

# Site Management Plan

## *Glenwood Landing Former Gas Plant Site*



May 2012



**SITE MANAGEMENT PLAN**

**NATIONAL GRID GLENWOOD LANDING FORMER GAS PLANT SITE  
GLENWOOD LANDING, NEW YORK**

**VOLUNTARY CLEANUP AGREEMENT NO. R1-0001-01-01**

*Prepared for:*

**NATIONAL GRID  
HICKSVILLE, NEW YORK**

*Prepared by:*

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

**MAY 2012**

**SITE MANAGEMENT PLAN  
NATIONAL GRID GLENWOOD LANDING FORMER GAS PLANT SITE**

**TABLE OF CONTENTS**

Section	Description	Page
	<b>EXECUTIVE SUMMARY .....</b>	<b>ES-1</b>
<b>1.0</b>	<b>INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM .....</b>	<b>1-1</b>
1.1	Introduction.....	1-1
1.1.1	General.....	1-1
1.1.2	Purpose.....	1-4
1.1.3	Revisions.....	1-5
1.2	Site Background.....	1-5
1.2.1	Site Location and Description.....	1-5
1.2.2	Site History .....	1-6
1.2.3	Geologic Conditions .....	1-7
1.3	Summary of Previous Investigation Findings.....	1-10
1.4	Summary of Remedial Actions.....	1-15
1.4.1	Removal of Contaminated Materials from the Site .....	1-16
1.4.2	On-Site and Off-Site Treatment Systems .....	1-18
1.4.3	Remaining Contamination .....	1-18
1.4.3.1	Soil .....	1-18
1.4.3.2	Groundwater .....	1-21
1.4.4	Engineering and Institutional Controls .....	1-22
<b>2.0</b>	<b>ENGINEERING AND INSTITUTIONAL CONTROL PLAN.....</b>	<b>2-1</b>
2.1	Introduction.....	2-1
2.1.1	General.....	2-1
2.1.2	Purpose.....	2-1
2.2	Engineering Controls .....	2-2
2.2.1	Engineering Control Systems .....	2-2
2.2.2	Criteria for Completion of Remediation/ Termination of Remedial Systems.....	2-2
2.3	Institutional Controls .....	2-4
2.3.1	Excavation Work Plan .....	2-5
2.3.2	Soil Vapor Intrusion Evaluation .....	2-6
2.4	Inspections and Notifications.....	2-7
2.4.1	Inspections .....	2-7
2.4.2	Notifications.....	2-7

## TABLE OF CONTENTS (continued)

Section	Description	Page
2.5	Contingency Plan .....	2-8
2.5.1	Emergency Telephone Numbers .....	2-9
2.5.2	Map and Directions to Nearest Health Facility .....	2-9
2.5.3	Response Procedures .....	2-9
<b>3.0</b>	<b>MONITORING PLAN .....</b>	<b>3-1</b>
3.1	Introduction .....	3-1
3.1.1	General .....	3-1
3.1.2	Purpose and Schedule .....	3-1
3.2	Engineering Control System Monitoring .....	3-3
3.2.1	Monitoring Schedule .....	3-3
3.2.2	Repair Schedule .....	3-3
3.3	Site-Wide Inspection .....	3-4
3.4	Monitoring Reporting Requirements .....	3-5
<b>4.0</b>	<b>SITE MANAGEMENT REPORTING PLAN .....</b>	<b>4-1</b>
4.1	Introduction .....	4-1
4.2	Certification of Engineering and Institutional Controls .....	4-1
4.3	Site Inspections .....	4-2
4.3.1	Inspection Frequency .....	4-2
4.3.2	Inspection Forms .....	4-2
4.3.3	Evaluation of Records and Reporting .....	4-3
4.4	Periodic Review Report .....	4-3
4.5	Corrective Measures Plan .....	4-4

