



Geotechnical  
Environmental and  
Water Resources  
Engineering

**Groundwater Monitoring Report  
July 2013 Semiannual Sampling Event**

**Glen Cove  
Former MGP Site**

City of Glen Cove

Nassau County, New York

Order on Consent Index No. D1-001-98-11

Site ID No. 1-30-089P

**Submitted to:**

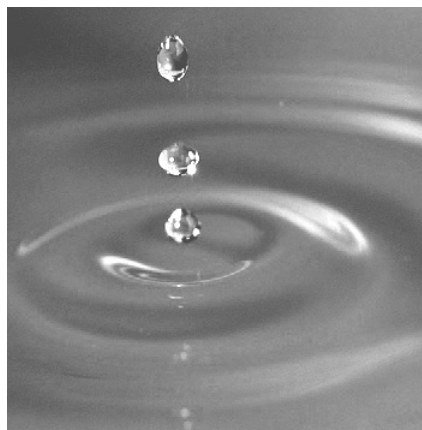
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- 2b Intermediate/Deep Groundwater Measurements
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# 1. Introduction and Site Background

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This report presents the July 2013 groundwater monitoring results for the Glen Cove Former Manufactured Gas Plant (MGP) site located in Glen Cove, Nassau County, New York (the Site). The frequency of groundwater monitoring was modified to semiannual following the fourth quarter 2010 groundwater monitoring event, with New York State Department of Environmental Conservation (NYSDEC) approval. This report has been prepared in accordance with the requirements of Section 6 of *DER-10* (Division of Environmental Remediation) *Technical Guidance for Site Investigation and Remediation*; the Order on Consent, Index No. D1-0001-98-11 signed by National Grid Corporation (National Grid) and the NYSDEC, and the *Remedial Action Plan* (RAP), *Glen Cove Former Manufactured Gas Plant, Town of Oyster Bay, Nassau County, New York* prepared by GEI Consultants, Inc., P. C. (GEI), dated March 2010.

The NYSDEC-approved remedy for the Site included two remedial phases. Phase I includes the excavation of shallow soil and offsite disposal of accessible MGP-related source material (or “hot spots”). Phase II includes groundwater treatment using oxygen injection technology and the installation of recovery wells to remove mobile non-aqueous phase liquids (NAPL). The current property owner, Long Island Power Authority (LIPA), is conducting a facility upgrade which includes the installation of underground utilities, foundation, pilings, and associated electric equipment. LIPA’s upgrade to this substation is necessary to meet the growing energy demand in the Glen Cove region.

Phase I excavation activities were performed from May 5 through 21, 2011 and included the removal and proper disposal of 3,411 tons of material at depths of up to approximately 17 feet below ground surface (ft bgs). An oxygen injection pilot test was conducted on April 27, 2011; the results of which will be incorporated into the Phase II portion of the remedy. Additional excavation of surface soils along the property boundary in the southwest portion of the Site was conducted from July 15 through 18, 2011. Approximately 240 tons of polycyclic aromatic hydrocarbon (PAH)-impacted material was removed to a depth of approximately 2 feet and transported offsite for proper disposal. A summary report of the soil removal was submitted to the NYSDEC on September 12, 2011. Phase II remediation began in February 2012 with the installation of one recovery well. Two additional recovery wells were installed in May 2012. Remaining Phase II remedial activities will be completed at the completion of the ongoing LIPA substation construction. It is anticipated that subsurface construction associated with the LIPA substation will be completed by December 2013.

As part of the long-term monitoring of the remedy, National Grid began quarterly monitoring of the groundwater at the Site in Q1 2010. This data, and the subsequent semiannual data, will provide a seasonal baseline of groundwater analytical results to compare against post-remedy concentrations and evaluate the overall effectiveness of the remedial actions. Monitoring wells which have been abandoned to accommodate the ongoing LIPA substation construction project will be reinstalled during the remaining Phase II field work. Following completion of the Phase II portion of the remedy, quarterly groundwater monitoring will resume.

## 1.1 Site Description and History

The Glen Cove Former MGP Site is an inverted L-shaped parcel of approximately 1.9 acres presently occupied by an active electrical substation which services Glen Cove and the surrounding area. Topographically, the Site is a flat depression bounded by approximately 20-foot high slopes to the north, south, and east.

To the west, the property slopes downward approximately 20 feet to Glen Cove Creek, a channelized stream, which eventually discharges to Hempstead Bay. Glen Cove Creek flows in a general south to north direction along the western site property line. The creek exits the property boundary at the northwest corner of the Site through a box culvert that directs flow beneath the Long Island Rail Road (LIRR) tracks. The creek eventually discharges to Mosquito Cove (Hempstead Bay). A site location map is included as **Figure 1**.

MGP operations at the Site began in 1905 under the ownership of the Sea Cliff and Glen Cove Gas Company. Facility structures were located on the northern section of the property, and consisted of a 60,000 cubic foot gas holder, boilers, purifiers, retorts, coal shed, engine room, tar and oil tank, and approximately eight gas tanks. In 1929, the Long Island Lighting Company (LILCO) terminated MGP operations and demolished the facility's surface structures sometime thereafter. Site activities following 1929 consisted solely of natural gas storage in a Hortonsphere gas holder through the 1950s. The Hortonsphere was decommissioned and demolished between 1959 and 1966. A major electrical substation was constructed on the Site in the mid-1960s. In 1998, Brooklyn Union Gas (BUG) and LILCO merged to form the KeySpan Corporation, at which time the ownership of the substation was transferred to LIPA. In 2007, National Grid acquired responsibility for the former MGP property through the acquisition of KeySpan. Currently, the Site is owned by LIPA and operated by National Grid under contract to LIPA.

## 1.2 Geology

The shallow stratigraphy beneath the Site is comprised of heterogeneous fill and glacial outwash of Upper Pleistocene deposits. The stratigraphic sequence consists of outwash deposits overlain by heterogeneous fill. The heterogeneous fill across most of the Site ranges

in thickness from approximately 10 feet throughout most of the former site to 30 feet in the offsite area just north of the Site boundary. The fill composition is primarily poorly sorted and highly permeable sand and gravel with varying percentages of gravel, silt, clay, and coal fragments. The glacial outwash deposits consist mainly of inter-bedded layers of permeable sand and gravel, and less permeable silty sand. The top of the glacial unit was encountered from approximately 10 ft bgs on the central portion of the Site to approximately 32 ft bgs from the top of the railroad embankment. The ground surface elevation of the Site is significantly lower than the top of the railroad embankment, and when factoring in the ground surface elevation difference, the glacial deposits are encountered at similar elevations across the Site and beneath the railroad embankment.

