID= 0.9 PID= 1.4 PID= 1.2 PID= 0.8				Env. Sample ID= ETSB-6 (30-34) S-6 (30'- 35') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; slight naphthalene-like odor, wet, light brown, NVS.		
	-10				PID= 0.5 PID= 0.5 PID= 0.5 PID= 0.6 PID= 0.7 PID= 0.5 PID= 0.5					S-7 (35'- 40') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; slight naphthalene-like odor, wet, light brown, NVS.	
	35			60/53		PID= 0.8 PID= 0.9 PID= 0.8 PID= 1.0 PID= 1.1 PID= 0.8 PID= 0.5 PID= 0.8 PID= 0.6					
	-15										
	40	60/55				PID= 1.3 PID= 0.8					S-9 (45'- 50') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; slight naphthalene-like odor, wet, light
	-20										
	45										

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		CLO = CHEMICAL LIKE ODOR	MLO = MUSTY LIKE ODOR
		ALO = ASPHALT LIKE ODOR	SeLO= SEWAGE LIKE ODOR
NA = NOT APPLICABLE	Qp = POCKET PENETROMETER IN TSF		
NM = NOT MEASURED	Sv = TORVANE PEAK IN TSF		



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BORING LOG  
PAGE 3 of 3  
ETSB-06

ENVIRONMENTAL BORING LOG OU-1 GINT.DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
-25				PID= 1.5 PID= 2.1 PID= 0.9 PID= 1.3 PID= 2.5 PID= 3.1			NLO	brown, NVS.	
50		60/55		PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-10 (50'- 55') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, no odor, NVS.	
55		60/55		PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-11 (55'- 60') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, no odor, NVS.	
60		60/56		PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-12 (60'- 65') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, light brown, no odor, NVS.	
65		60/56		PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-13 (65'- 70') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, light reddish brown, iron oxide coloring; no odor, NVS.	
70								End of Boring at 70 feet.	

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PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION	TSF = TONS PER SQUARE FOOT	TLO = TAR LIKE ODOR	SLO = SULFUR LIKE ODOR
		CLO = CHEMICAL LIKE ODOR	MLO = MUSTY LIKE ODOR
		ALO = ASPHALT LIKE ODOR	SeLO= SEWAGE LIKE ODOR
NA = NOT APPLICABLE	Qp = POCKET PENETROMETER IN TSF		
NM = NOT MEASURED	Sv = TORVANE PEAK IN TSF		





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BORING LOG  
PAGE 1 of 3  
ETSB-07

GROUND SURFACE ELEVATION (FT): 21.43 LOCATION: Expo Tire  
NORTHING (FT): 203474.7 EASTING (FT): 1190480.9 TOTAL DEPTH (FT): 70.0  
DRILLED BY: Zebra Environmental / L. Reiss DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY Long Island Zone  
LOGGED BY: C. Anastasiou DATE START / END: 8/5/2010 - 8/5/2010  
DRILLING DETAILS:  
WATER LEVEL DEPTHS (FT):  
GENERAL NOTE:

ENVIRONMENTAL BORING LOG OU-1 GINT.DATABASE 2010.10.27.GPJ ATLANTIC GEI.DATA TEMPLATE.GDT 12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA				
0			60/60	PID= 0.0			(0'- 0.3') ASPHALT; RCA, stone 0.25"- 0.5". (0.3'- 1') FILL; brown - black, RCA, stone 0.25"- 0.5".	
20				PID= 0.0			(1'- 3') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~35% gravel, fine to coarse, ~5% fines; brown, no odor, NVS.	
				PID= 0.0			(3'- 5') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; light brown, no odor, NVS.	
5		S-1	60/47	PID= 0.0			S-1 (5'- 6.7') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; light brown, 8"- 11": black band; no odor, NVS.	
15							(6.7'- 7.6') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, ~5% fines; light brown, no odor, NVS. (7.6'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; light brown, 41"- 42": dark brown bank; no odor, NVS.	
10		S-2	60/30	PID= 0.0		Env. Sample ID= ETSB-7 (?-?)	S-2 (10'- 11.8') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, ~5% fines; max. size 14, wet, light brown, NVS.	
10							(11.8'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; max. size 14, grayish, NVS.	
15		S-3	60/26	PID= 6.3 PID= 8.5		Env. Sample ID= ETSB-7 (15-16)	S-3 (15'- 17.3') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; max. size 14, grayish, slightly stained.	
5				PID= 3.1			(17.3'- 20') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; max. size 14, light brown, NVS.	
20		S-4	60/33	PID= 4.2			S-4 (20'- 21.2') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; max. size 5, gray,	

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 NLO = NAPHTHALENE LIKE ODOR CrlO= CREOSOTE LIKE ODOR  
 PLO = PETROLEUM LIKE ODOR OLO = ORGANIC LIKE ODOR  
 TLO = TAR LIKE ODOR SLO = SULFUR LIKE ODOR  
 CLO = CHEMICAL LIKE ODOR MLO = MUSTY LIKE ODOR  
 ALO = ASPHALT LIKE ODOR SeLO= SEWAGE LIKE ODOR  
 NA = NOT APPLICABLE Qp = POCKET PENETROMETER IN TSF  
 NM = NOT MEASURED Sv = TORVANE PEAK IN TSF



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BORING LOG  
PAGE 2 of 3  
ETSB-07

ENVIRONMENTAL BORING LOG OU-1 GINT.DATABASE 2010.10.27.GPJ ATLANTIC GEI.DAT TEMPLATE.GDT 12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA				
0				PID= 0.7 PID= 0.0 PID= 9.1 PID= 16.1 PID= 7.7			slightly stained. (21.2'- 25') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to medium, ~5% fines; max. size 5, wet, light brown, NVS.	
25		S-5	60/44	PID= 15 PID= 5.5 PID= 0.5 PID= 0.0 PID= 0.0 PID= 0.0		Env. Sample ID= ETSB-7 (22-23)	S-5 (25'- 26.1') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine to medium, ~5% fines; max. size 14, wet, light brown, NVS. (26.1'- 30') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine to medium, ~5% fines; wet, light brown, NVS.	
30		S-6	60/37	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0			S-6 (30'- 30.8') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine to coarse, ~5% fines; max. size 14, wet, light brown, NVS. (30.8'- 35') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine to coarse, ~5% fines; wet, light brown, NVS.	
35		S-7	60/36	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0			S-7 (35'- 40') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine to coarse, ~5% fines; wet, light brown, NVS.	
40		S-8	60/31	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0			S-8 (40'- 45') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, no odor, NVS.	
45		S-9	60/42	PID= 0.0 PID= 0.0			S-9 (45'- 50') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, no odor, NVS.	

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		ALO = ASPHALT LIKE ODOR	SeLO= SEWAGE LIKE ODOR
NA = NOT APPLICABLE	Q <sub>p</sub> = POCKET PENETROMETER IN TSF		
NM = NOT MEASURED	S <sub>v</sub> = TORVANE PEAK IN TSF		



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BORING LOG  
PAGE 3 of 3  
ETSB-07

ENVIRONMENTAL BORING LOG OU-1 GINT DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA				
-25				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				
50		S-10	60/31	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0			S-10 (50'- 55') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, no odor, NVS.	
-30				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				
55		S-11	60/24	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0			S-11 (55'- 60') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, no odor, NVS.	
-35				PID= 0.0 PID= 0.0 PID= 0.0				
60		S-12	60/32	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0			S-12 (60'- 62.5') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, light brown - orange, no odor, NVS.	
-40				PID= 0.0 PID= 0.0 PID= 0.0			(62.5'- 65') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, light brown, no odor, NVS.	
65		S-13	60/17	PID= 0.0 PID= 0.0 PID= 0.0		Liner jammed in casing.	S-13 (65'- 70') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, light brown - orange, no odor, NVS.	
-45								
70							End of Boring at 70 feet.	

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PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION	TSF = TONS PER SQUARE FOOT	TLO = TAR LIKE ODOR	SLO = SULFUR LIKE ODOR
		CLO = CHEMICAL LIKE ODOR	MLO = MUSTY LIKE ODOR
		ALO = ASPHALT LIKE ODOR	SeLO= SEWAGE LIKE ODOR
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BORING LOG  
PAGE 1 of 3  
ETSB-08

GROUND SURFACE ELEVATION (FT): 21.67 LOCATION: Expo Tire  
NORTHING (FT): 203539.8 EASTING (FT): 1190580.4 TOTAL DEPTH (FT): 70.0  
DRILLED BY: Zebra Environmental / L. Reiss DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY Long Island Zone  
LOGGED BY: C. Anastasiou DATE START / END: 8/26/2010 - 8/26/2010  
DRILLING DETAILS:  
WATER LEVEL DEPTHS (FT):  
GENERAL NOTE:

ENVIRONMENTAL BORING LOG OU-1 GINT.DATABASE 2010.10.27.GPJ ATLANTIC.GEI.DATA TEMPLATE.GDT 12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
0			60/60	PID= 0.0				(0'- 1') CONCRETE; RCA.	
	20			PID= 0.0				(1'- 3') FILL; brown, gray RCA.	
				PID= 0.0				(3'- 5') WIDELY GRADED SAND WITH GRAVEL (SW); ~65% sand, fine to coarse, ~30% gravel, fine, ~5% fines; brown, no odor, NVS.	
5		S-1	60/44	PID= 0.0				S-1 (5'- 9.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, ~5% fines; light brown, no odor, NVS.	
	15			PID= 0.0					
				PID= 809					
10		S-2	60/44	PID= 1721			PLO	(9.5'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, ~5% fines; strong petroleum-like odor, wet, gray, stained.	
	10			PID= 1885			PLO	S-2 (10'- 12.2') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; strong petroleum-like odor, wet, gray, stained.	
				PID= 149				(12.2'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; slight petroleum-like odor, wet, light brown, NVS.	
				PID= 203					
				PID= 183			PLO		
				PID= 29					
				PID= 34.5					
15		S-3	60/53	PID= 0.4				S-3 (15'- 16.9') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; wet, light brown, no odor, NVS.	
	5			PID= 0.9				(16.9'- 18.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, ~5% fines; wet, light brown, no odor, NVS.	
				PID= 0.3				(18.5'- 20') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; wet, light brown, no odor, NVS.	
				PID= 0.2					
				PID= 0.4					
				PID= 0.3					
				PID= 0.3					
				PID= 0.2					
20		S-4	60/40	PID= 0.3				S-4 (20'- 25') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5%	

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 CLO = CHEMICAL LIKE ODOR  
 ALO = ASPHALT LIKE ODOR

CrLO= CREOSOTE LIKE ODOR  
 OLO = ORGANIC LIKE ODOR  
 SLO = SULFUR LIKE ODOR  
 MLO = MUSTY LIKE ODOR  
 SeLO= SEWAGE LIKE ODOR

NA = NOT APPLICABLE Q<sub>p</sub> = POCKET PENETROMETER IN TSF  
 NM = NOT MEASURED S<sub>v</sub> = TORVANE PEAK IN TSF



GEI Consultants, Inc.  
455 Winding Brook Road  
Glastonbury, CT 06033  
(860) 368-5300