### List of Appendices

Deed Restriction.....	A
As-Built Drawing.....	B
Excavation Endpoint Sample Results .....	C
Excavation Work Plan .....	D
Institutional and Engineering Control Inspection Form .....	E



## TABLE OF CONTENTS (continued)

### List of Figures

1-1	Site Plan .....	1-2
1-2	Site Location Map .....	1-3
1-3	Cross Section Key Map .....	1-8
1-4	Geologic Cross Section of Site and Upgradient Areas .....	1-9
2-1	Hospital Route Map .....	2-10

### List of Tables

1-1	Soil Disposal Summary .....	1-17
1-2	Site-Specific Soil Cleanup Objectives .....	1-19
2-1	Soil Cover System Summary .....	2-3
2-2	Emergency Contact Numbers .....	2-11
3-1	Monitoring/Inspection Schedule .....	3-2

### List of Drawings

1	Site Plan .....	Map Pocket at end of Section 1.0
---	-----------------	----------------------------------

## **EXECUTIVE SUMMARY**

The National Grid Glenwood Landing Gas Plant Site, located in Glenwood Landing, Nassau County, New York, was remediated in accordance with New York State Department of Environmental Conservation (NYSDEC) Voluntary Cleanup Agreement (VCA) No. R1-0001-01-01 and completed in September 2002. The site remediation included the excavation and off-site disposal of approximately 10,880 tons of nonhazardous contaminated soil, and demolition and removal of several on-site buildings and structures. In accordance with the VCA, a limited amount of soil contamination was left in place after completion of the remedy. This Site Management Plan (SMP) is required under the NYSDEC Voluntary Cleanup Program. The SMP documents the procedures that will be implemented in the monitoring and management of any residual contamination remaining at the Site.

The Glenwood Landing Gas Plant Site was initially developed as a natural gas reforming plant to reduce the BTU value of pipeline natural gas using a gas catalytic cracking process. The plant started operating in 1951. Subsequent development included a natural gas regulating station (compressor station), laboratory, and propane storage field. The gas facilities and propane storage tank field have since been decommissioned and demolished. The compressor station and associated site features have also been decommissioned and demolished. Laboratory services have been terminated, and a portion of the site is currently being used as an electric power generating station.

This Site Management Plan provides a detailed description of all long-term requirements to manage the remaining contamination at the Site in accordance with the Voluntary Cleanup Agreement including: (1) implementation and management of the Engineering and Institutional Controls; (2) monitoring; (3) performance of periodic inspections; and (4) submittal of Periodic Review Reports. The following provides a brief summary of each required portion of the Site Management Plan and the section of the plan where further details are provided:

## Engineering and Institutional Control Plan (Section 2.0)

This section describes the procedures for the implementation and management of all Engineering and Institutional Controls at the site. Engineering controls installed at the site include a soil cover system in Areas 1B and 3. The soil cover system placed in Area 1B is comprised of a 10 oz./square yard geotextile, 1 foot of clean clay/soil cover, 6 inches of topsoil and vegetation. The soil cover system placed in Area 3 is comprised of clean fill from the bottom of the excavation area to approximately 6 inches below grade, 6 inches of topsoil and vegetation. An as-built drawing detailing the location of the engineering controls is provided in Appendix B. Institutional controls implemented at the site include a Deed Restriction, which enforces the execution of this Site Management Plan, limits site use to industrial (Areas 2 and 3) and restricted residential (Areas 1A and 1B), restricts the use of on-site groundwater, restricts the excavation of any contamination remaining on the site and prevents the construction of any new structures in Area 1A and 1B without the assessment for potential vapor intrusion. It should be noted that although Areas 2 and 3 are classified for industrial use, approximately 94% of the VCA related property located to the east of Shore Road meets restricted-residential use standards. A copy of the Deed Restriction will be provided in Appendix A after the SMP is finalized. Once the SMP is finalized, the Deed Restriction will be put into place.