Glen Cove Creek originally occupied a natural stream channel just to the west of the Site before it was channelized along its present route. The natural creek bed is indicated by the alluvial deposits consisting of reworked glacial outwash present along the western boundary of the Site. The alluvial deposits associated with the original stream channel consist of isolated sand and gravelly sand layers encountered in the upper 5 to 10 feet of soils at the western site boundary.

### 1.3 Hydrogeology

The groundwater beneath the Site is considered part of the regional Upper Glacial aquifer. Regionally, this aquifer is not used for drinking water. Drinking water for Long Island is provided by the deeper Magothy aquifer.

Groundwater elevations of site wells were similar for the shallow and intermediate wells ranging from about 45 to 54 feet above mean sea level (ft-msl). Groundwater elevation contours indicate a consistent groundwater flow direction to the west for the shallow zone wells and, historically, the west-northwest for the intermediate zone.

The water table surface of the shallow groundwater follows the general topography of the Site sloping from east to west. Historically, the hydraulic gradient has been relatively steep (0.02 feet/foot) in the eastern and western portions of the Site and less steep (0.005 feet/foot) in the western portion of the Site. A uniform hydraulic gradient of about 0.005 feet/foot has been present in the intermediate groundwater across the Site. The estimated groundwater seepage flow velocities, assuming an effective porosity of 20 percent, were calculated for the shallow and intermediate aquifer zones as 0.05 and 0.001 feet per day (ft/day), respectively. The potential vertical hydraulic gradients at the well clusters at the Site are up to approximately one foot.

## **1.4 Historical Groundwater Monitoring Event Summary**

Three groundwater monitoring events were conducted at the Site prior to 2010. Groundwater sample collection and analysis, and NAPL/groundwater measurements were conducted in 2004, 2005, and 2008. Quarterly groundwater sampling was conducted through 2010. Semiannual sampling began in July 2011 after completion of the Phase I remedial excavation.

## 2. Glen Cove Site and Adjacent Offsite Areas

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### 2.1 Second Semiannual 2013 Groundwater Monitoring Event Summary

**Event Dates:** July 16 and 18, 2013

**Site Phase:** Semiannual groundwater monitoring

**Location:** The location of the Glen Cove Former MGP Site is depicted on **Figure 1**.

### 2.2 Monitoring Program

#### 2.2.1 Number of Wells

A total of 11 monitoring wells and piezometers are currently located at or adjacent to the Site. Three recovery wells GCRW-01, GCRW-02 and GCRW-03 were installed in Q1 and Q2 2012. Piezometer PZ-03 is believed to have been destroyed in 2007. Monitoring wells GCMW-09S, GCMW-09I, GCMW-10S, GCMW-10I, GCMW-14S and GCMW-14I, as well as piezometers PZ-01A, PZ-02A, PZ-04 and PZ-07 were either destroyed or abandoned as part of the remedial activities conducted between March and May 2011. Monitoring well, recovery well and piezometer locations are depicted on **Figure 2**.

#### 2.2.2 Hydrological Data

Groundwater levels were measured at 11 monitoring wells and piezometers on July 18, 2013. Depth to groundwater and calculated groundwater elevations are provided in **Table 1**. Shallow groundwater contours and intermediate groundwater elevations for the January 2013 semiannual sampling event are depicted on **Figures 3** and **4**, respectively. The groundwater flow direction was generally to the west towards Glen Cove Creek in the shallow zone. Currently, only two wells remain in the intermediate zone; the groundwater direction depicted on **Figure 4** is based on historical data from previous sampling events. The depth to water and water table elevation data for the shallow and intermediate/deep portions of the aquifer are presented below.

## Shallow Groundwater Zone

**Table 2a – Shallow Groundwater Measurements**

Well ID	Depth to Water (feet)	Water Elevation (feet above MSL)
PZ-05	8.64	54.24
PZ-06	4.91	53.61
GCMW-08S	27.21	51.38
GCMW-11S	8.91	48.61
GCMW-12S	12.40	54.23
GCMW-13S	9.61	48.12
GCMW-15	6.18	45.16
GCMW-16	5.56	45.73

The average calculated shallow hydraulic gradient was 0.033 feet/foot.

## Intermediate/Deep Groundwater Zone

**Table 2b – Intermediate/Deep Groundwater Measurements**

Well ID	Depth to Water (feet)	Water Elevation (feet above MSL)
GCMW-08D	28.50	50.32
GCMW-11I	8.50	48.95
GCMW-13I	9.51	48.22

The calculated intermediate hydraulic gradient was 0.009 feet/foot.

### 2.2.3 NAPL Gauging

All of the existing wells in the groundwater monitoring network and the three newly installed recovery wells are gauged for the presence of NAPL during each semiannual groundwater monitoring event. The three new recovery wells GCRW-01, GCRW-02 and GCRW-03, were installed in Q1 (GCRW-01) and Q2 2012, in the vicinity of the substation (**Figure 2**). The three new recovery wells are located downgradient of the substation (**Figure 2**). Recovery well GCRW-01 was installed in Q1 2012 and recovery wells GCRW-02 and GCRW-03 were installed in Q2 2012. Dense non-aqueous phase liquid (DNAPL) was present in one well during the January 2013 sampling event, MW-13S, at a thickness of 0.40 feet. Historically, measurable DNAPL has only been observed in this well. DNAPL was measured in MW-13S at a thickness of 0.74 feet in June 2005 and had been steadily decreasing to the thickness of 0.3 feet, in July 2011, prior to the increasing in the two 2012 sampling events. The measured thicknesses during these events were 0.65 and 0.70 feet, respectively. The DNAPL thickness in MW-13S decreased during the January 2013 event to 0.40 feet and decreased again in the July 2013 event to 0.30 feet. Recent DNAPL measurements in monitoring well GCMW-13S are shown in the table below.

**Table 2c – Recent DNAPL Thickness Measurements in Monitoring Well GCMW-13S**

Monitoring Well ID	DNAPL Thickness (in feet)				
	July 2011	January 2012	July 2012	January 2013	July 2013
GCMW-13S	0.3	0.65	0.7	0.4	0.3

#### **2.2.4 Groundwater Analytical Sampling**

The second semiannual 2013 groundwater sampling event was performed on July 16 and 18, 2013 and included all accessible wells on the quarterly sampling list that did not contain measureable thicknesses of DNAPL. Beginning with this sampling event, monitoring wells with measurable thicknesses of NAPL identified during a sampling event are not sampled. A total of 13 monitoring wells, recovery wells and piezometers were sampled for the following analytes:

- Volatile organic compounds (VOCs) and methyl tert-butyl ether (MTBE) via Environmental Protection Agency (EPA) Method 8260.
- Semi-volatile organic compounds (SVOCs) via EPA Method 8270.