CLIENT: National Grid  
PROJECT: Bay Shore Former MGP Site  
CITY/STATE: Bay Shore, New York  
GEI PROJECT NUMBER: 093180

BORING LOG  
PAGE 2 of 3  
ETSB-08

ENVIRONMENTAL BORING LOG OU-1 GINT.DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT -12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
0				PID= 0.3 PID= 0.3 PID= 0.3 PID= 0.3 PID= 0.2				fines; wet, light brown, no odor, NVS.	
25		S-5	60/55	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-5 (25'- 30') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; wet, light brown, no odor, NVS.	
30		S-6	60/56	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-6 (30'- 31.3') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; wet, light brown, no odor, NVS. (31.3'- 35') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; wet, light brown, no odor, NVS.	
35		S-7	60/54	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-7 (35'- 40') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; wet, light brown, no odor, NVS.	
40		S-8	60/45	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0			Env. Sample ID= ETSB-8 (40-44)	S-8 (40'- 43.3') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; wet, light brown, no odor, NVS.  (43.3'- 44') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, ~5% fines; light brown, no odor, NVS. (44'- 45') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; wet, light brown, no odor, NVS.	
45		S-9	60/55	PID= 0.0					

**NOTES:**

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL	IN. = INCHES	NLO = NAPHTHALENE LIKE ODOR	CrLO= CREOSOTE LIKE ODOR
REC = RECOVERY LENGTH OF SAMPLE	FT. = FEET	PLo = PETROLEUM LIKE ODOR	OLO = ORGANIC LIKE ODOR
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION	TSF = TONS PER SQUARE FOOT	TLO = TAR LIKE ODOR	SLO = SULFUR LIKE ODOR
		CLO = CHEMICAL LIKE ODOR	MLO = MUSTY LIKE ODOR
		ALO = ASPHALT LIKE ODOR	SeLO= SEWAGE LIKE ODOR
NA = NOT APPLICABLE	Q <sub>p</sub> = POCKET PENETROMETER IN TSF		
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BORING LOG  
PAGE 3 of 3  
ETSB-08

ENVIRONMENTAL BORING LOG OU-1 GINT DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
-25				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-9 (45'- 50') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; wet, light brown, no odor, NVS.	
50		S-10	60/55	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-10 (50'- 55') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; trace gravel, fine, wet, light brown, no odor, NVS.	
-30				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0					
55		S-11	60/30	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0			Liner jammed, hammered sample out of macro onto table.	S-11 (55'- 60') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; wet, light brown, no odor, NVS.	
-35				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0					
60		S-12	60/55	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-12 (60'- 65') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, reddish band of iron oxide 42"= 45"; no odor, NVS.	
-40				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0					
65		S-13	60/55	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-13 (65'- 69.1') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, light brown, no odor, NVS.	
-45				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0			Env. Sample ID= ETSB-8 (68-70)		
70								(69.1'- 69.3') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, reddish brown, no odor, NVS. End of Boring at 70 feet.	

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PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION	TSF = TONS PER SQUARE FOOT	TLO = TAR LIKE ODOR	SLO = SULFUR LIKE ODOR
		CLO = CHEMICAL LIKE ODOR	MLO = MUSTY LIKE ODOR
		ALO = ASPHALT LIKE ODOR	SeLO= SEWAGE LIKE ODOR
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NM = NOT MEASURED	S <sub>v</sub> = TORVANE PEAK IN TSF		



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BORING LOG  
PAGE 1 of 3  
ETSB-09

GROUND SURFACE ELEVATION (FT): 21.38 LOCATION: Expo Tire  
NORTHING (FT): 203555.8 EASTING (FT): 1190598.8 TOTAL DEPTH (FT): 70.0  
DRILLED BY: Zebra Environmental / L. Reiss DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY Long Island Zone  
LOGGED BY: C. Anastasiou DATE START / END: 8/16/2010 - 8/16/2010  
DRILLING DETAILS:  
WATER LEVEL DEPTHS (FT):  
GENERAL NOTE:

ENVIRONMENTAL BORING LOG OU-1 GINT DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
0			60/60	PID= 0.0				(0'- 1') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; brown, no odor, NVS.	
20				PID= 0.0				(1'- 3') NARROWLY GRADED SAND (SP); ~85% sand, fine to medium, ~10% gravel, fine, ~5% fines; brown, no odor, NVS.	
				PID= 0.0				(3'- 5') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; brown - light brown, no odor, NVS.	
5		S-1	60/34	PID= 0.0				S-1 (5'- 6') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; light brown, no odor, NVS.	
15				PID= 0.0				(6'- 9') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; brown, no odor, NVS.	
				PID= 0.0				(9'- 10') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; moist, light brown, no odor, NVS.	
10		S-2	60/46	PID= 196			PLO	S-2 (10'- 10.6') NARROWLY GRADED SAND (SP); ~85% sand, fine to medium, ~10% gravel, fine, ~5% fines; moderate petroleum-like odor, wet, brown, NVS.	
				PID= 821			PLO	(10.6'- 11.6') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine to coarse, ~5% fines; moderate petroleum-like odor, wet, black, stained.	
				PID= 1283			PLO	(11.6'- 12.2') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; moderate petroleum-like odor, wet, gray, stained.	
				PID= 1370			PLO	(12.2'- 12.9') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; moderate petroleum-like odor, wet, black, stained.	
				PID= 1335				(12.9'- 15') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; moderate petroleum-like odor, wet, gray, stained.	
				PID= 1134				S-3 (15'- 17.2') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; wet, grayish to light brown, no odor, NVS.	
				PID= 655				(17.2'- 20') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; wet, light brown, no odor, NVS.	
				PID= 261				S-4 (20'- 25') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; wet, light brown, no odor,	
15		S-3	60/34	PID= 0.3					
				PID= 0.5					
				PID= 0.3					
				PID= 0.3					
				PID= 0.1					
				PID= 0.1					
20		S-4	60/32	PID= 0.0					

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 REC = RECOVERY LENGTH OF SAMPLE FT. = FEET  
 PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION TSF = TONS PER SQUARE FOOT

NA = NOT APPLICABLE Q<sub>p</sub> = POCKET PENETROMETER IN TSF  
 NM = NOT MEASURED S<sub>v</sub> = TORVANE PEAK IN TSF

NLO = NAPHTHALENE LIKE ODOR CrLO = CREOSOTE LIKE ODOR  
 PLO = PETROLEUM LIKE ODOR OLO = ORGANIC LIKE ODOR  
 TLO = TAR LIKE ODOR SLO = SULFUR LIKE ODOR  
 CLO = CHEMICAL LIKE ODOR MLO = MUSTY LIKE ODOR  
 ALO = ASPHALT LIKE ODOR SeLO = SEWAGE LIKE ODOR



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BORING LOG  
PAGE 2 of 3  
ETSB-09

ENVIRONMENTAL BORING LOG OU-1 GINT.DATABASE 2010.10.27.GPJ ATLANTIC GEI.DAT TEMPLATE.GDT 12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
0				PID= 0.0 PID= 0.0 PID= 1.4 PID= 1.4			Env. Sample ID= ETSB-9 (21.5-22.5)	NVS.	
25		S-5	60/32	PID= 1.0 PID= 1.0 PID= 0.5 PID= 0.3 PID= 1.2				S-5 (25'- 30') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; wet, light brown, no odor, NVS.	
30		S-6	60/30	PID= 10.5 PID= 5.5 PID= 3.5 PID= 7.8		PLO	Env. Sample ID= ETSB-9 (30-32)	S-6 (30'- 30.8') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; slight petroleum-like odor, wet, light brown, odor could be a result of groundwater from above sample, NVS. (30.8'- 35') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; slight naphthalene-like odor, wet, light brown, NVS.	
35		S-7	60/20	PID= 0.0 PID= 0.0 PID= 0.0		NLO		S-7 (35'- 40') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; wet, light brown, red-brown oxidation bands at 9", 11", 14", and 15"; no odor, NVS.	
40		S-8	60/32	PID= 0.8 PID= 0.5 PID= 0.3 PID= 0.1 PID= 0.1				S-8 (40'- 45') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; wet, light brown, red-brown oxidation bands at 9", 13", 18", and 26"; no odor, NVS.	
45		S-9	60/40	PID= 0.0 PID= 0.0				S-9 (45'- 50') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; wet, light brown, few iron	

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PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION	TSF = TONS PER SQUARE FOOT	TLO = TAR LIKE ODOR	SLO = SULFUR LIKE ODOR
		CLO = CHEMICAL LIKE ODOR	MLO = MUSTY LIKE ODOR
		ALO = ASPHALT LIKE ODOR	SeLO= SEWAGE LIKE ODOR
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BORING LOG  
PAGE 3 of 3  
ETSB-09

ENVIRONMENTAL BORING LOG OU-1 GINT.DATABASE 2010.10.27.GPJ ATLANTIC GEI.DAT.A TEMPLATE.GDT 12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
-25				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				oxidation bands throughout; no odor, NVS.	
50		S-10	60/37	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-10 (50'- 55') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; wet, light brown, no odor, NVS.	
-30				PID= 0.0 PID= 0.0 PID= 0.0					
55		S-11	60/30	PID= 0.0 PID= 0.0 PID= 0.0				S-11 (55'- 60') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, no odor, NVS.	
-35				PID= 0.0 PID= 0.0 PID= 0.0					
60		S-12	60/41	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-12 (60'- 65') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, light brown, no odor, NVS.	
-40				PID= 0.0 PID= 0.0 PID= 0.0					
65		S-13	60/30	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0			Refusal: liner jammed into macro and crushed ~10" of liner.	S-13 (65'- 65.8') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, light reddish brown, no odor, NVS. (65.8'- 70') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, light brown, few iron oxidation bands throughout; no odor, NVS.	
-45									
70								End of Boring at 70 feet.	

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PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION	TSF = TONS PER SQUARE FOOT	TLO = TAR LIKE ODOR	SLO = SULFUR LIKE ODOR
		CLO = CHEMICAL LIKE ODOR	MLO = MUSTY LIKE ODOR
		ALO = ASPHALT LIKE ODOR	SeLO= SEWAGE LIKE ODOR
NA = NOT APPLICABLE	Q <sub>p</sub> = POCKET PENETROMETER IN TSF		
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BORING LOG  
PAGE 1 of 4  
ETSB-10

GROUND SURFACE ELEVATION (FT): 22.25 LOCATION: Expo Tire  
NORTHING (FT): 203493.8 EASTING (FT): 1190402.6 TOTAL DEPTH (FT): 75.0  
DRILLED BY: Zebra Environmental / L. Reiss DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY Long Island Zone  
LOGGED BY: C. Anastasiou DATE START / END: 8/17/2010 - 8/17/2010  
DRILLING DETAILS:  
WATER LEVEL DEPTHS (FT):  
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
0			60/NM					(0' - 5').	
5		S-1	60/35	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-1 (5'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; light brown - brown, no odor, NVS.	
10		S-2	60/29	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0		NLO	Env. Sample ID= ETSB-10 (10-12.5)	S-2 (10'- 11') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, ~5% fines; moderate naphthalene-like odor, wet, brown, NVS. (11'- 12.1') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; light gray. (12.1'- 12.8') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; moderate naphthalene-like odor, wet, black, stained. (12.8'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; slight naphthalene-like odor, wet, light brown, NVS.	
15		S-3	60/56	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0		NLO	Env. Sample ID= ETSB-10 (16-19)	S-3 (15'- 15.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; wet, brown, no odor, NVS. (15.5'- 18.9') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; moderate naphthalene-like odor, wet, gray.	
20		S-4	60/27	PID= 0.0		NLO		(18.9'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; moderate naphthalene-like odor, wet, dark gray - black, stained.	