## Monitoring Plan (Section 3.0)

This section describes the measures for evaluating the performance and effectiveness of the remedy in reducing or mitigating contamination at the site, including all Engineering Controls and all affected site media. Engineering Controls at the site include a soil cover system in Areas 1B and 3, as described above. Annual monitoring of the soil cover system in each area will be conducted for the first 5 years, unless a less frequent schedule is otherwise approved by the NYSDEC. After 5 years, the monitoring frequency will be reviewed with the NYSDEC to determine any change in frequency. Monitoring programs are summarized in Table 3-1 and outlined in detail in Sections 3.2 and 3.3.

## Site Management Reporting Plan (Section 4.0)

A Periodic Review Report will be submitted to NYSDEC annually, beginning eighteen months after the No Further Action letter is issued by the NYSDEC. The Periodic Review Report will be prepared in accordance with NYSDEC DER-10 “Technical Guidance for Site Investigation and Remediation” requirements. The report will include an assessment of the Engineering and Institutional Control Plan and Monitoring Plan, results of the annual site inspections, a compilation of deliverables generated during the reporting period and a certification of the Engineering and Institutional Controls. Periodic review certification and reporting requirements are outlined in Sections 4.2 and 4.4.

If any portion of the Site is sold, the property owner for the sold property will then be responsible for meeting all the requirements of this SMP for the sold property portion, and National Grid and its successors and/or assigns will no longer have any responsibility for the sold portion of the property.

## **1.0 INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM**

### **1.1 Introduction**

This document is required as an element of the remedial program at the National Grid Glenwood Landing Gas Plant Site under the New York State (NYS) Voluntary Cleanup Program (VCP) administered by New York State Department of Environmental Conservation (NYSDEC). The term “Site” as referenced herein, shall refer to the portions of the Glenwood Landing Gas Plant Site that were subject to the VCA related soil remediation, as shown on Figure 1-1 and on Drawing 1 (located in map pocket at end of Section 1.0). The site was remediated in accordance with Voluntary Cleanup Agreement (VCA) No. R1-0001-01-01, which was executed on March 27, 2001.

#### **1.1.1 General**

National Grid’s corporate predecessor, KeySpan Corporation, entered into a VCA with the NYSDEC to remediate the Site, which is located in Glenwood Landing, Nassau County, New York (Figure 1-2). This VCA required the investigation and remediation of contaminated media at the site. A map showing the site location and boundaries of the Site is provided as Figure 1-1 and in Drawing 1 (located in the map pocket at the end of this section). The boundaries of the site are more fully described in the metes and bounds site description that will accompany the Deed Restriction once it is finalized (see Appendix A).

After completion of the remedial work described in the September 2001 Supplemental Environmental Site Assessment Report, some contamination was left in the subsurface at this site, which is hereafter referred to as “remaining contamination.” This Site Management Plan (SMP) was prepared to manage remaining contamination at the Site in perpetuity or until extinguishment of the Deed Restriction in accordance with ECL Article 71, Title 36. All reports associated with the Site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State.