#### **2.2.5 Analytical Results**

The discussion below focuses on the analytical results from the current semiannual sampling event. A summary of historical groundwater monitoring results are included on **Figure 5**. More in-depth evaluation of the results will be conducted when the planned oxygen injection system is installed and becomes operational, following the completion of the ongoing LIPA substation construction.

##### VOCs

VOC detections above the New York State Technical and Operational Guidance Series (TOGS), 1.1.1 – Ambient Water Quality Standards and Guidance Values (AWQS) for Class GA groundwater were generally limited to benzene, toluene, ethylbenzene and xylene (BTEX). Exceptions include detections of MTBE (49 µg/L), vinyl chloride (5 µg/L), and 2-butanone (100 µg/L) in wells GCMW-11I, GCMW-15, and GCRW-02, respectively. Total BTEX concentrations ranged from less than method detection limits (ND) in eight of the 13 wells sampled, to 924 micrograms per liter (µg/L) in GCMW-11S. BTEX concentrations above the New York State Ambient Water Quality Standards (AWQS) were identified in each of the five wells with detections. The detections and exceedances of the AWQS are summarized in table below.

**Table 2d – BTEX Detections Above AWQS**

Sample Name:	GCMW-11S	GCMW-11I	GCRW-01	GCRW-02	GCRW-03
Sample Date:	1/15/13	1/15/13	1/16/13	1/16/13	1/16/13
Benzene	<b>75</b>	<b>4</b>	1 U	<b>1</b>	<b>1</b>
Toluene	<b>19</b>	1 U	<b>2</b>	<b>7</b>	<b>5</b>
Ethylbenzene	<b>480 D</b>	1 U	<b>32</b>	<b>22</b>	<b>33</b>
Xylene, total	<b>350</b>	<b>2</b>	<b>41</b>	<b>32</b>	<b>57</b>
Total BTEX	<b>924</b>	<b>6</b>	<b>75</b>	<b>62</b>	<b>96</b>

Notes:

BTEX - benzene, toluene, ethylbenzene, and xylenes (a subset of VOCs)

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

Bolding indicates a detected concentration

Shading and bolding indicates that the detected concentration is above the NYS AWQS

D - results for dilution

U - not detected to the reporting limit

BTEX detections in the second semiannual 2013 monitoring event generally remained relatively stable with the majority being at, or near, detections levels. Excluding GCRW-02, where the BTEX concentration remained relatively low (below 100 µg/L), all of the wells with detections above the AWQS remained within their respective historical concentration range, with most being similar to, or below their respective historical average. Monitoring well GCMW-13S, which has an average BTEX concentration of 764 µg/L in the historical monitoring period, was not sampled during the second semiannual 2013 monitoring event due to the presence of measurable levels of DNAPL. The second semiannual 2013 monitoring event was the first monitoring event that wells with measurable levels of NAPL were not sampled.

### SVOCs

SVOC detections above the AWQS were primarily limited to PAHs. The only exception was 4-methylphenol, which was detected above the standard of 1 µg/L in wells GCMW-11S and GCRW-01 with estimated concentrations of 2 µg/L and 9 µg/L, respectively, and in GCRW-02 with a concentration of 19 µg/L. Total PAH concentrations ranged from ND in six of the 13 wells sampled to 5,914 µg/L in GCMW-11S. Historically, the highest detection of total PAHs has been detected in monitoring well GCMW-13S. As mentioned above, GCMW-13S was not sampled during the July 2013 sampling event due to measurable levels of DNAPL. The detections in wells with concentrations above the AWQS are summarized in the table below. Detections identified below the AWQS were also noted in GCMW-13I with a total PAH concentration of 10 µg/L.

**Table 2e – PAH Detections Above AWQS**

Sample Name	GCMW-08S	GCMW-11S	GCMW-11I	GCRW-01	GCRW-02	GCRW-03
Sample Date	7/16/13	7/18/13	7/18/13	7/18/13	7/16/13	7/16/13
Acenaphthene	10	320 DJ	10	130 D	23	25
Acenaphthylene	5 J	19	10 U	5 J	4 J	4 J
Anthracene	11	14	10 U	7 J	3 J	5 J
Benzo[g,h,i]perylene	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	12	5 J	10 U	6 J	1 J	7 J
Fluorene	10	100 J	10 U	51	20	14
2-Methylnaphthalene	10 U	440 DJ	8 J	330 D	55	6 J
Naphthalene	10 U	4,900 D	480 D	2,000 D	590 D	240 D
Phenanthrene	66	110 J	2 J	51	21	25
Pyrene	16	6 J	10 U	7 J	2 J	8 J
Benzo[a]anthracene	1 J	10 U	10 U	10 U	10 U	2 J
Benzo[a]pyrene	10 U	10 U	10 U	10 U	10 U	1 J
Benzo[b]fluoranthene	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
Chrysene	1 J	10 U	10 U	10 U	10 U	2 J
Dibenz[a,h]anthracene	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
Total PAHs	132	5,914	500	2,587	719	339

Notes:

PAHs - polycyclic aromatic hydrocarbons

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

Bolding indicates a detected concentration

Shading and bolding indicates that the detected concentration is above the NYS AWQS

D - results for dilution

J - estimated value

U - not detected to the reporting limit

Concentrations of total PAHs were detected above the AWQS in three of the 11 monitoring wells sampled and in all three recovery wells. Total PAH concentrations in all of the monitoring wells and recovery wells remained within their respective historical concentration ranges. Total PAH concentrations in wells with detections above the AWQS decreased significantly in GCMW-11S and GCRW-01, but increased in GCRW-08S, GCMW-11I, GCRW-02 and GCRW-03. Monitoring well GCMW-13S, which has an average total PAH concentration of 11,582 µg/L in the historical monitoring period, was not sampled during the second semiannual 2013 monitoring event due to the presence of measurable levels of DNAPL. The second semiannual 2013 monitoring event was the first monitoring event that wells with measurable levels of NAPL were not sampled.

The laboratory analytical results for the July 2013 semiannual sampling event are included in **Table 2**.