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 NA = NOT APPLICABLE Q<sub>p</sub> = POCKET PENETROMETER IN TSF  
 NM = NOT MEASURED S<sub>v</sub> = TORVANE PEAK IN TSF  
 NLO = NAPHTHALENE LIKE ODOR CrLO= CREOSOTE LIKE ODOR  
 PLO = PETROLEUM LIKE ODOR OLO = ORGANIC LIKE ODOR  
 TLO = TAR LIKE ODOR SLO = SULFUR LIKE ODOR  
 CLO = CHEMICAL LIKE ODOR MLO = MUSTY LIKE ODOR  
 ALO = ASPHALT LIKE ODOR SeLO= SEWAGE LIKE ODOR

ENVIRONMENTAL BORING LOG OU-1 GINT DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT - 12/29/10



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BORING LOG  
PAGE 2 of 4  
ETSB-10

ENVIRONMENTAL BORING LOG OU-1 GINT.DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
0				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-4 (20'- 21.1') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; moderate naphthalene-like odor, wet, dark gray - black, stained.	
25		S-5	60/41	PID= 0.0				(21.1'- 25') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; moderate naphthalene-like odor, wet, light brown, NVS.	
-5				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-5 (25'- 30') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; moderate naphthalene-like odor, wet, light brown, NVS.	
30		S-6	60/36	PID= 0.0				S-6 (30'- 35') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; slight naphthalene-like odor, wet, light brown, NVS.	
-10				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-6 (30'- 35') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; slight naphthalene-like odor, wet, light brown, NVS.	
35		S-7	60/36	PID= 0.0			Env. Sample ID= ETSB-10 (35-38)	S-7 (35'- 40') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; slight naphthalene-like odor, wet, light brown, NVS.	
-15				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-7 (35'- 40') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; slight naphthalene-like odor, wet, light brown, NVS.	
40		S-8	60/38	PID= 0.0				S-8 (40'- 45') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; slight naphthalene-like odor, wet, light brown, NVS.	
-20				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-8 (40'- 45') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; slight naphthalene-like odor, wet, light brown, NVS.	
45		S-9	60/30	PID= 0.0				S-9 (45'- 50') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; slight naphthalene-like odor,	
								S-9 (45'- 50') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; slight naphthalene-like odor,	

**NOTES:**

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REC = RECOVERY LENGTH OF SAMPLE	FT. = FEET	PLO = PETROLEUM LIKE ODOR	OLO = ORGANIC LIKE ODOR
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION	TSF = TONS PER SQUARE FOOT	TLO = TAR LIKE ODOR	SLO = SULFUR LIKE ODOR
		CLO = CHEMICAL LIKE ODOR	MLO = MUSTY LIKE ODOR
		ALO = ASPHALT LIKE ODOR	SeLO= SEWAGE LIKE ODOR
NA = NOT APPLICABLE	Q <sub>p</sub> = POCKET PENETROMETER IN TSF		
NM = NOT MEASURED	S <sub>v</sub> = TORVANE PEAK IN TSF		



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GEI PROJECT NUMBER: 093180

BORING LOG  
PAGE 3 of 4  
ETSB-10

ENVIRONMENTAL BORING LOG OU-1 GINT DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
-25				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0			NLO	wet, light brown, NVS.	
50		S-10	60/33	PID= 0.0 PID= 0.0 PID= 0.0			NLO	S-10 (50'- 50.9') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; slight naphthalene-like odor, wet, light brown, NVS. (50.9'- 55') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, NVS.	
55		S-11	60/32	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-11 (55'- 60') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; light brown, iron oxidation bands throughout; no odor, NVS.	
60		S-12	60/24	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0			Liner stuck. Zebra fixes.	S-12 (60'- 65') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, light brown, no odor, NVS.	
65		S-13	60/25	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-13 (65'- 66.4') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, brown, brown/black bands (mineral) throughout; no odor, NVS. (66.4'- 70') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, reddish brown, color from iron oxides; no odor, NVS.	
70		S-14	60/28	PID= 0.0			Liner jammed into macro.	S-14 (70'- 70.9') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; moist, light brown, no odor, NVS.	

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PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION	TSF = TONS PER SQUARE FOOT	TLO = TAR LIKE ODOR	SLO = SULFUR LIKE ODOR
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BORING LOG  
 PAGE 4 of 4  
 ETSB-10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
-50				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				(70.9'- 71.6') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; moist, reddish brown, no odor, NVS. (71.6'- 74.3') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; moist, light brown, no odor, NVS.	
	75							(74.3'- 75') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; wet, gray - black, top of Magothy; no odor, NVS. End of Boring at 75 feet.	

ENVIRONMENTAL BORING LOG OU-1 GINT DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 12/29/10

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- REC = RECOVERY LENGTH OF SAMPLE
- PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION
- NA = NOT APPLICABLE
- NM = NOT MEASURED
- IN. = INCHES
- FT. = FEET
- TSF = TONS PER SQUARE FOOT
- Q<sub>p</sub> = POCKET PENETROMETER IN TSF
- S<sub>v</sub> = TORVANE PEAK IN TSF
- NLO = NAPHTHALENE LIKE ODOR
- PLO = PETROLEUM LIKE ODOR
- TLO = TAR LIKE ODOR
- CLO = CHEMICAL LIKE ODOR
- ALO = ASPHALT LIKE ODOR
- CrLO= CREOSOTE LIKE ODOR
- OLO = ORGANIC LIKE ODOR
- SLO = SULFUR LIKE ODOR
- MLO = MUSTY LIKE ODOR
- SeLO= SEWAGE LIKE ODOR



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BORING LOG  
PAGE 1 of 4  
ETSB-11

GROUND SURFACE ELEVATION (FT): 22.25 LOCATION: Expo Tire  
NORTHING (FT): 203522.3 EASTING (FT): 1190418.1 TOTAL DEPTH (FT): 73.0  
DRILLED BY: Zebra Environmental / L. Reiss DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY Long Island Zone  
LOGGED BY: C. Anastasiou DATE START / END: 8/23/2010 - 8/23/2010  
DRILLING DETAILS:  
WATER LEVEL DEPTHS (FT):  
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
0			60/60	PID= 0.0 PID= 0.0				(0'- 1') FILL; ~60% fill, fine to coarse, brown, RCA, stone 0.25"-0.5"; no odor, NVS.  (1'- 3') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~35% gravel, fine to coarse, ~5% fines; brown, no odor, NVS.  (3'- 5') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, ~5% fines; light brown, no odor, NVS.	
5			60/42	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-1 (5'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, ~5% fines; light brown, wet at bottom of sample; no odor, NVS.	
10			60/43	PID= 18.3 PID= 12.3 PID= 15.6 PID= 14.4 PID= 17.2 PID= 18.9 PID= 17.6 PID= 15.3		NLO	Env. Sample ID= ETSB-11 (10-13.5)	S-2 (10'- 10.5') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; wet, light brown, no odor, NVS. (10.5'- 12.4') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; moderate naphthalene-like odor, wet, light brown - gray, slight gray staining, no product. (12.4'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; moderate naphthalene-like odor, wet, gray stained.	
15			60/36	PID= 11.2 PID= 12.3 PID= 12.5 PID= 13.8 PID= 13.6		NLO	Env. Sample ID= ETSB-11 (15-18)	S-3 (15'- 20') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; moderate naphthalene-like odor, wet, gray stained.	

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 REC = RECOVERY LENGTH OF SAMPLE FT. = FEET  
 PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION TSF = TONS PER SQUARE FOOT

NA = NOT APPLICABLE Q<sub>p</sub> = POCKET PENETROMETER IN TSF  
 NM = NOT MEASURED S<sub>v</sub> = TORVANE PEAK IN TSF

NLO = NAPHTHALENE LIKE ODOR CrLO= CREOSOTE LIKE ODOR  
 PLO = PETROLEUM LIKE ODOR OLO = ORGANIC LIKE ODOR  
 TLO = TAR LIKE ODOR SLO = SULFUR LIKE ODOR  
 CLO = CHEMICAL LIKE ODOR MLO = MUSTY LIKE ODOR  
 ALO = ASPHALT LIKE ODOR SeLO= SEWAGE LIKE ODOR

ENVIRONMENTAL BORING LOG OU-1 GINT DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 12/29/10



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BORING LOG  
PAGE 2 of 4  
ETSB-11

ENVIRONMENTAL BORING LOG OU-1 GINT DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION		
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA							
20		60/52		PID= 8.2	[Pattern]	[Green]	Env. Sample ID= ETSB-11 (20-24)	S-4 (20'- 21.3') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; moderate naphthalene-like odor, wet, gray stained.			
	PID= 12.2			NLO							
	PID= 13.4			NLO							
	PID= 22.8			NLO							
	PID= 23.5			NLO							
	PID= 19			NLO							
		60/54		PID= 17.3	[Pattern]			S-5 (25'- 28.7') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; moderate naphthalene-like odor, wet, light brown, NVS.			
	PID= 18.2			NLO							
25				PID= 11.3					[Pattern]		NLO
	PID= 8.3			NLO							
	PID= 11.2			NLO							
	PID= 6.8			NLO							
	PID= 4.1	NLO									
	PID= 7.6	NLO									
		60/52		PID= 10.2	[Pattern]			S-6 (30'- 35') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, ~5% fines; moderate naphthalene-like odor, wet, light brown, NVS.			
	PID= 16.5			NLO							
	PID= 22.3			NLO							
30				PID= 3.6					[Pattern]		NLO
	PID= 2.3			NLO							
	PID= 2.4			NLO							
	PID= 2.8	NLO									
	PID= 0.9	NLO									
	PID= 1.4	NLO									
		60/52		PID= 2.2	[Pattern]			S-7 (35'- 40') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; moderate naphthalene-like odor, wet, light brown, NVS.			
	PID= 2.8			NLO							
	PID= 2.0			NLO							
	PID= 3.6			NLO							
	PID= 2.6			NLO							
	PID= 2.5			NLO							
		60/52		PID= 2.8	[Pattern]			S-8 (40'- 45') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; slight naphthalene-like odor, wet, light brown, NVS.			
	PID= 4.2			NLO							
	PID= 6.8			NLO							
	PID= 1.1			NLO							
	PID= 1.1			NLO							
	PID= 1.6			NLO							
		60/52		PID= 0.2	[Pattern]						
	PID= 0.6			NLO							
	PID= 0.5			NLO							
	PID= 0.9			NLO							
	PID= 0.5			NLO							
	PID= 0.9			NLO							

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		ALO = ASPHALT LIKE ODOR	SeLO= SEWAGE LIKE ODOR
NA = NOT APPLICABLE	Qp = POCKET PENETROMETER IN TSF		
NM = NOT MEASURED	Sv = TORVANE PEAK IN TSF		



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BORING LOG  
PAGE 3 of 4  
ETSB-11

ENVIRONMENTAL BORING LOG OU-1 GINT DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
	45		60/41	PID= 0.8 PID= 0.8 PID= 1.0 PID= 1.2 PID= 1.5 PID= 1. PID= 1.3 PID= 1.1			NLO	S-9 (45'- 50') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; slight naphthalene-like odor, wet, light brown, NVS.	
	-25						NLO		
	50		60/55	PID= 1.8 PID= 1.2 PID= 1.2 PID= 1.1 PID= 1.2 PID= 1.5 PID= 1.8 PID= 1.3			NLO	S-10 (50'- 55') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; slight naphthalene-like odor, wet, light brown, NVS.	
	-30								
	55		60/55	PID= NM				S-11 (55'- 60') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; light brown, no odor, NVS.	
	-35								
	60		60/40	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-12 (60'- 65') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, light brown, no odor, NVS.	
	-40								
	65		60/NM	PID= NM				S-13 (65'- 70') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, light brown, compact; no odor, NVS.	
	-45						Liner and sample stuck in macro; Zebra drilled out soil into a bucket for description.		