# LEGEND



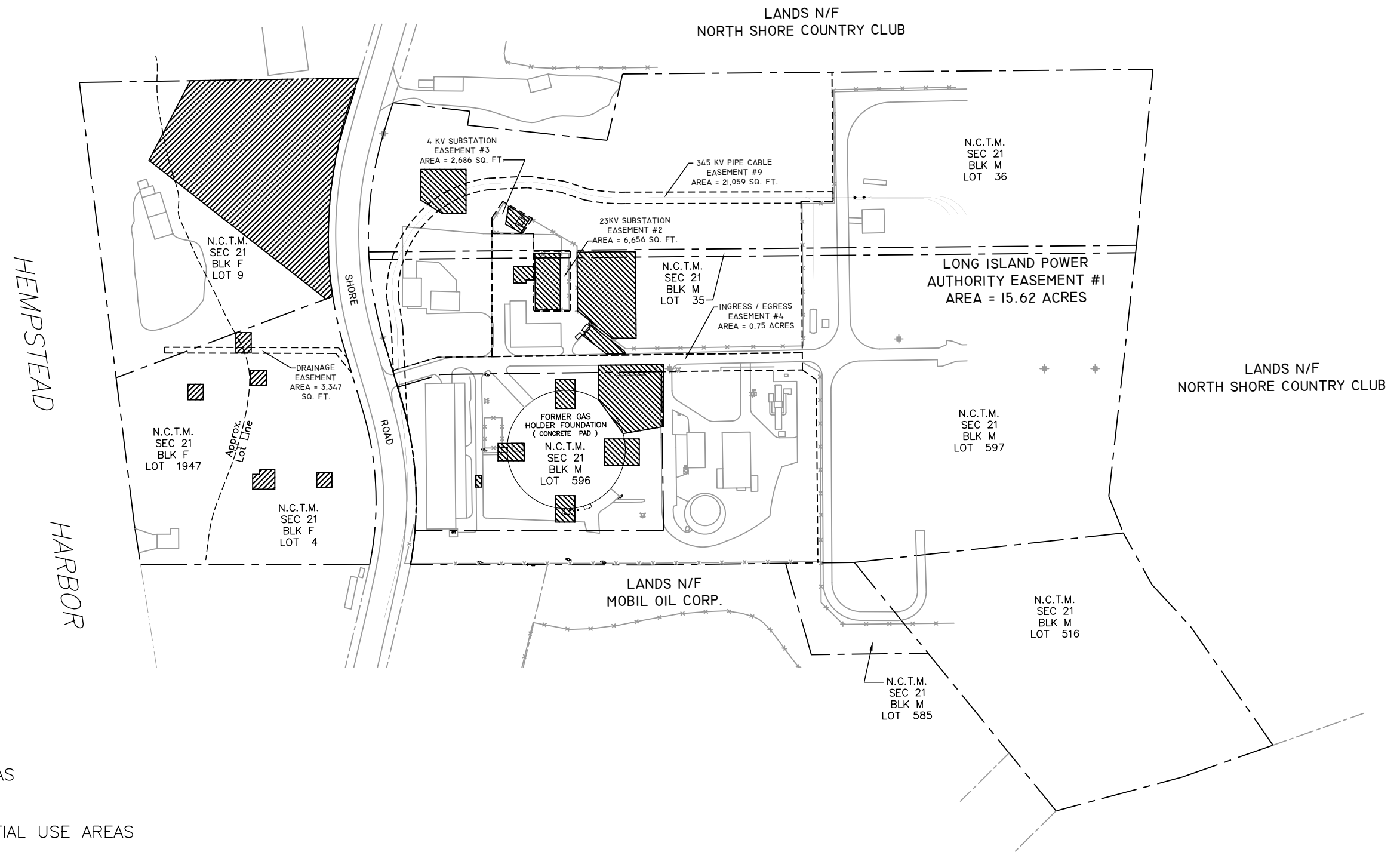
INDUSTRIAL USE AREAS



RESTRICTED RESIDENTIAL USE AREAS

--- NASSAU COUNTY TAX MAP LOT BOUNDARY

----- EASEMENT BOUNDARY

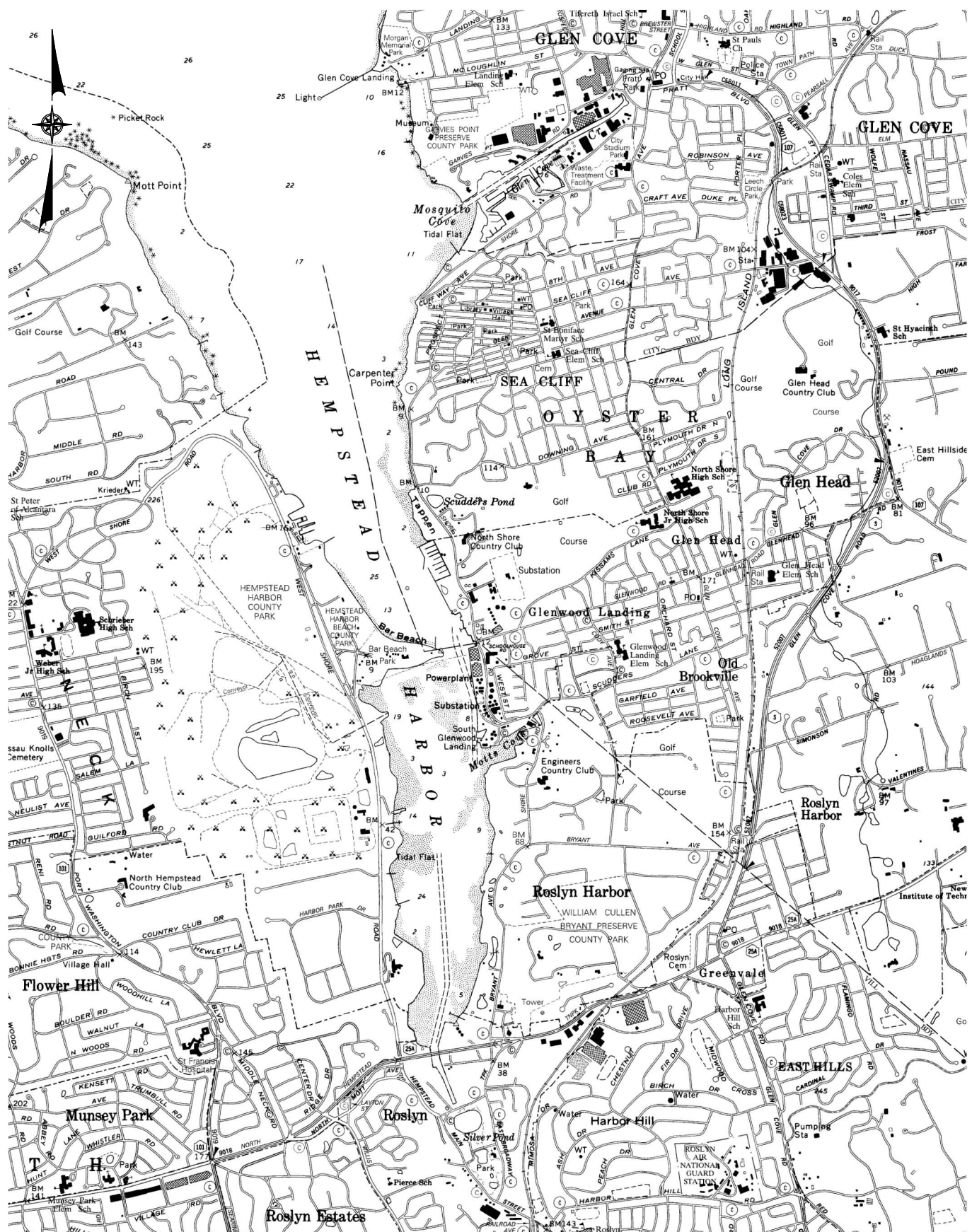


NATIONAL GRID GLENWOOD LANDING

## SITE PLAN

SCALE: 1" = 200'

FIGURE 1-1



This SMP was prepared by Dvirka and Bartilucci Consulting Engineers (D&B), on behalf of National Grid, in accordance with the requirements in NYSDEC DER-10 “Technical Guidance for Site Investigation and Remediation,” dated May 2010, and the guidelines provided by NYSDEC. This SMP addresses the means for implementing the Institutional Controls (ICs) and Engineering Controls (ECs) that are required by the Deed Restriction for the Site.