## **2.3 Future Plans**

- Design and construct an oxygen injection system as part of the Phase II remedy
- Install replacement and additional monitoring wells as part of the Phase II remedy
- Continue semiannual groundwater and NAPL monitoring, then quarterly after startup of the oxygen injection system

## Tables

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**Table 1. Water Level Measurements and Calculated Groundwater Elevations**  
**Semiannual Groundwater Monitoring Report - Q3 2013**  
**Glen Cove Former MGP Site**  
**Glen Cove, New York**

Well ID	Date of Measurement	Screened Interval (feet bgs)	Time of Measurement	Well Casing Diameter (inches)	Well Elevation <sup>1</sup> (feet above MSL)	Depth to Water (feet)	Water Elevation (feet above MSL)	Notes
PZ-01A*	NM	25 - 35	NM	2	57.11	NM	NM	
PZ-02A*	NM	18 - 21	NM	2	58.58	NM	NM	
PZ-03*	NM	14 - 19	NM	-	56.76	NM	NM	
PZ-04*	NM	16 - 19	NM	2	56.96	NM	NM	
PZ-05	7/18/2013	8 - 18	0743	2	62.88	8.64	54.24	
PZ-06	7/18/2013	7 - 17	0739	2	58.52	4.91	53.61	
PZ-07*	NM	3 - 10	NM	2	50.36	NM	NM	
GCMW-08S	7/18/2013	26 - 36	0700	2	78.59	27.21	51.38	
GCMW-08D	7/18/2013	60 - 70	0658	2	78.82	28.50	50.32	
GCMW-09S*	NM	8 - 18	NM	2	56.81	NM	NM	
GCMW-09I*	NM	26 - 36	NM	2	56.88	NM	NM	
GCMW-10S*	NM	11 - 16	NM	2	52.62	NM	NM	
GCMW-10I*	NM	16 - 26	NM	2	53.08	NM	NM	
GCMW-11S	7/18/2013	8 - 20	0759	2	57.52	8.91	48.61	
GCMW-11I	7/18/2013	23 - 28	0750	2	57.45	8.50	48.95	
GCMW-12S	7/18/2013	14 - 24	0742	2	66.63	12.40	54.23	
GCMW-13S	7/18/2013	12 - 22	0756	2	57.73	9.61	48.12	
GCMW-13I	7/18/2013	25 - 30	0754	2	57.73	9.51	48.22	
GCMW-14S*	NM	8 - 18	NM	2	58.74	NM	NM	
GCMW-14I*	NM	25 - 30	NM	2	58.75	NM	NM	
GCMW-15	7/18/2013	6 - 16	1005	2	51.34	6.18	45.16	
GCMW-16	7/18/2013	6 - 16	1000	2	51.29	5.56	45.73	

**Notes:**

bgs - Below Ground Surface

<sup>1</sup> - Well Elevations Obtained From 2008 RI

MSL - Mean Sea Level

\* Destroyed

NM - Not Measured

**Table 2. Summary of Groundwater Analytical Results**  
**Semiannual Groundwater Monitoring Report - Q3 2013**  
**Glen Cove Former NGP Site**  
**Glen Cove, New York**

Validation Level		Val	Val	Val	Red. Val.	Red. Val.	Red. Val.	Red. Val.	Red. Val.
Location Name		GCMW-08S	GCMW-08D	GCMW-08D	GCMW-11S	GCMW-11I	GCMW-12S	GCMW-13I	GCMW-15
Sample Name		GCMW-08S	GCMW-08D	DUP-02 CB	GCMW-11S	GCMW-11I	GCMW-12S	GCMW-13I	GCMW-15
Sample Date		7/16/2013	7/16/2013	7/16/2013	7/18/2013	7/18/2013	7/18/2013	7/18/2013	7/16/2013
Parent Sample Code				GCMW-08D					
Analyte	NYS AWQS								
BTEX (µg/L)									
Benzene	1	1 U	1 U	1 U	75	4	1 U	1 U	1 U
Toluene	5	1 U	1 U	1 U	19	1 U	1 U	1 U	1 U
Ethylbenzene	5	1 U	1 U	1 U	480 D	1 U	1 U	1 U	1 U
Total Xylene	5	1 U	1 U	1 U	350	2	1 U	1 U	1 U
Total BTEX	NE	ND	ND	ND	924	6	ND	ND	ND
Other VOCs (µg/L)									
Acetone	50*	5 U	5 U	5 U	5 U	5 U	5 U	5 U	4 J
Bromodichloromethane	50*	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	50*	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U
Bromomethane	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon disulfide	60*	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon tetrachloride	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	7	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U
Chloromethane	5	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U
Dibromochloromethane	50*	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	5	1 U	1 U	1 U	2	1 U	1 U	1 U	2
1,2-Dichloroethane	0.6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total 1,2-Dichloroethene	NE	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2
1,1-Dichloroethene	0.07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	0.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	0.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone	50*	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methyl ethyl ketone (2-Butanone)	50*	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methyl tert-butyl ether (MTBE)	10*	10 U	10 U	10 U	10 U	49	10 U	10 U	10 U
4-Methyl-2-pentanone (MIBK)	NE	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methylene chloride	5	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Styrene	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene (PCE)	5	1 U	1 U	1 U	1 U	1 U	1 U	3	1 U
1,1,1-Trichloroethane	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

**Table 2. Summary of Groundwater Analytical Results**  
**Semiannual Groundwater Monitoring Report - Q3 2013**  
**Glen Cove Former NGP Site**  
**Glen Cove, New York**