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BORING LOG  
PAGE 4 of 4  
ETSB-11

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
	70		36/18	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-14 (70'- 73') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, light brown, no odor, NVS.	
-50									

End of Boring at 73 feet.

ENVIRONMENTAL BORING LOG OU-1 GINT DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 12/29/10

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NA = NOT APPLICABLE	Q <sub>p</sub> = POCKET PENETROMETER IN TSF	CLO = CHEMICAL LIKE ODOR	MLO = MUSTY LIKE ODOR
NM = NOT MEASURED	S <sub>v</sub> = TORVANE PEAK IN TSF	ALO = ASPHALT LIKE ODOR	SeLO= SEWAGE LIKE ODOR



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BORING LOG  
PAGE 1 of 4  
ETSB-12

GROUND SURFACE ELEVATION (FT): 21.86 LOCATION: Expo Tire  
NORTHING (FT): 203521.6 EASTING (FT): 1190458.8 TOTAL DEPTH (FT): 75.0  
DRILLED BY: Zebra Environmental / L. Reiss DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY Long Island Zone  
LOGGED BY: C. Anastasiou DATE START / END: 8/3/2010 - 8/4/2010  
DRILLING DETAILS:  
WATER LEVEL DEPTHS (FT):  
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
0			60/60	PID= 0.0				(0'- 1') FILL; RCA, stone, 0.25"- 0.5".	
20				PID= 0.0				(1'- 3') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~35% gravel, fine to coarse, ~5% fines; brown, no odor observed, NVS.	
				PID= 0.0				(3'- 5') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, ~5% fines; light brown, no odor observed, NVS.	
5		S-1	60/45	PID= 0.0				S-1 (5'- 6.1') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; no odor observed, NVS.	
15								(6.1'- 10') NARROWLY GRADED SAND (SP); fine to coarse, ~90% sand, fine to medium, ~5% fines; moist to wet, light brown, no odor observed, NVS, moisture changes at 8'. Env. Sample ID= ETSB-12 (8-10)	
10		S-2	60/31	PID= 0.0				S-2 (10'- 10.6') NARROWLY GRADED SAND (SP); fine to coarse, ~90% sand, fine to medium, ~5% fines; wet, light brown, no odor observed, NVS.	
10				PID= 0.8			NLO	(10.6'- 15') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% gravel, fine to coarse; moderate naphthalene-like odor, light brown, light odor at top, increasing to moderate odor at bottom, slightly darker color in bottom 6".	
15		S-3	60/8	PID= 1.1				S-3 (15'- 20') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse; moderate naphthalene-like odor, wet, light gray, loose, slightly stained. Env. Sample ID= ETSB-12 (15-16)	
5				PID= 1.0			NLO		
20		S-4	60/26	PID= 0.8				S-4 (20'- 20.8') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine to coarse; moderate naphthalene-like	

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 NLO = NAPHTHALENE LIKE ODOR CrLo = CREOSOTE LIKE ODOR  
 PLO = PETROLEUM LIKE ODOR OLO = ORGANIC LIKE ODOR  
 TLO = TAR LIKE ODOR SLO = SULFUR LIKE ODOR  
 CLO = CHEMICAL LIKE ODOR MLO = MUSTY LIKE ODOR  
 ALO = ASPHALT LIKE ODOR SeLo = SEWAGE LIKE ODOR

ENVIRONMENTAL BORING LOG OU-1 GINT.DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT - 12/29/10



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BORING LOG  
PAGE 2 of 4  
ETSB-12

ENVIRONMENTAL BORING LOG OU-1 GINT.DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
0				PID= 0.4 PID= 0.3 PID= 0.0				odor, wet, light gray, loose, slightly stained. (20.8'- 22.3') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine to coarse; moderate naphthalene-like odor, wet, light brown, NVS. (22.3'- 25') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, ~5% fines; slight naphthalene-like odor, wet, light brown, NVS.	
25		S-5	60/28	PID= 0.0				S-5 (25'- 28.5') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; wet, light brown, no odor, NVS.	
-5				PID= 0.0				(28.5'- 30') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; wet, light brown, no odor, NVS.	
30		S-6	60/10	PID= 0.0				S-6 (30'- 35') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, no odor, NVS.	
-10				PID= 0.0				S-7 (35'- 36.5') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, no odor, NVS.	
35		S-7	60/36	PID= 0.0				(36.5'- 40') NARROWLY GRADED SAND (SP); ~90% sand, fine, ~5% gravel, ~5% fines; wet, brown, no odor, NVS.	
-15				PID= 0.0				S-8 (40'- 45') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, ~5% fines; wet, light brown, few dark bands 4"- 6", no odor, NVS.	
40		S-8	60/31	PID= 0.0				S-9 (45'- 50') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; wet, light brown - brown, no odor, NVS.	
-20				PID= 0.0					
45		S-9	60/24	PID= 0.0					

**NOTES:**

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL	IN. = INCHES	NLO = NAPHTHALENE LIKE ODOR	CrLO= CREOSOTE LIKE ODOR
REC = RECOVERY LENGTH OF SAMPLE	FT. = FEET	PLO = PETROLEUM LIKE ODOR	OLO = ORGANIC LIKE ODOR
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION	TSF = TONS PER SQUARE FOOT	TLO = TAR LIKE ODOR	SLO = SULFUR LIKE ODOR
		CLO = CHEMICAL LIKE ODOR	MLO = MUSTY LIKE ODOR
		ALO = ASPHALT LIKE ODOR	SeLO= SEWAGE LIKE ODOR
NA = NOT APPLICABLE	Q <sub>p</sub> = POCKET PENETROMETER IN TSF		
NM = NOT MEASURED	S <sub>v</sub> = TORVANE PEAK IN TSF		



GEI Consultants, Inc.  
455 Winding Brook Road  
Glastonbury, CT 06033  
(860) 368-5300

CLIENT: National Grid  
PROJECT: Bay Shore Former MGP Site  
CITY/STATE: Bay Shore, New York  
GEI PROJECT NUMBER: 093180

BORING LOG  
PAGE 3 of 4  
ETSB-12

ENVIRONMENTAL BORING LOG OU-1 GINT.DATABASE 2010.10.27.GPJ ATLANTIC GEI.DAT TEMPLATE.GDT 12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
-25									
	50	S-10	60/22					S-10 (50'- 55') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, ~5% fines; wet, light brown, no odor, NVS.	
	55	S-11	60/22	PID= 0.0				S-11 (55'- 57.3') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; wet, light brown, no odor, NVS.	
				PID= 0.1				(57.3'- 60') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, tan - brown, no odor, NVS.	
	60	S-12	60/24	PID= 0.0				S-12 (60'- 65') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; light brown - tan, no odor, NVS, darker brown striations 6"- 12".	
				PID= 0.0					
	65	S-13	60/12	PID= 0.0			Env. Sample ID= ETSB-12 (65-67); sample cancelled (65'- 70') Liner jammed, sample dumped onto table.	S-13 (65'- 70') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; light brown, no odor, NVS.	
	70	S-14	60/33	PID= 0.0				S-14 (70'- 72.1') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; light brown, no odor, NVS.	

**NOTES:**

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL  
 REC = RECOVERY LENGTH OF SAMPLE  
 PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION  
 NA = NOT APPLICABLE  
 NM = NOT MEASURED  
 Q<sub>p</sub> = POCKET PENETROMETER IN TSF  
 S<sub>v</sub> = TORVANE PEAK IN TSF  
 IN. = INCHES  
 FT. = FEET  
 TSF = TONS PER SQUARE FOOT  
 NLO = NAPHTHALENE LIKE ODOR  
 PLO = PETROLEUM LIKE ODOR  
 TLO = TAR LIKE ODOR  
 CLO = CHEMICAL LIKE ODOR  
 ALO = ASPHALT LIKE ODOR  
 CrLo= CREOSOTE LIKE ODOR  
 OLO = ORGANIC LIKE ODOR  
 SLO = SULFUR LIKE ODOR  
 MLO = MUSTY LIKE ODOR  
 SeLo= SEWAGE LIKE ODOR



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BORING LOG  
PAGE 4 of 4  
ETSB-12

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
-50				PID= 0.0	[Dotted pattern]			(72.1'- 74.2') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; gray, no odor, NVS.	
	75			PID= 0.0 PID= 0.0	[Hatched pattern]			(74.2'- 74.5') SILT WITH SAND (ML); ~75% fines, ~25% sand; dark gray. (74.5'- 75') SILTY CLAY (CL-ML); ~100% fines; dark gray, no odor, NVS. End of Boring at 75 feet.	