#### 1.1.2 Purpose

The Site has some contamination remaining after completion of the remedial action. Engineering Controls have been incorporated into the Site remedy to provide proper management of remaining contamination in the future to ensure protection of public health and the environment. A Deed Restriction will be recorded with the Nassau County Clerk, that provides an enforceable legal instrument to ensure compliance with this SMP and all ECs and ICs placed on the Site. The ICs place restrictions on site use, and mandate maintenance, monitoring and reporting measures for all ECs and ICs. This SMP specifies the methods necessary to ensure compliance with all ECs and ICs required by the Deed Restriction for contamination that remains at the Site. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the Deed Restriction and the grantor’s successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

This SMP provides a detailed description of all procedures required to manage remaining contamination at the Site after completion of the Remedial Action, including: (1) implementation and management of all Engineering and Institutional Controls; (2) media monitoring; (3) performance of periodic inspections, certification of results; and (4) submittal of Periodic Review Reports.

To address these needs, this SMP includes three plans: (1) an Engineering and Institutional Control Plan for implementation and management of EC/ICs; (2) a Monitoring Plan for implementation of Site Monitoring; and (3) a Site Management Reporting Plan for submittal of data, information, recommendations, and certifications to NYSDEC.



It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the Deed Restriction. Failure to properly implement the SMP is a violation of the Deed Restriction, which is grounds for revocation of the No Further Action determination;
- Noncompliance with this SMP is also a violation of Environmental Conservation Law, 6 NYCRR Part 375 and the VCA (Index No. R1-0001-01-01) for the Site, and thereby subject to applicable penalties; and
- At the time the SMP was prepared, the SMP and all site documents related to Remedial Investigation and Remedial Action are maintained at the NYSDEC Central Office in Albany, New York, and the NYSDEC - Region 1 office in Stony Brook, New York.

### 1.1.3 Revisions

Revisions to this plan will be proposed in writing to the NYSDEC's project manager. In accordance with the Deed Restriction for the Site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

## 1.2 Site Background

### 1.2.1 Site Location and Description

The Site is located on Shore Road in Glenwood Landing, County of Nassau, New York, and is identified as Section 21, Block F, P/O Lots 4, 9 and 1947, and Section 21, Block M, P/O Lots 35, 36, 596 and 597 on Nassau County Tax maps. The approximately 3-acre property is located on approximately 800 feet of waterfront on the east shore of Hempstead Harbor, and extends east across Shore Road. The property is bounded on the south by a Mobil Oil/Storage Terminal, to the west by Hempstead Harbor, and on the north and east by the North Shore Country Club (see Figure 1-1 and Drawing 1 located in map pocket at end of Section 1.0). The boundaries of the Site are more fully described in the Deed Restriction, which is included in Appendix A.

### 1.2.2 Site History

Prior to 1951, a hotel was operated at the site. The site was then developed as a natural gas reforming plant to reduce the BTU value of pipeline natural gas using a gas catalytic cracking process. The plant started operating in 1951. Subsequent development included a natural gas regulating station (compressor station), laboratory, and propane storage field. The gas facilities and propane storage tank field have since been decommissioned and demolished. The compressor station and associated site features have also been decommissioned and demolished. Laboratory services have been terminated, and a portion of the site was redeveloped for electric power generation.

Previous investigations were conducted at the Site, as detailed in the reports identified below.

- A Phase I Environmental Site Assessment (ESA) was performed by Fluor Daniel GTI, Inc. and reported in January 1999;
- A Phase II ESA was performed by Fluor Daniel GTI Inc. and reported in May 1999;
- A Supplemental ESA was performed by IT Corporation and reported in June 1999;
- A Supplemental ESA of Area-1, including a Human Health and Ecological Risk Analysis, was performed by Vanasse Hangen Brustlin, Inc. (VHB) and reported in December 1999;
- An upgradient Shallow Groundwater Investigation was performed by VHB in March 2000 and reported in September 2001; and
- A VCA Investigation was performed in two phases by VHB in November of 2000 and April of 2001 and reported in September 2001;
- A Geophysical Investigation and Supplemental Environmental Sampling was performed by VHB in March 2003 and reported in October 2003;
- Upgradient Groundwater Contamination Sources Investigation Findings Report, prepared by D&B in August 2006; and
- Groundwater Investigation Findings Report, prepared by D&B in June 2008.
- Groundwater Modeling Report, prepared by D&B in September 2009.