Validation Level	Val	Val	Val	Red. Val.	Red. Val.	Red. Val.	Red. Val.	Red. Val.
Location Name	GCMW-08S	GCMW-08D	GCMW-08D	GCMW-11S	GCMW-11I	GCMW-12S	GCMW-13I	GCMW-15
Sample Name	GCMW-08S	GCMW-08D	DUP-02 CB	GCMW-11S	GCMW-11I	GCMW-12S	GCMW-13I	GCMW-15
Sample Date	7/16/2013	7/16/2013	7/16/2013	7/18/2013	7/18/2013	7/18/2013	7/18/2013	7/16/2013
Parent Sample Code			GCMW-08D					
Trichloroethene (TCE)	5	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	2	1 U	1 U	1 U	1 U	1 U	1 U	5
Total VOCs	NE	ND	ND	926	55	ND	3	13
<b>NYSDEC PAH17 (µg/L)</b>								
Acenaphthene	20*	10	10 U	10 U	320 DJ	10	10 U	10 U
Acenaphthylene	NE	5 J	10 U	10 U	19	10 U	10 U	10 U
Anthracene	50*	11	10 U	10 U	14	10 U	10 U	10 U
Benzo(a)anthracene	0.002*	1 J	10 U	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	10 U	10 U
Benzo(k)fluoranthene	0.002*	10 U	10 U	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	10 U	10 U
Benzo(a)pyrene	ND	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chrysene	0.002*	1 J	10 U	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	10 U	10 U
Fluoranthene	50*	12	10 U	10 U	5 J	10 U	10 U	10 U
Fluorene	50*	10	10 U	10 U	100 J	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	0.002*	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	NE	10 U	10 U	10 U	440 DJ	8 J	10 U	10 U
Naphthalene	10*	10 U	10 U	10 U	4900 D	480 D	10 U	10 U
Phenanthrene	50*	66	10 U	10 U	110 J	2 J	10 U	10 U
Pyrene	50*	16	10 U	10 U	6 J	10 U	10 U	10 U
Total PAH (17)	NE	132	ND	ND	5914	500	ND	10
<b>Other SVOCs (µg/L)</b>								
Bis(2-chloroethoxy)methane	5	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	10 U	10 U	10 U	10 U
Bis(chloroisopropyl)ether	5	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Bromophenyl phenyl ether	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Butyl benzyl phthalate	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbazole	NE	10 U	10 U	10 U	31	1 J	10 U	10 U
4-Chloro-3-methylphenol	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene	10*	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl phenyl ether	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	NE	3 J	10 U	10 U	17	10 U	10 U	10 U
1,2-Dichlorobenzene	3	10 U	10 U	10 U	10 U	10 U	10 U	10 U

**Table 2. Summary of Groundwater Analytical Results**  
**Semiannual Groundwater Monitoring Report - Q3 2013**  
**Glen Cove Former NGP Site**  
**Glen Cove, New York**

Validation Level	Val	Val	Val	Red. Val.	Red. Val.	Red. Val.	Red. Val.	Red. Val.
Location Name	GCMW-08S	GCMW-08D	GCMW-08D	GCMW-11S	GCMW-11I	GCMW-12S	GCMW-13I	GCMW-15
Sample Name	GCMW-08S	GCMW-08D	DUP-02 CB	GCMW-11S	GCMW-11I	GCMW-12S	GCMW-13I	GCMW-15
Sample Date	7/16/2013	7/16/2013	7/16/2013	7/18/2013	7/18/2013	7/18/2013	7/18/2013	7/16/2013
Parent Sample Code			GCMW-08D					
1,3-Dichlorobenzene	3	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	3	10 U	10 U	10 U	10 U	10 U	10 U	10 U
3,3-Dichlorobenzidine	5	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Diethyl phthalate	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethyl phthalate	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	50*	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	10 U	10 U	10 U	10 U
4,6-Dinitro-2-methylphenol	NE	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2,4-Dinitrophenol	10*	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2,4-Dinitrotoluene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	5	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	10 U	10 U	10 U	10 U
Hexachlorobenzene	0.04	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	10 U	10 U	10 U
Hexachlorocyclopentadiene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylphenol (o-Cresol)	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methylphenol (p-Cresol)	1	10 U	10 U	10 U	2 J	10 U	10 U	10 U
2-Nitroaniline	5	25 U	25 U	25 U	25 U	25 U	25 U	25 U
3-Nitroaniline	5	25 U	25 U	25 U	25 U	25 U	25 U	25 U
4-Nitroaniline	5	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Nitrobenzene	0.4	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	NE	25 U	25 U	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	10 U	10 U
N-Nitrosodiphenylamine	50*	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	1	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Phenol	1	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	5	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	NE	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total SVOCs (ND=0)	NE	135	ND	ND	5964	501	ND	10

**Table 2. Summary of Groundwater Analytical Results**  
**Semiannual Groundwater Monitoring Report - Q3 2013**  
**Glen Cove Former NGP Site**  
**Glen Cove, New York**

Validation Level	Val	Val	Val	Red. Val.	Red. Val.	Red. Val.	Red. Val.	Red. Val.
Location Name	GCMW-08S	GCMW-08D	GCMW-08D	GCMW-11S	GCMW-11I	GCMW-12S	GCMW-13I	GCMW-15
Sample Name	GCMW-08S	GCMW-08D	DUP-02 CB	GCMW-11S	GCMW-11I	GCMW-12S	GCMW-13I	GCMW-15
Sample Date	7/16/2013	7/16/2013	7/16/2013	7/18/2013	7/18/2013	7/18/2013	7/18/2013	7/16/2013
Parent Sample Code			GCMW-08D					
<b>PCB Aroclors (µg/L)</b>								
Aroclor 1016	NE	NA	NA	NA	NA	NA	NA	1 U
Aroclor 1221	NE	NA	NA	NA	NA	NA	NA	2 U
Aroclor 1232	NE	NA	NA	NA	NA	NA	NA	1 U
Aroclor 1242	NE	NA	NA	NA	NA	NA	NA	1 U
Aroclor 1248	NE	NA	NA	NA	NA	NA	NA	1 U
Aroclor 1254	NE	NA	NA	NA	NA	NA	NA	1 U
Aroclor 1260	NE	NA	NA	NA	NA	NA	NA	1 U
Total PCB Aroclors	NE	NA	NA	NA	NA	NA	NA	ND
<b>Total Metals (µg/L)</b>								
Aluminum	NE	NA	NA	NA	NA	NA	NA	<b>60.3 B</b>
Antimony	3	NA	NA	NA	NA	NA	NA	<b>2 B</b>
Arsenic	25	NA	NA	NA	NA	NA	NA	2.8 U
Barium	1000	NA	NA	NA	NA	NA	NA	<b>92.9 B</b>
Beryllium	3*	NA	NA	NA	NA	NA	NA	0.1 U
Cadmium	5	NA	NA	NA	NA	NA	NA	0.1 U
Calcium	NE	NA	NA	NA	NA	NA	NA	<b>42800</b>
Chromium	50	NA	NA	NA	NA	NA	NA	<b>8 B</b>
Cobalt	NE	NA	NA	NA	NA	NA	NA	0.4 U
Copper	200	NA	NA	NA	NA	NA	NA	0.4 U
Iron	300	NA	NA	NA	NA	NA	NA	<b>21400</b>
Lead	25	NA	NA	NA	NA	NA	NA	1 U
Magnesium	35000*	NA	NA	NA	NA	NA	NA	<b>6760</b>
Manganese	300	NA	NA	NA	NA	NA	NA	<b>1160 *</b>
Mercury	0.7	NA	NA	NA	NA	NA	NA	0.1 U
Nickel	100	NA	NA	NA	NA	NA	NA	0.3 U
Potassium	NE	NA	NA	NA	NA	NA	NA	<b>9150 E</b>
Selenium	10	NA	NA	NA	NA	NA	NA	2.3 U
Silver	50	NA	NA	NA	NA	NA	NA	<b>0.28 B</b>
Sodium	20000	NA	NA	NA	NA	NA	NA	<b>205000</b>
Thallium	0.5*	NA	NA	NA	NA	NA	NA	1.9 U
Vanadium	NE	NA	NA	NA	NA	NA	NA	<b>0.6 B</b>
Zinc	2000*	NA	NA	NA	NA	NA	NA	<b>6.8 B</b>
<b>Total Cyanide (µg/L)</b>								
Total Cyanide	200	NA	NA	NA	NA	NA	NA	10 U