ENVIRONMENTAL BORING LOG OU-1 GINT DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 12/29/10

**NOTES:**

- |   |                                 |                             |                          |
|---|---------------------------------|-----------------------------|--------------------------|
| PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL                          | IN. = INCHES                    | NLO = NAPHTHALENE LIKE ODOR | CrLO= CREOSOTE LIKE ODOR |
| REC = RECOVERY LENGTH OF SAMPLE   | FT. = FEET                      | PLo = PETROLEUM LIKE ODOR   | OLO = ORGANIC LIKE ODOR  |
| PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION | TSF = TONS PER SQUARE FOOT      | TLO = TAR LIKE ODOR         | SLO = SULFUR LIKE ODOR   |
|   |                                 | CLO = CHEMICAL LIKE ODOR    | MLO = MUSTY LIKE ODOR    |
|   |                                 | ALO = ASPHALT LIKE ODOR     | SeLO= SEWAGE LIKE ODOR   |
| NA = NOT APPLICABLE   | Qp = POCKET PENETROMETER IN TSF |                             |                          |
| NM = NOT MEASURED   | Sv = TORVANE PEAK IN TSF        |                             |                          |



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BORING LOG  
PAGE 1 of 3  
ETSB-13

GROUND SURFACE ELEVATION (FT): 21.60 LOCATION: Expo Tire  
NORTHING (FT): 203561.7 EASTING (FT): 1190498.7 TOTAL DEPTH (FT): 70.0  
DRILLED BY: Zebra Environmental / L. Reiss DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY Long Island Zone  
LOGGED BY: C. Anastasiou DATE START / END: 8/4/2010 - 8/4/2010  
DRILLING DETAILS:  
WATER LEVEL DEPTHS (FT):  
GENERAL NOTE:

ENVIRONMENTAL BORING LOG OU-1 GINT.DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA			
0			60/60	PID= 0.0			(0'- 1') FILL; RCA, stone.
20				PID= 0.0			(1'- 3') NARROWLY GRADED SAND WITH SILT AND GRAVEL (SP-SM); ~60% sand, fine, ~30% gravel, fine to coarse, ~10% fines; brown, no odor, NVS.
				PID= 0.0			(3'- 5') NARROWLY GRADED SAND WITH GRAVEL (SP); ~70% sand, ~25% gravel, fine to coarse, ~5% fines; light brown, no odor, NVS.
5		S-1	60/47	PID= 0.0			S-1 (5'- 5.7') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; dark brown - black, no odor, NVS.
15				PID= 0.0			(5.7'- 7.7') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; light brown, no odor, NVS.
				PID= 0.0			(7.7'- 9.6') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, ~15% gravel, fine to coarse; light brown, no odor, NVS.
10		S-2	60/32	PID= 0.0			(9.6'- 9.7') SILT (ML); ~80% fines, ~15% sand, ~5% gravel; light gray, no odor, NVS.
10				PID= 0.0		Env. Sample ID= ETSB-13 (10-12)	(9.7'- 10') NARROWLY GRADED SAND (SP); ~85% sand, fine to medium, ~10% gravel, ~5% fines; light brown, no odor, NVS.
				PID= 0.0			S-2 (10'- 12.2') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, ~5% fines; wet, light brown, no odor, NVS.
				PID= 0.0			(12.2'- 12.7') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; wet, reddish brown, no odor, NVS.
				PID= 0.0			(12.7'- 13.8') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, ~5% fines; wet, light brown, no odor, NVS.
15		S-3	60/32	PID= 0.0			(13.8'- 15') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; wet, light brown, no odor, NVS.
5				PID= 0.0		Env. Sample ID= ETSB-13 (?-?)	S-3 (15'- 19.1') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, ~5% fines; wet, light gray to light brown, color change at 15", no odor, NVS.
				PID= 0.0			(19.1'- 20') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, ~5% fines; wet, brown, no odor, NVS.
20		S-4	60/40	PID= 0.0			S-4 (20'- 25') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; wet, light brown to gray,

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PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION	TSF = TONS PER SQUARE FOOT	TLO = TAR LIKE ODOR	SLO = SULFUR LIKE ODOR
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BORING LOG  
PAGE 2 of 3  
ETSB-13

ENVIRONMENTAL BORING LOG OU-1 GINT.DATABASE 2010.10.27.GPJ ATLANTIC GEI.DAT.A TEMPLATE.GDT 12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA			
0							no odor, NVS.
25		S-5	60/30	PID= 0.0			S-5 (25'- 30') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, ~5% fines; wet, light brown, no odor, NVS.
30		S-6	60/37	PID= 0.0			S-6 (30'- 31.2') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, ~5% fines; wet, light brown, no odor, NVS.
31.2				PID= 0.0			(31.2'- 31.9') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; wet, light brown, no odor, NVS.
31.9				PID= 0.0			(31.9'- 35') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, ~5% fines; wet, light brown, no odor, NVS.
35		S-7	60/36	PID= 0.0			S-7 (35'- 39.2') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine to medium, ~5% fines; wet, light brown, no odor, NVS.
39.2				PID= 0.0			(39.2'- 39.3') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, dark brown, no odor, NVS.
39.3		S-8	60/35	PID= 0.0		Env. Sample ID= ETSB-13 (40-45)	(39.3'- 40') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine to medium, ~5% fines; wet, light brown, no odor, NVS.
40							S-8 (40'- 45') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine to coarse, ~5% fines; wet, light brown, few striations throughout sample, no odor, NVS.
45		S-9	60/36	PID= 0.0			S-9 (45'- 50') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, ~5% fines; wet, light brown, dark brown iron oxide

**NOTES:**

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REC = RECOVERY LENGTH OF SAMPLE	FT. = FEET	PLo = PETROLEUM LIKE ODOR	OLO = ORGANIC LIKE ODOR
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION	TSF = TONS PER SQUARE FOOT	TLO = TAR LIKE ODOR	SLO = SULFUR LIKE ODOR
		CLO = CHEMICAL LIKE ODOR	MLO = MUSTY LIKE ODOR
		ALO = ASPHALT LIKE ODOR	SeLO= SEWAGE LIKE ODOR
NA = NOT APPLICABLE	Q <sub>p</sub> = POCKET PENETROMETER IN TSF		
NM = NOT MEASURED	S <sub>v</sub> = TORVANE PEAK IN TSF		



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BORING LOG  
PAGE 3 of 3  
ETSB-13

ENVIRONMENTAL BORING LOG OU-1 GINT DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA			
-25				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0			band at 6"; no odor, NVS.
50		S-10	60/30	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0			S-10 (50'- 55') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, no odor, NVS.
-30				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0			
55		S-11	60/26	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0			S-11 (55'- 60') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, no odor, NVS.
-35				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0			
60		S-12	60/33	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0			S-12 (60'- 65') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, light brown - grayish, no odor, NVS.
-40				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0			
65		S-13	60/30	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0	Liner jammed in casing.		S-13 (65'- 67.3') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, light gray, no odor, NVS.
-45				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0			(67.3'- 68.7') SILT (ML); ~95% fines, ~5% sand, fine; black, no odor, NVS.
				PID= 0.0			(68.7'- 70') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, light gray - dark gray, no odor, NVS.
70							End of Boring at 70 feet.

**NOTES:**

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REC = RECOVERY LENGTH OF SAMPLE	FT. = FEET	PLO = PETROLEUM LIKE ODOR	OLO = ORGANIC LIKE ODOR
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION	TSF = TONS PER SQUARE FOOT	TLO = TAR LIKE ODOR	SLO = SULFUR LIKE ODOR
		CLO = CHEMICAL LIKE ODOR	MLO = MUSTY LIKE ODOR
		ALO = ASPHALT LIKE ODOR	SeLO= SEWAGE LIKE ODOR
NA = NOT APPLICABLE	Q <sub>p</sub> = POCKET PENETROMETER IN TSF		
NM = NOT MEASURED	S <sub>v</sub> = TORVANE PEAK IN TSF		





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BORING LOG  
PAGE 1 of 4  
ETSB-14

GROUND SURFACE ELEVATION (FT): 21.58 LOCATION: Expo Tire  
NORTHING (FT): 203583.5 EASTING (FT): 1190503.5 TOTAL DEPTH (FT): 75.0  
DRILLED BY: Zebra Environmental / L. Reiss DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY Long Island Zone  
LOGGED BY: C. Anastasiou DATE START / END: 8/6/2010 - 8/6/2010  
DRILLING DETAILS:  
WATER LEVEL DEPTHS (FT):  
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA				
0			60/60	PID= 0.0			(0'- 1') FILL; dark brown - black, RCA, stone 0.25"- 0.5".	
20				PID= 0.0			(1'- 3') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~35% gravel, fine to coarse, ~5% fines; brown, no odor, NVS.	
				PID= 0.0		(3') Hit refusal during first hand clearance attempt; hole moved ~3' east.	(3'- 5') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, ~5% fines; brown, no odor, NVS.	
5		S-1	60/45	PID= 0.0			S-1 (4'- 5') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; light brown, no odor, NVS.	
15				PID= 0.0			(5'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, ~5% fines; wet, light brown, no odor, NVS.	
				PID= 0.0				
				PID= 0.0				
10		S-2	60/46	PID= 0.0			S-2 (10'- 12.2') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to medium, ~5% fines; wet, light brown, no odor, NVS.	
10				PID= 0.0			(12.2'- 12.7') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; wet, orange - brown, no odor, NVS.	
				PID= 0.0		Env. Sample ID= ETSB-14 (13-14)	(12.7'- 15') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; wet, light brown, no odor, NVS.	
				PID= 0.0				
15		S-3	60/32	PID= 0.0			S-3 (15'- 17.7') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; wet, light brown, no odor, NVS.	
5				PID= 0.0				
				PID= 0.0		Env. Sample ID= ETSB-14 (17-18)	(17.7'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; slight naphthalene-like odor, light brown - orange, no odor, NVS.	
				PID= 0.0	NLO			
				PID= 0.0				
20		S-4	60/32	PID= 0.0			S-4 (20'- 25') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; wet, light brown, no odor, NVS.	

**NOTES:**

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL IN. = INCHES  
 REC = RECOVERY LENGTH OF SAMPLE FT. = FEET  
 PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION TSF = TONS PER SQUARE FOOT

NA = NOT APPLICABLE Q<sub>p</sub> = POCKET PENETROMETER IN TSF  
 NM = NOT MEASURED S<sub>v</sub> = TORVANE PEAK IN TSF

NLO = NAPHTHALENE LIKE ODOR  
 PLO = PETROLEUM LIKE ODOR  
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 CLO = CHEMICAL LIKE ODOR  
 ALO = ASPHALT LIKE ODOR

CrLO = CREOSOTE LIKE ODOR  
 OLO = ORGANIC LIKE ODOR  
 SLO = SULFUR LIKE ODOR  
 MLO = MUSTY LIKE ODOR  
 SeLO = SEWAGE LIKE ODOR

ENVIRONMENTAL BORING LOG OU-1 GINT DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 12/29/10



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BORING LOG  
PAGE 2 of 4  
ETSB-14

ENVIRONMENTAL BORING LOG OU-1 GINT.DATABASE 2010.10.27.GPJ ATLANTIC GEI.DAT.A TEMPLATE.GDT -12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA				
0				PID= 0.0				
				PID= 0.0				
				PID= 0.0				
				PID= 0.0				
25		S-5	60/34	PID= 0.0			S-5 (25'- 26.8') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, ~5% fines; wet, light brown, no odor, NVS.	
				PID= 0.0				
-5				PID= 0.0			(26.8'- 30') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, ~5% fines; wet, light brown, no odor, NVS.	
				PID= 0.0				
				PID= 0.0				
30		S-6	60/30	PID= 0.0			S-6 (30'- 35') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine to coarse, ~5% fines; wet, light brown, no odor, NVS.	
				PID= 0.0				
-10				PID= 0.0				
				PID= 0.0				
				PID= 0.0				
35		S-7	60/30	PID= 0.0			S-7 (35'- 40') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine to medium, ~5% fines; wet, light brown, no odor, NVS.	
				PID= 0.0				
-15				PID= 0.0				
				PID= 0.0				
				PID= 0.0				
40		S-8	60/31	PID= 0.0			S-8 (40'- 45') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine to coarse, ~5% fines; wet, light brown, no odor, NVS.	
				PID= 0.0				
-20				PID= 0.0				
				PID= 0.0				
45		S-9	60/19	PID= 0.0			S-9 (45'- 50') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, no odor, NVS.	