### 1.2.3 Geologic Conditions

#### Topography

The westernmost portion of the Site is located adjacent to Hempstead Harbor and is approximately 8 feet above mean sea level (msl). Moving inland from Hempstead Harbor and across Shore Road, surface topography increases steeply with the eastern boundary of the property at approximately 80 feet above msl.

#### Stratigraphy

A key map and associated hydrogeologic cross section, which runs from Hempstead Harbor at the approximate location of the Site property and upgradient to the east, are provided as Figures 1-3 and 1-4, respectively. As depicted on the cross section, the Site is immediately underlain by the Upper Glacial aquifer, a Pleistocene-aged unit consisting of glacial till and outwash deposits. It consists mainly of a poorly to moderately sorted fine-coarse sand and gravel with variable amounts of clay and silt and is considered to have excellent groundwater transmitting properties. The Upper Glacial aquifer is approximately 225 feet thick in the Site area and generally overlies the Magothy aquifer. However, in the immediate vicinity of the Site property, the Magothy aquifer has been completely eroded away and, as a result, the Upper Glacial aquifer directly overlies the Raritan Clay confining unit. A review of soil borings indicates that the glacial sediments underlying the Site property consist of primarily fine to medium sand with varying amounts of silt and gravel, with fairly good water transmitting properties. However, the available information also indicates that there exists a number of low-permeable clay-rich zones interbedded with the more permeable sand-rich zones.