**Table 2. Summary of Groundwater Analytical Results**  
**Semiannual Groundwater Monitoring Report - Q3 2013**  
**Glen Cove Former NGP Site**  
**Glen Cove, New York**

Validation Level	Red. Val.	Red. Val.	Red. Val.	Red. Val.	Red. Val.	Red. Val.	Red. Val.
Location Name	GCMW-15	GCMW-16	GCRW-01	GCRW-02	GCRW-03	PZ-05	PZ-06
Sample Name	DUP-01 GC	GCMW-16	GCRW-01	GCRW-02	GCRW-03	PZ-05	PZ-06
Sample Date	7/16/2013	7/16/2013	7/18/2013	7/16/2013	7/16/2013	7/18/2013	7/18/2013
Parent Sample Code	GCMW-15						
Analyte	NYS AWQS						
<b>BTEX (µg/L)</b>							
Benzene	1	1 U	1 U	1 U	1	1	1 U
Toluene	5	1 U	1 U	2	7	5	1 U
Ethylbenzene	5	1 U	1 U	32	22	33	1 U
Total Xylene	5	1 U	1 U	41	32	57	1 U
Total BTEX	NE	ND	ND	75	62	96	ND
<b>Other VOCs (µg/L)</b>							
Acetone	50*	3 J	3 J	5 U	38	2 J	5 U
Bromodichloromethane	50*	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	50*	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	5	1 U	1 U	1 U	1 U	1 U	1 U
Carbon disulfide	60*	1 U	1 U	1 U	1 U	1 U	1 U
Carbon tetrachloride	5	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	5	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	5	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	7	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	5	1 U	1 U	1 U	1 U	1 U	1 U
Dibromochloromethane	50*	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	5	2	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	0.6	1 U	1 U	1 U	1 U	1 U	1 U
Total 1,2-Dichloroethene	NE	2	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	0.07	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	1	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	0.4	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,3-Dichloropropene	0.4	1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone	50*	5 U	5 U	5 U	5 U	5 U	5 U
Methyl ethyl ketone (2-Butanone)	50*	5 U	5 U	5 U	100	2 J	5 U
Methyl tert-butyl ether (MTBE)	10*	10 U	10 U	5 J	4 J	3 J	10 U
4-Methyl-2-pentanone (MIBK)	NE	5 U	5 U	5 U	5 U	5 U	5 U
Methylene chloride	5	2 U	2 U	2 U	2 U	2 U	2 U
Styrene	5	1 U	1 U	1 U	1	2	1 U
1,1,2,2-Tetrachloroethane	5	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene (PCE)	5	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	5	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	1	1 U	1 U	1 U	1 U	1 U	1 U

**Table 2. Summary of Groundwater Analytical R**  
**Semiannual Groundwater Monitoring Report - Q3 20**  
**Glen Cove Former NGP Site**  
**Glen Cove, New York**

Validation Level	Red. Val.	Red. Val.	Red. Val.	Red. Val.	Red. Val.	Red. Val.	Red. Val.
Location Name	GCMW-15	GCMW-16	GCRW-01	GCRW-02	GCRW-03	PZ-05	PZ-06
Sample Name	DUP-01 GC	GCMW-16	GCRW-01	GCRW-02	GCRW-03	PZ-05	PZ-06
Sample Date	7/16/2013	7/16/2013	7/18/2013	7/16/2013	7/16/2013	7/18/2013	7/18/2013
Parent Sample Code	GCMW-15						
Trichloroethene (TCE)	5	1 U	1	1 U	1 U	1 U	1 U
Vinyl chloride	2	5	1 U	1 U	1 U	1 U	1 U
Total VOCs	NE	12	4	80	205	105	ND
<b>NYSDEC PAH17 (µg/L)</b>							
Acenaphthene	20*	10 U	10 U	130 DJ	23	25	10 U
Acenaphthylene	NE	10 U	10 U	5 J	4 J	4 J	10 U
Anthracene	50*	10 U	10 U	7 J	3 J	5 J	10 U
Benzo(a)anthracene	0.002*	10 U	10 U	10 U	10 U	2 J	10 U
Benzo(b)fluoranthene	0.002*	10 U	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	10 U
Benzo(g,h,i)perylene	NE	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	ND	10 U	10 U	10 U	10 U	1 J	10 U
Chrysene	0.002*	10 U	10 U	10 U	10 U	2 J	10 U
Dibenz(a,h)anthracene	NE	10 U	10 U	10 U	10 U	10 U	10 U
Fluoranthene	50*	10 U	10 U	6 J	1 J	7 J	10 U
Fluorene	50*	10 U	10 U	51	20	14	10 U
Indeno(1,2,3-cd)pyrene	0.002*	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	NE	10 U	10 U	330 DJ	55	6 J	10 U
Naphthalene	10*	10 U	10 U	2000 D	590 D	240 D	10 U
Phenanthrene	50*	10 U	10 U	51	21	25	10 U
Pyrene	50*	10 U	10 U	7 J	2 J	8 J	10 U
Total PAH (17)	NE	ND	ND	2587	719	339	ND
<b>Other SVOCs (µg/L)</b>							
Bis(2-chloroethoxy)methane	5	10 U	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	10 U
Bis(chloroisopropyl)ether	5	10 U	10 U	10 U	10 U	10 U	10 U
Bis(2-ethylhexyl)phthalate	5	10 U	10 U	1	10 U	10 U	1
4-Bromophenyl phenyl ether	NE	10 U	10 U	10 U	10 U	10 U	10 U
Butyl benzyl phthalate	50*	10 U	10 U	10 U	10 U	10 U	10 U
Carbazole	NE	10 U	10 U	6 J	2 J	1 J	10 U
4-Chloro-3-methylphenol	NE	10 U	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline	5	10 U	10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene	10*	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	NE	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl phenyl ether	NE	10 U	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	NE	10 U	10 U	10	4 J	3 J	10 U
1,2-Dichlorobenzene	3	10 U	10 U	10 U	10 U	10 U	10 U