**NOTES:**

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL	IN. = INCHES	NLO = NAPHTHALENE LIKE ODOR	CrLO= CREOSOTE LIKE ODOR
REC = RECOVERY LENGTH OF SAMPLE	FT. = FEET	PLO = PETROLEUM LIKE ODOR	OLO = ORGANIC LIKE ODOR
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION	TSF = TONS PER SQUARE FOOT	TLO = TAR LIKE ODOR	SLO = SULFUR LIKE ODOR
		CLO = CHEMICAL LIKE ODOR	MLO = MUSTY LIKE ODOR
		ALO = ASPHALT LIKE ODOR	SeLO= SEWAGE LIKE ODOR
NA = NOT APPLICABLE	Q <sub>p</sub> = POCKET PENETROMETER IN TSF		
NM = NOT MEASURED	S <sub>v</sub> = TORVANE PEAK IN TSF		



GEI Consultants, Inc.  
455 Winding Brook Road  
Glastonbury, CT 06033  
(860) 368-5300

CLIENT: National Grid  
PROJECT: Bay Shore Former MGP Site  
CITY/STATE: Bay Shore, New York  
GEI PROJECT NUMBER: 093180

BORING LOG  
PAGE 3 of 4  
ETSB-14

ENVIRONMENTAL BORING LOG OU-1 GINT DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA				
-25				PID= 0.0				
				PID= 0.0				
50		S-10	60/25	PID= 0.0			S-10 (50'- 55') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, no odor, NVS.	
				PID= 0.0				
-30				PID= 0.0				
				PID= 0.0				
55		S-11	60/22	PID= 0.0			S-11 (55'- 58') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, no odor, NVS.	
				PID= 0.0				
-35				PID= 0.0			(58'- 58.2') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, dark brown, no odor, NVS.	
				PID= 0.0			(58.2'- 60') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, no odor, NVS.	
60		S-12	60/27	PID= 0.0			S-12 (60'- 63.7') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, some iron oxidation red bands at 6"; no odor, NVS.	
				PID= 0.0				
-40				PID= 0.0				
				PID= 0.0				
				PID= 0.0			(63.7'- 65') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, red - orange, no odor, NVS.	
65		S-13	60/30	PID= 0.0			S-13 (65'- 70') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, some orange iron oxide banks throughout, no odor, NVS.	
				PID= 0.0				
-45				PID= 0.0				
				PID= 0.0				
				PID= 0.0				
70		S-14	60/33	PID= 0.0		Env. Sample ID= ETSB-14 (70-71)	S-14 (70'- 71.5') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, light brown, no odor, NVS.	

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PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION	TSF = TONS PER SQUARE FOOT	TLO = TAR LIKE ODOR	SLO = SULFUR LIKE ODOR
		CLO = CHEMICAL LIKE ODOR	MLO = MUSTY LIKE ODOR
		ALO = ASPHALT LIKE ODOR	SeLO= SEWAGE LIKE ODOR
NA = NOT APPLICABLE	Q <sub>p</sub> = POCKET PENETROMETER IN TSF		
NM = NOT MEASURED	S <sub>v</sub> = TORVANE PEAK IN TSF		



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BORING LOG  
 PAGE 4 of 4  
 ETSB-14

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA				
-50				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0			(71.5'- 74.1') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, light gray, no odor, NVS.  (74.1'- 75') SANDY SILT (ML); ~50% sand, ~50% fines; wet, black - dark gray, no odor, NVS. End of Boring at 75 feet.	
	75							

ENVIRONMENTAL BORING LOG OU-1 GINT DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 12/29/10

**NOTES:**

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL	IN. = INCHES	NLO = NAPHTHALENE LIKE ODOR	CrLO= CREOSOTE LIKE ODOR
REC = RECOVERY LENGTH OF SAMPLE	FT. = FEET	PLO = PETROLEUM LIKE ODOR	OLO = ORGANIC LIKE ODOR
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION	TSF = TONS PER SQUARE FOOT	TLO = TAR LIKE ODOR	SLO = SULFUR LIKE ODOR
NA = NOT APPLICABLE	Q <sub>p</sub> = POCKET PENETROMETER IN TSF	CLO = CHEMICAL LIKE ODOR	MLO = MUSTY LIKE ODOR
NM = NOT MEASURED	S <sub>v</sub> = TORVANE PEAK IN TSF	ALO = ASPHALT LIKE ODOR	SeLO= SEWAGE LIKE ODOR



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BORING LOG  
PAGE 1 of 4  
ETSB-15

GROUND SURFACE ELEVATION (FT): 21.23 LOCATION: Expo Tire  
NORTHING (FT): 203588.6 EASTING (FT): 1190540.0 TOTAL DEPTH (FT): 75.0  
DRILLED BY: Zebra Environmental / L. Reiss DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY Long Island Zone  
LOGGED BY: C. Anastasiou DATE START / END: 8/11/2010 - 8/11/2010  
DRILLING DETAILS:  
WATER LEVEL DEPTHS (FT):  
GENERAL NOTE:

ENVIRONMENTAL BORING LOG OU-1 GINT.DATABASE 2010.10.27.GPJ ATLANTIC GEI.DAT.TEMPLATE.GDT 12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION	
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA				
0			60/60	PID= 0.0			(0'- 1') FILL; brown, RCA, stone 0.25"- 0.5".	
20				PID= 0.0			(1'- 3') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, ~5% fines; brown - light brown, no odor, NVS.	
				PID= 0.0			(3'- 5') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, ~5% fines; light brown, no odor, NVS.	
5		S-1	60/45	PID= 0.0	As per DEC, ETSB-15 location moved ~5' west, hand clearing re-done.		S-1 (5'- 7') NARROWLY GRADED SAND (SP); ~85% sand, fine to medium, ~10% gravel, fine to coarse, ~5% fines; light brown, no odor, NVS.	
15				PID= 0.0			(7'- 8.7') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; light brown - orange, no odor, NVS.	
				PID= 0.0			(8.7'- 10') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; moist to wet, light brown, wet at bottom of sample, no odor, NVS.	
10		S-2	60/38	PID= 0.0		Env. Sample ID= ETSB-15 (10-13)		S-2 (10'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; wet, light brown, red band of widely graded gravel 15"- 16"; no odor, NVS.
10				PID= 0.0				
				PID= 0.0				
				PID= 0.0				
15		S-3	60/30	PID= 0.0			S-3 (15'- 20') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; wet, light brown, no odor, NVS.	
5				PID= 0.0				
				PID= 0.0				
				PID= 0.0				
20		S-4	60/35	PID= 0.0			S-4 (20'- 22.6') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; wet, light brown, no odor, NVS.	

**NOTES:**

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 REC = RECOVERY LENGTH OF SAMPLE FT. = FEET  
 PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION TSF = TONS PER SQUARE FOOT  
 NLO = NAPHTHALENE LIKE ODOR  
 PLO = PETROLEUM LIKE ODOR  
 TLO = TAR LIKE ODOR  
 CLO = CHEMICAL LIKE ODOR  
 ALO = ASPHALT LIKE ODOR  
 CrLO = CREOSOTE LIKE ODOR  
 OLO = ORGANIC LIKE ODOR  
 SLO = SULFUR LIKE ODOR  
 MLO = MUSTY LIKE ODOR  
 SeLO = SEWAGE LIKE ODOR  
 NA = NOT APPLICABLE Q<sub>p</sub> = POCKET PENETROMETER IN TSF  
 NM = NOT MEASURED S<sub>v</sub> = TORVANE PEAK IN TSF



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BORING LOG  
PAGE 2 of 4  
ETSB-15

ENVIRONMENTAL BORING LOG OU-1 GINT.DATABASE 2010.10.27.GPJ ATLANTIC GEI.DAT.A TEMPLATE.GDT 12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA			
0				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0		(22.6'- 23.1') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, ~5% fines; wet, light brown, no odor, NVS. (23.1'- 25') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; wet, light brown, no odor, NVS.	
-5	25	S-5	60/33	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0		S-5 (25'- 30') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, ~5% fines; wet, light brown, no odor, NVS.	
-10	30	S-6	60/32	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0		S-6 (30'- 35') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, ~5% fines; wet, light brown, orange iron oxide band 28"- 29"; no odor, NVS.	
-15	35	S-7	60/40	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0		S-7 (35'- 36') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; wet, light brown, no odor, NVS. (36'- 37.3') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; wet, light brown - orange, no odor, NVS. (37.3'- 39.8') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; wet, light brown, no odor, NVS.	
-20	40	S-8	60/36	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0	Env. Sample ID= ETSB-15 (40-43)	(39.8'- 40') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; wet, brown - dark brown, no odor, NVS. S-8 (40'- 45') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; wet, light brown, reddish-brown bands 6"- 7", 16"- 18"; no odor, NVS.	
-45	45	S-9	60/37	PID= 0.0		S-9 (45'- 50') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; wet, light brown, no odor, NVS.	

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PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION	TSF = TONS PER SQUARE FOOT	TLO = TAR LIKE ODOR	SLO = SULFUR LIKE ODOR
		CLO = CHEMICAL LIKE ODOR	MLO = MUSTY LIKE ODOR
		ALO = ASPHALT LIKE ODOR	SeLO= SEWAGE LIKE ODOR
NA = NOT APPLICABLE	Q <sub>p</sub> = POCKET PENETROMETER IN TSF		
NM = NOT MEASURED	S <sub>v</sub> = TORVANE PEAK IN TSF		



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BORING LOG  
PAGE 3 of 4  
ETSB-15

ENVIRONMENTAL BORING LOG OU-1 GINT DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA			
				PID= 0.0			
				PID= 0.0			
				PID= 0.0			
				PID= 0.0			
	50	S-10	60/38	PID= 0.0			S-10 (50'- 50.4') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; wet, light brown, no odor, NVS.
	-30			PID= 0.0			(50.4'- 55') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, no odor, NVS.
				PID= 0.0			
				PID= 0.0			
				PID= 0.0			
	55	S-11	60/30	PID= 0.0			S-11 (55'- 60') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, no odor, NVS.
	-35			PID= 0.0			
				PID= 0.0			
				PID= 0.0			
	60	S-12	60/31	PID= 0.0			S-12 (60'- 65') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, reddish iron deposit bands 7"- 8" and 11"- 13", blackish band 28"- 29", mineral deposit; natural striations; no odor, NVS.
	-40			PID= 0.0			
				PID= 0.0			
				PID= 0.0			
	65	S-13	60/28	PID= 0.0			S-13 (65'- 70') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, light brown, no odor, NVS.
	-45			PID= 0.0			
				PID= 0.0			
				PID= 0.0			
	70	S-14	60/28	PID= 0.0		Env. Sample ID= ETSB-15 (70-72.5)	S-14 (70'- 72.9') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, light brown, no odor, NVS.