**Table 2. Summary of Groundwater Analytical Results**  
**Semiannual Groundwater Monitoring Report - Q3 2013**  
**Glen Cove Former NGP Site**  
**Glen Cove, New York**

Validation Level	Red. Val.	Red. Val.	Red. Val.	Red. Val.	Red. Val.	Red. Val.	Red. Val.
Location Name	GCMW-15	GCMW-16	GCRW-01	GCRW-02	GCRW-03	PZ-05	PZ-06
Sample Name	DUP-01 GC	GCMW-16	GCRW-01	GCRW-02	GCRW-03	PZ-05	PZ-06
Sample Date	7/16/2013	7/16/2013	7/18/2013	7/16/2013	7/16/2013	7/18/2013	7/18/2013
Parent Sample Code	GCMW-15						
1,3-Dichlorobenzene	3	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	3	10 U	10 U	10 U	10 U	10 U	10 U
3,3-Dichlorobenzidine	5	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	5	10 U	10 U	10 U	10 U	10 U	10 U
Diethyl phthalate	50*	10 U	10 U	10 U	10 U	10 U	10 U
Dimethyl phthalate	50*	10 U	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	50*	10 U	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	<b>1 BJ</b>
4,6-Dinitro-2-methylphenol	NE	25 U	25 U	25 U	25 U	25 U	25 U
2,4-Dinitrophenol	10*	25 U	25 U	25 U	25 U	25 U	25 U
2,4-Dinitrotoluene	5	10 U	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	5	10 U	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	10 U
Hexachlorobenzene	0.04	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	0.5	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	5	10 U	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	5	10 U	10 U	10 U	10 U	10 U	10 U
Isophorone	50*	10 U	10 U	10 U	10 U	10 U	10 U
2-Methylphenol (o-Cresol)	1	10 U	10 U	10 U	10 U	10 U	10 U
4-Methylphenol (p-Cresol)	1	10 U	10 U	<b>9 J</b>	<b>19</b>	10 U	10 U
2-Nitroaniline	5	25 U	25 U	25 U	25 U	25 U	25 U
3-Nitroaniline	5	25 U	25 U	25 U	25 U	25 U	25 U
4-Nitroaniline	5	25 U	25 U	25 U	25 U	25 U	25 U
Nitrobenzene	0.4	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	NE	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	NE	25 U	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	10 U
N-Nitrosodiphenylamine	50*	10 U	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	1	25 U	25 U	25 U	25 U	25 U	25 U
Phenol	1	10 U	10 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	5	10 U	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	NE	10 U	10 U	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol	NE	10 U	10 U	10 U	10 U	10 U	10 U
Total SVOCs (ND=0)	NE	ND	ND	<b>2613</b>	<b>744</b>	<b>343</b>	<b>ND</b>

**Table 2. Summary of Groundwater Analytical Results**  
**Semiannual Groundwater Monitoring Report - Q3 2013**  
**Glen Cove Former NGP Site**  
**Glen Cove, New York**

Validation Level	Red. Val.	Red. Val.	Red. Val.	Red. Val.	Red. Val.	Red. Val.	Red. Val.
Location Name	GCMW-15	GCMW-16	GCRW-01	GCRW-02	GCRW-03	PZ-05	PZ-06
Sample Name	DUP-01 GC	GCMW-16	GCRW-01	GCRW-02	GCRW-03	PZ-05	PZ-06
Sample Date	7/16/2013	7/16/2013	7/18/2013	7/16/2013	7/16/2013	7/18/2013	7/18/2013
Parent Sample Code	GCMW-15						
<b>PCB Aroclors (µg/L)</b>							
Aroclor 1016	NE	1 U	1 U	NA	NA	NA	NA
Aroclor 1221	NE	2 U	2 U	NA	NA	NA	NA
Aroclor 1232	NE	1 U	1 U	NA	NA	NA	NA
Aroclor 1242	NE	1 U	1 U	NA	NA	NA	NA
Aroclor 1248	NE	1 U	1 U	NA	NA	NA	NA
Aroclor 1254	NE	1 U	1 U	NA	NA	NA	NA
Aroclor 1260	NE	1 U	1 U	NA	NA	NA	NA
Total PCB Aroclors	NE	ND	ND	NA	NA	NA	NA
<b>Total Metals (µg/L)</b>							
Aluminum	NE	<b>62.1 B</b>	<b>46.1 B</b>	NA	NA	NA	NA
Antimony	3	1.2 U	1.2 U	NA	NA	NA	NA
Arsenic	25	2.8 U	2.8 U	NA	NA	NA	NA
Barium	1000	<b>89.3 B</b>	<b>96.7 B</b>	NA	NA	NA	NA
Beryllium	3*	0.1 U	0.1 U	NA	NA	NA	NA
Cadmium	5	0.1 U	0.1 U	NA	NA	NA	NA
Calcium	NE	<b>41800</b>	<b>41300</b>	NA	NA	NA	NA
Chromium	50	<b>6.9 B</b>	<b>1.1 B</b>	NA	NA	NA	NA
Cobalt	NE	0.4 U	0.4 U	NA	NA	NA	NA
Copper	200	0.4 U	0.4 U	NA	NA	NA	NA
Iron	300	<b>18000</b>	<b>121</b>	NA	NA	NA	NA
Lead	25	1 U	<b>6.2</b>	NA	NA	NA	NA
Magnesium	35000*	<b>6680</b>	<b>16000</b>	NA	NA	NA	NA
Manganese	300	<b>1130 *</b>	<b>89.8 *</b>	NA	NA	NA	NA
Mercury	0.7	0.1 U	0.1 U	NA	NA	NA	NA
Nickel	100	0.3 U	<b>2.2 B</b>	NA	NA	NA	NA
Potassium	NE	<b>8990 E</b>	<b>3720 BE</b>	NA	NA	NA	NA
Selenium	10	2.3 U	2.3 U	NA	NA	NA	NA
Silver	50	0.2 U	0.2 U	NA	NA	NA	NA
Sodium	20000	<b>202000</b>	<b>50100</b>	NA	NA	NA	NA
Thallium	0.5*	1.9 U	1.9 U	NA	NA	NA	NA
Vanadium	NE	<b>0.5 B</b>	0.3 U	NA	NA	NA	NA
Zinc	2000*	<b>8.8 B</b>	<b>15 B</b>	NA	NA	NA	NA
<b>Total Cyanide (µg/L)</b>							
Total Cyanide	200	10 U	10 U	NA	NA	NA	NA