**NOTES:**

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REC = RECOVERY LENGTH OF SAMPLE	FT. = FEET	PLO = PETROLEUM LIKE ODOR	OLO = ORGANIC LIKE ODOR
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION	TSF = TONS PER SQUARE FOOT	TLO = TAR LIKE ODOR	SLO = SULFUR LIKE ODOR
		CLO = CHEMICAL LIKE ODOR	MLO = MUSTY LIKE ODOR
		ALO = ASPHALT LIKE ODOR	SeLO= SEWAGE LIKE ODOR
NA = NOT APPLICABLE	Q <sub>p</sub> = POCKET PENETROMETER IN TSF		
NM = NOT MEASURED	S <sub>v</sub> = TORVANE PEAK IN TSF		



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BORING LOG  
PAGE 4 of 4  
ETSB-15

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA			
				PID= 0.0		Liner jammed in macro, Zebra hammered out soil of macro for sample.  (72.9'- 74.3') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, gray, no odor, NVS.  (74.3'- 75') SILTY SAND (SM); ~60% sand, fine, ~40% fines; wet, gray - black, top of Magothy, no odor, NVS.  End of Boring at 75 feet.	
				PID= 0.0			
	75			PID= 0.0			

ENVIRONMENTAL BORING LOG OU-1 GINT DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 12/29/10

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REC = RECOVERY LENGTH OF SAMPLE	FT. = FEET	PLO = PETROLEUM LIKE ODOR	OLO = ORGANIC LIKE ODOR
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION	TSF = TONS PER SQUARE FOOT	TLO = TAR LIKE ODOR	SLO = SULFUR LIKE ODOR
		CLO = CHEMICAL LIKE ODOR	MLO = MUSTY LIKE ODOR
		ALO = ASPHALT LIKE ODOR	SeLO= SEWAGE LIKE ODOR
NA = NOT APPLICABLE	Q <sub>p</sub> = POCKET PENETROMETER IN TSF		
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BORING LOG  
PAGE 1 of 1  
ETSB-16

GROUND SURFACE ELEVATION (FT): \_\_\_\_\_ LOCATION: Expo Tire  
NORTHING (FT): \_\_\_\_\_ EASTING (FT): \_\_\_\_\_ TOTAL DEPTH (FT): 8.0  
DRILLED BY: Zebra Environmental / L. Reiss DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY Long Island Zone  
LOGGED BY: C. Anastasiou DATE START / END: 8/27/2010 - 8/27/2010  
DRILLING DETAILS: \_\_\_\_\_  
WATER LEVEL DEPTHS (FT): \_\_\_\_\_  
GENERAL NOTE: \_\_\_\_\_

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
	0		60/60	PID= 0.0 PID= 0.0 PID= 1.9 PID= 3.8 PID= 3.2 PID= 2.8 PID= 1.5 PID= 1.1 PID= 0.0 PID= 0.0				Env. Sample ID= ETSB-16 (1-3)	(0'- 0.3') CONCRETE; and cobble. (0.3'- 1') SILTY SAND (SM); ~70% sand, fine to medium, ~20% fines; ~10% fill materials (cloth, plastic), dry, brown, no odor. (1'- 3') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, ~5% fines; some fill materials (metal, glass), moderate chemical-like odor, moist, brown, wet at 2.5'; solvent like odor mixed with waste oil like odor. (3'- 5') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~20% gravel, fine; moderate chemical-like odor, wet, gray, some odor but diminishing with depth; slight odor at 3', no odor at 3.5'; slightly stained.
	5	S-1	36/35	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0		CLO  CLO			

End of Boring at 8 feet.  
Refusal at 8 feet.  
Refusal possibly on concrete.

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 REC = RECOVERY LENGTH OF SAMPLE FT. = FEET  
 PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION TSF = TONS PER SQUARE FOOT  
 NA = NOT APPLICABLE Q<sub>p</sub> = POCKET PENETROMETER IN TSF  
 NM = NOT MEASURED S<sub>v</sub> = TORVANE PEAK IN TSF  
 NLO = NAPHTHALENE LIKE ODOR CrLO= CREOSOTE LIKE ODOR  
 PLO = PETROLEUM LIKE ODOR OLO = ORGANIC LIKE ODOR  
 TLO = TAR LIKE ODOR SLO = SULFUR LIKE ODOR  
 CLO = CHEMICAL LIKE ODOR MLO = MUSTY LIKE ODOR  
 ALO = ASPHALT LIKE ODOR SeLO= SEWAGE LIKE ODOR

ENVIRONMENTAL BORING LOG OU-1 GINT.DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 12/29/10



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BORING LOG  
PAGE 1 of 1  
ETSB-16 (2)

GROUND SURFACE ELEVATION (FT): 21.58 LOCATION: Expo Tire  
NORTHING (FT): 203548.3 EASTING (FT): 1190541.7 TOTAL DEPTH (FT): 20.0  
DRILLED BY: Zebra Environmental / L. Reiss DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY Long Island Zone  
LOGGED BY: C. Anastasiou DATE START / END:  
DRILLING DETAILS:  
WATER LEVEL DEPTHS (FT):  
GENERAL NOTE: Location 1' west of ETSB-16 (still possibly in old drain location)

ENVIRONMENTAL BORING LOG OU-1 GINT DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA				
0			60/60	PID= 0.0			(0'- 5') Similar to ETSB-16 (0'- 5'); brown to light brown throughout with no fill materials, impacts, or odors.	
20				PID= 0.0				
				PID= 0.0				
				PID= 0.0				
				PID= 0.0				
5		S-1	60/38	PID= 0.0			S-1 (5'- 7.4') SILTY SAND (SM); ~75% sand, fine to medium, ~15% fines, ~10% gravel, fine; slight chemical-like odor, wet, brown, slightly sticky feel, NVS.	
15				PID= 0.0	CLO			
				PID= 0.0				
				PID= 0.0	CLO	Env. Sample ID= ETSB-16 (2) (7-8.5)	(7.4'- 8.6') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine to medium, ~10% fines; slight chemical-like odor, brown, slightly sticky feel, NVS.	
				PID= 0.0	CLO		(8.6'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, ~15% gravel, fine to coarse; slight chemical-like odor, light brown, sticky feel most apparent in this depth range, NVS.	
10		S-2	60/36	PID= 0.0	CLO		S-2 (10'- 11') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine; slight chemical-like odor, light brown, NVS.	
10				PID= 0.0			(11'- 15') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine; light brown, no odor, NVS.	
				PID= 0.0				
				PID= 0.0				
15		S-3	60/38				S-3 (15'- 15.5') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~10% gravel, fine; light brown, no odor, NVS.	
5							(15.5'- 16.3') WIDELY GRADED SAND WITH GRAVEL (SW); ~60% sand, fine to coarse, ~40% gravel, fine to coarse; brown, no odor, NVS.	
							(16.3'- 17.2') NARROWLY GRADED SAND WITH SILT (SP-SM); ~90% sand, fine, ~10% fines; brown, no odor, NVS.	
							(17.2'- 18.4') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; light brown, no odor, NVS.	
							(18.4'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~85% sand, fine to coarse, ~15% gravel, fine to coarse; light brown, no odor, NVS.	
20							End of Boring at 20 feet.	

**NOTES:**

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL	IN. = INCHES	NLO = NAPHTHALENE LIKE ODOR	CrLO= CREOSOTE LIKE ODOR
REC = RECOVERY LENGTH OF SAMPLE	FT. = FEET	PLo = PETROLEUM LIKE ODOR	OLO = ORGANIC LIKE ODOR
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION	TSF = TONS PER SQUARE FOOT	TLO = TAR LIKE ODOR	SLO = SULFUR LIKE ODOR
		CLO = CHEMICAL LIKE ODOR	MLO = MUSTY LIKE ODOR
		ALO = ASPHALT LIKE ODOR	SeLO= SEWAGE LIKE ODOR

NA = NOT APPLICABLE Qp = POCKET PENETROMETER IN TSF  
NM = NOT MEASURED Sv = TORVANE PEAK IN TSF



GEI Consultants, Inc.  
455 Winding Brook Road  
Glastonbury, CT 06033  
(860) 368-5300

CLIENT: National Grid  
PROJECT: Bay Shore Former MGP Site  
CITY/STATE: Bay Shore, New York  
GEI PROJECT NUMBER: 093180

BORING LOG  
PAGE 1 of 3  
ETSB-17

GROUND SURFACE ELEVATION (FT): 21.92 LOCATION: Expo Tire  
NORTHING (FT): 203510.5 EASTING (FT): 1190375.6 TOTAL DEPTH (FT): 70.0  
DRILLED BY: Zebra Environmental / L. Reiss DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY Long Island Zone  
LOGGED BY: C. Anastasiou DATE START / END: 8/10/2010 - 8/10/2010  
DRILLING DETAILS:  
WATER LEVEL DEPTHS (FT):  
GENERAL NOTE:

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
0			60/60	PID= 0.0				(0'- 1') FILL; brown, RCA, stone 0.25"- 0.5".	
20				PID= 0.0				(1'- 3') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, ~5% fines; brown, no odor, NVS.	
				PID= 0.0				(3'- 5') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, ~5% fines; brown - light brown, no odor, NVS.	
5		S-1	60/29	PID= NM				S-1 (5'- 9.1') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; brown, no odor, NVS.	
15								(9.1'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; moist, dark brown, no odor, NVS.	
10		S-2	60/30	PID= 16.1			Env. Sample ID= ETSB-17 (10-12)	S-2 (10'- 12.2') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; moderate naphthalene-like odor, wet, light brown, slight staining - gray colored.	
10				PID= 2.3		NLO		(12.2'- 13') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; moderate naphthalene-like odor, black, stained.	
				PID= 22.5		NLO		(13'- 15') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, ~5% fines; moderate naphthalene-like odor, wet, gray.	
				PID= 8.6		NLO		S-3 (15'- 16.5') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, ~5% fines; moderate naphthalene-like odor, wet, gray, stained.	
15		S-3	60/26	PID= 2.5			Env. Sample ID= ETSB-17 (15-16)	(16.5'- 20') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to medium, ~5% fines; moderate naphthalene-like odor, wet, black - gray, stained.	
				PID= 3.5					
				PID= 6.1		NLO			
				PID= 2.2					
20		S-4	60/34	PID= 0.5			Env. Sample ID= ETSB-17 (20-22)	S-4 (20'- 22.8') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, ~5% fines; moderate	

**NOTES:**

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 REC = RECOVERY LENGTH OF SAMPLE FT. = FEET  
 PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION TSF = TONS PER SQUARE FOOT  
 NA = NOT APPLICABLE Q<sub>p</sub> = POCKET PENETROMETER IN TSF  
 NM = NOT MEASURED S<sub>v</sub> = TORVANE PEAK IN TSF  
 NLO = NAPHTHALENE LIKE ODOR CrLO= CREOSOTE LIKE ODOR  
 PLO = PETROLEUM LIKE ODOR OLO = ORGANIC LIKE ODOR  
 TLO = TAR LIKE ODOR SLO = SULFUR LIKE ODOR  
 CLO = CHEMICAL LIKE ODOR MLO = MUSTY LIKE ODOR  
 ALO = ASPHALT LIKE ODOR SeLO= SEWAGE LIKE ODOR

ENVIRONMENTAL BORING LOG OU-1 GINT DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT - 12/29/10



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BORING LOG  
PAGE 2 of 3  
ETSB-17

ENVIRONMENTAL BORING LOG OU-1 GINT.DATABASE 2010.10.27.GPJ ATLANTIC GEI.DAT TEMPLATE.GDT 12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
0				PID= 1.0 PID= 0.8 PID= 0.6 PID= 0.4 PID= 0.5				naphthalene-like odor, wet, black - gray, stained.	
25		S-5	60/38	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.8 PID= 0.5				(22.8'- 23.7') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to coarse, ~5% fines; moderate naphthalene-like odor, wet, grayish brown, NVS. (23.7'- 25') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine to medium, ~5% fines; moderate naphthalene-like odor, wet, light brown, NVS. S-5 (25'- 26.8') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; moderate naphthalene-like odor, wet, light grayish brown, NVS. (26.8'- 30') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; moderate naphthalene-like odor, wet, light brown, NVS.	
30		S-6	60/22	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-6 (30'- 35') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; moderate naphthalene-like odor, wet, light brown, NVS.	
35		S-7	60/42	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-7 (35'- 40') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; moderate naphthalene-like odor, wet, light brown, NVS, odor decreasing with depth.	
40		S-8	60/41	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-8 (40'- 45') WIDELY GRADED SAND (SW); ~95% sand, fine to coarse, ~5% fines; slight naphthalene-like odor, wet, light brown, NVS.	
45		S-9	60/41	PID= 0.0 PID= 0.0				S-9 (45'- 50') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; slight naphthalene-like odor, wet, light	

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		CLO = CHEMICAL LIKE ODOR	MLO = MUSTY LIKE ODOR
		ALO = ASPHALT LIKE ODOR	SeLO= SEWAGE LIKE ODOR
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BORING LOG  
PAGE 3 of 3  
ETSB-17

ENVIRONMENTAL BORING LOG OU-1 GINT.DATABASE 2010.10.27.GPJ ATLANTIC GEI.DAT TEMPLATE.GDT 12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
-25				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 1.2				brown, NVS.	
50		S-10	60/28	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0		NLO		S-10 (50'- 55') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, no odor, NVS.	
55		S-11	60/32	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-11 (55'- 58.6') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, no odor, NVS.	
60		S-12	60/32	PID= 0.0 PID= 0.0 PID= 0.0				(58.6'- 58.9') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, orange, iron deposit; no odor, NVS. (58.9'- 60') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, no odor, NVS. S-12 (60'- 65') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, small red/orange iron band at 12"; no odor, NVS.	
65		S-13	60/18	PID= 0.0 PID= 0.0 PID= 0.0			Liner jammed in macro, partially exposed, liner cut to 18" of sample.	S-13 (65'- 70') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, light brown, some orange iron bands throughout; no odor, NVS.	
70								End of Boring at 70 feet.	

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		CLO = CHEMICAL LIKE ODOR	MLO = MUSTY LIKE ODOR
		ALO = ASPHALT LIKE ODOR	SeLO= SEWAGE LIKE ODOR
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NM = NOT MEASURED	S <sub>v</sub> = TORVANE PEAK IN TSF		



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BORING LOG  
PAGE 1 of 4  
ETSB-18

GROUND SURFACE ELEVATION (FT): \_\_\_\_\_ LOCATION: Expo Tire  
NORTHING (FT): \_\_\_\_\_ EASTING (FT): \_\_\_\_\_ TOTAL DEPTH (FT): 75.0  
DRILLED BY: Zebra Environmental / L. Reiss DATUM VERT. / HORZ.: NAVD 88 / NAD83 NY Long Island Zone  
LOGGED BY: C. Anastasiou DATE START / END: 8/25/2010 - 8/25/2010  
DRILLING DETAILS: \_\_\_\_\_  
WATER LEVEL DEPTHS (FT): \_\_\_\_\_  
GENERAL NOTE: \_\_\_\_\_

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
0			60/60					(0'- 1') FILL; brown, RCA, stone 0.25"- 0.5".	
								(1'- 3') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, ~5% fines; brown, no odor, NVS.	
				PID= 0.0				(3'- 5') WIDELY GRADED SAND WITH GRAVEL (SW); ~70% sand, fine to coarse, ~25% gravel, fine to coarse, ~5% fines; brown - light brown, no odor, NVS.	
5		S-1	60/48	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-1 (5'- 10') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; light brown, wet at 36"; no odor, NVS.	
10		S-2	60/45	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0		NLO		S-2 (10'- 13') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; slight naphthalene-like odor, wet, light brown, NVS.	
				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0		NLO	Env. Sample ID= ETSB-18 (14-15)	(13'- 15') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine, ~5% fines; moderate naphthalene-like odor, wet, light gray - blackish, stained.	
15		S-3	60/36	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0		NLO	Env. Sample ID= ETSB-18 (16-18)	S-3 (15'- 20') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; moderate naphthalene-like odor, wet, light gray, stained.	
20		S-4	60/38	PID= 0.0		NLO	Env. Sample ID= ETSB-18 (20-22)	S-4 (20'- 21.8') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, ~5%	

**NOTES:**

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NA = NOT APPLICABLE Q<sub>p</sub> = POCKET PENETROMETER IN TSF  
 NM = NOT MEASURED S<sub>v</sub> = TORVANE PEAK IN TSF

NLO = NAPHTHALENE LIKE ODOR CrLO= CREOSOTE LIKE ODOR  
 PLO = PETROLEUM LIKE ODOR OLO = ORGANIC LIKE ODOR  
 TLO = TAR LIKE ODOR SLO = SULFUR LIKE ODOR  
 CLO = CHEMICAL LIKE ODOR MLO = MUSTY LIKE ODOR  
 ALO = ASPHALT LIKE ODOR SeLO= SEWAGE LIKE ODOR

ENVIRONMENTAL BORING LOG OU-1 GINT DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 12/29/10



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BORING LOG  
PAGE 2 of 4  
ETSB-18

ENVIRONMENTAL BORING LOG OU-1 GINT.DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 12/29/10

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
				PID= 0.0		NLO		finer; moderate naphthalene-like odor, wet, light gray, stained.	
				PID= 0.0				(21.8'- 24.7') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine, ~5% fines; slight naphthalene-like odor, wet, light brown, NVS.	
				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
	25	S-5	60/53	PID= 0.0				(24.7'- 25') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; slight naphthalene-like odor, wet, light brown, NVS.	
				PID= 0.0				S-5 (25'- 27.2') WIDELY GRADED SAND (SW); ~90% sand, fine to coarse, ~5% gravel, fine, ~5% fines; wet, light brown, no odor, NVS.	
				PID= 0.0				(27.2'- 28.1') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, ~5% fines; wet, light brown, no odor, NVS.	
				PID= 0.0				(28.1'- 30') WIDELY GRADED SAND WITH GRAVEL (SW); ~80% sand, fine to coarse, ~15% gravel, fine to coarse, ~5% fines; wet, light brown, no odor, NVS.	
	30	S-6	60/55	PID= 0.0				S-6 (30'- 32.8') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; wet, light brown, no odor, NVS.	
				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
	35	S-7	60/56	PID= 0.0				(32.8'- 35') WIDELY GRADED SAND WITH GRAVEL (SW); ~75% sand, fine to coarse, ~20% gravel, fine to coarse, ~5% fines; wet, light brown, no odor, NVS.	
				PID= 0.0				S-7 (35'- 40') WIDELY GRADED SAND (SW); ~85% sand, fine to coarse, ~10% gravel, fine to coarse, ~5% fines; wet, light brown, no odor, NVS.	
				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
	40	S-8	60/53	PID= 0.0				S-8 (40'- 45') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; wet, light brown, no odor, NVS.	
				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
				PID= 0.0					
	45	S-9	60/55	PID= 0.0				S-9 (45'- 50') NARROWLY GRADED SAND (SP); ~90% sand, fine to medium, ~5% gravel, fine, ~5% fines; wet, light brown, no	

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REC = RECOVERY LENGTH OF SAMPLE	FT. = FEET	PLO = PETROLEUM LIKE ODOR	OLO = ORGANIC LIKE ODOR
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION	TSF = TONS PER SQUARE FOOT	TLO = TAR LIKE ODOR	SLO = SULFUR LIKE ODOR
		CLO = CHEMICAL LIKE ODOR	MLO = MUSTY LIKE ODOR
		ALO = ASPHALT LIKE ODOR	SeLO= SEWAGE LIKE ODOR
NA = NOT APPLICABLE	Q <sub>p</sub> = POCKET PENETROMETER IN TSF		
NM = NOT MEASURED	S <sub>v</sub> = TORVANE PEAK IN TSF		



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BORING LOG  
PAGE 3 of 4  
ETSB-18

ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
				PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				odor, NVS.	
	50	S-10	60/28	PID= 0.0  PID= 0.0  PID= 0.0				S-10 (50'- 55') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, no odor, NVS.	
	55	S-11	60/55	PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				S-11 (55'- 60') NARROWLY GRADED SAND (SP); ~95% sand, fine to medium, ~5% fines; wet, light brown, no odor, NVS.	
	60	S-12	60/57	PID= 0.0  PID= 0.0  PID= 0.0  PID= 0.0				S-12 (60'- 65') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, light brown, no odor, NVS.	
	65	S-13	60/24	PID= 0.0  PID= 0.0  PID= 0.0				S-13 (65'- 70') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, reddish brown, iron oxidation throughout; no odor, NVS.	
	70	S-14	60/60	PID= 0.0				S-14 (70'- 74.3') NARROWLY GRADED SAND (SP); ~95% sand, fine, ~5% fines; wet, reddish brown, iron oxidation throughout; no odor, NVS.	

ENVIRONMENTAL BORING LOG OU-1 GINT DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 12/29/10

**NOTES:**

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL	IN. = INCHES	NLO = NAPHTHALENE LIKE ODOR	CrLO= CREOSOTE LIKE ODOR
REC = RECOVERY LENGTH OF SAMPLE	FT. = FEET	PLO = PETROLEUM LIKE ODOR	OLO = ORGANIC LIKE ODOR
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE) IN PARTS PER MILLION	TSF = TONS PER SQUARE FOOT	TLO = TAR LIKE ODOR	SLO = SULFUR LIKE ODOR
		CLO = CHEMICAL LIKE ODOR	MLO = MUSTY LIKE ODOR
		ALO = ASPHALT LIKE ODOR	SeLO= SEWAGE LIKE ODOR
NA = NOT APPLICABLE	Q <sub>p</sub> = POCKET PENETROMETER IN TSF		
NM = NOT MEASURED	S <sub>v</sub> = TORVANE PEAK IN TSF		



ELEV. FT.	DEPTH FT.	SAMPLE INFO			STRATA	VISUAL IMPACTS	ODOR	REMARKS	SOIL / BEDROCK DESCRIPTION
		TYPE and NO.	PEN/REC IN./IN.	FIELD TEST DATA					
	75			PID= 0.0 PID= 0.0 PID= 0.0 PID= 0.0				(74.3'- 75') SILTY SAND (SM); ~80% sand, fine, ~20% fines; black, no odor, NVS. End of Boring at 75 feet.	

ENVIRONMENTAL BORING LOG OU-1 GINT DATABASE 2010.10.27.GPJ ATLANTIC GEI DATA TEMPLATE.GDT 12/29/10

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		CLO = CHEMICAL LIKE ODOR	MLO = MUSTY LIKE ODOR
		ALO = ASPHALT LIKE ODOR	SeLO= SEWAGE LIKE ODOR

NA = NOT APPLICABLE      Q<sub>p</sub> = POCKET PENETROMETER IN TSF  
 NM = NOT MEASURED        S<sub>v</sub> = TORVANE PEAK IN TSF