Table 2  
Summary of Groundwater Analytical Results  
Glen Cove Former MGP Site  
Glen Cove, New York

**Notes:**

µg/L - micrograms per liter or parts per billion (ppb)  
BTEX - benzene, toluene, ethylbenzene, and xylenes  
VOCs - volatile organic compounds  
PAHs - polycyclic aromatic hydrocarbons  
PCBs - polychlorinated biphenyls  
SVOCs - semivolatile organic compounds

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

Total PAH16 is calculated using the EPA16 list of analytes: Acenaphthene, Acenaphthylene, Anthracene, Benz[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[g,h,i]perylene, Benzo[k]fluoranthene, Chrysene, Dibenz[a,h]anthracene, Fluoranthene, Fluorene, Indeno[1,2,3-cd]pyrene, Naphthalene, Phenanthrene, and Pyrene

Total PAH17 is calculated using the EPA16 list of analytes plus 2-Methylnaphthalene

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

NYSDEC- New York State Department of Environmental Conservation

CAS no. - Chemical Abstracts Service number

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 indicates that the detected result value exceeds NYS AWQS

**Data Qualifiers:**

\* - Duplicate analysis not within control limits

B - Analyte detected in the associated method blank

BE - Value above quantitation range and analyte detected in the associated method blank

BJ - Value above quantitation range and is an estimated value

D - Results for dilution

DJ - Results for dilution and is estimated value

E - Value above quantitation range

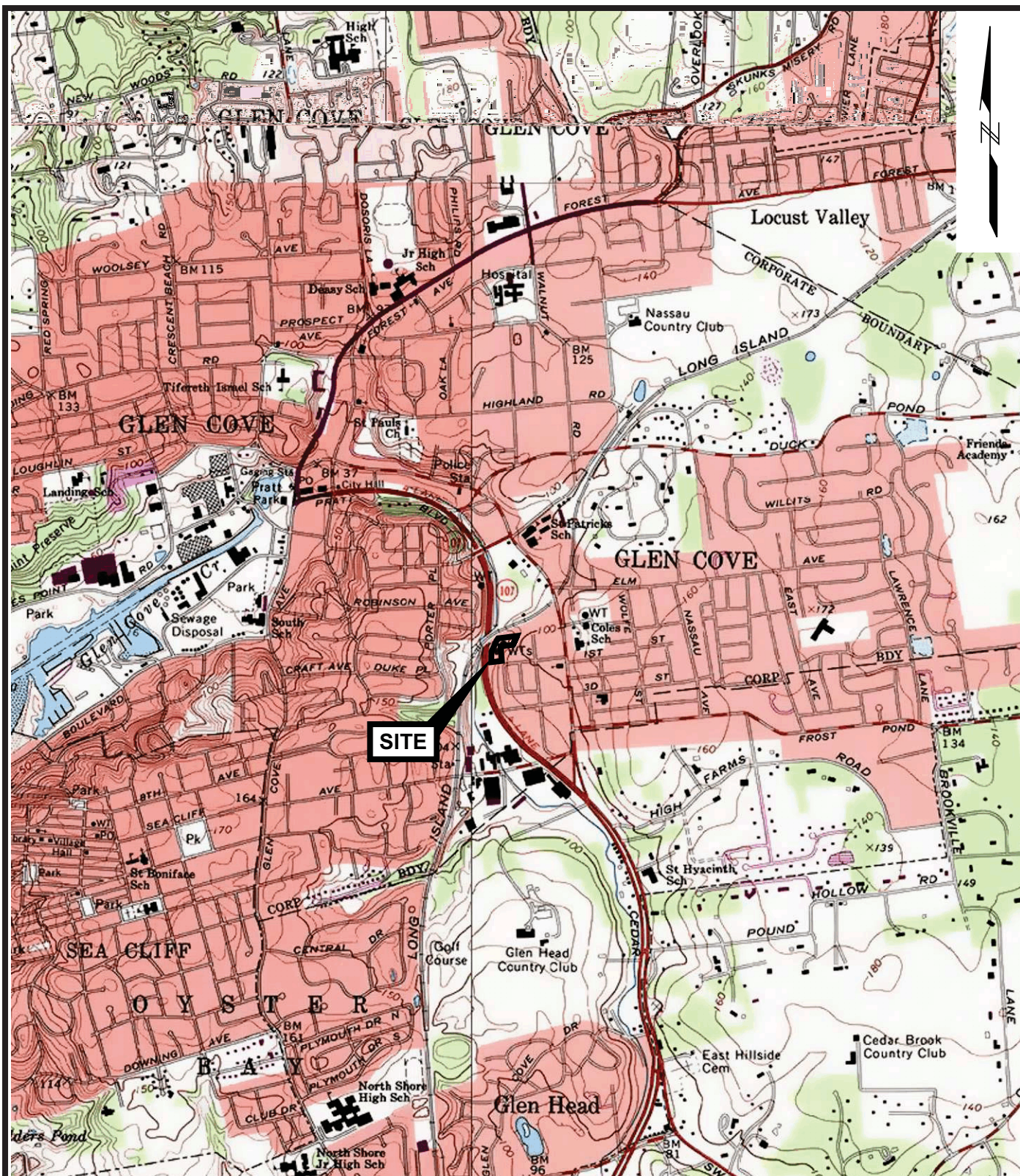
J - Estimated value

U - Indicates not detected to the reporting limit

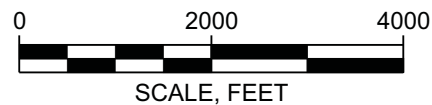
UJ - Not detected at or above the reporting limit shown and the reporting limit is estimated

## Figures

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GLEN COVE FORMER MGP SITE  
GLEN COVE, NEW YORK

**nationalgrid**



Project 093270-5-1504

**SITE LOCATION MAP**

October 2013

Figure 1