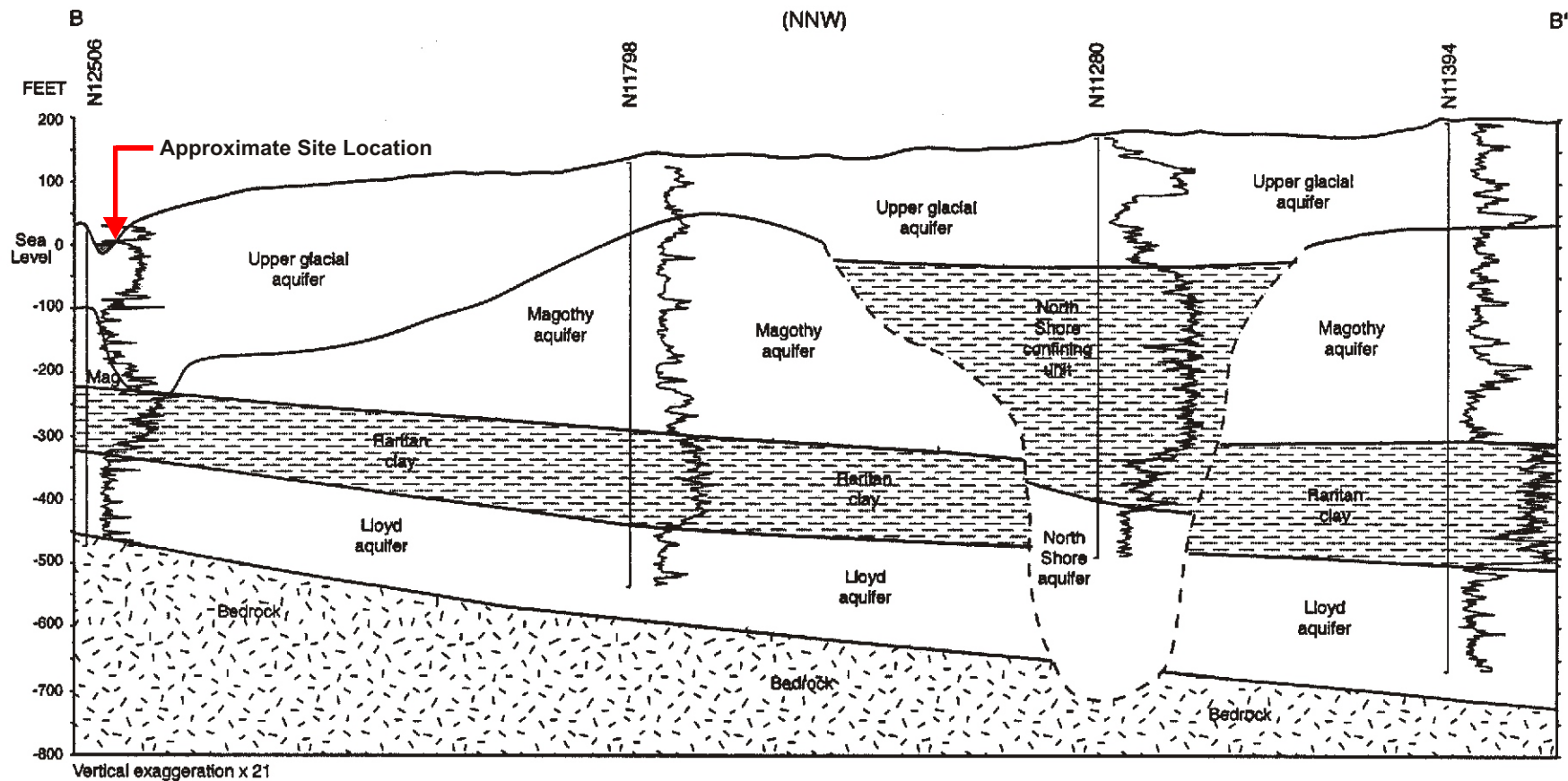
The Magothy aquifer is a Cretaceous-aged unit consisting of alternating layers of fine sand, silts and clays considered to have moderate groundwater transmitting properties. However, due to the numerous clay-rich zones, it is highly anisotropic with vertical hydraulic conductivities being approximately 0.01 of horizontal values. Note that, as depicted on Figure 1-4, the Magothy aquifer appears to be completely eroded in the vicinity of the Site



SOURCE: USGS WATER RESOURCES INVESTIGATIONS REPORT 03-4288

APPROXIMATE SCALE: 1"=1.25MI

1620 - Cross Section Key Map.cdr (10/07/11)



#### EXPLANATION

Mag

Magothy aquifer



GEOLOGICAL CONTACT—dashed  
where approximately located

WELL BORING AND TRACE OF  
GEOPHYSICAL (GAMMA RAY) LOG —  
well locations are shown in figure 2

0 0.5 1 MILE  
0 0.5 1 KILOMETER

SOURCE: USGS WATER RESOURCES INVESTIGATIONS REPORT 03-4288

1620 - Hydrogeologic Map.cdr (10/07/11)

**db** Dvirka  
and  
Bartilucci  
CONSULTING ENGINEERS  
a Division of D&B Engineers and Architects, P.C.

### GLENWOOD LANDING FORMER GAS PLANT SITE GLENWOOD LANDING, NEW YORK GEOLOGIC CROSS-SECTION OF SITE AND UPGRADIENT AREAS

FIGURE 1-4



property and gradually thickens upgradient to the east with a thickness of approximately 75 feet at a distance of 1 mile from Hempstead Harbor. The Magothy aquifer is the principal source for public water for Nassau County.

Underlying the Magothy aquifer are additional Cretaceous-aged units, including, in descending order, the Raritan Clay confining unit and the Lloyd aquifer. Consolidated bedrock is located approximately 475 feet below grade at the Site. The Raritan Clay beneath the Site consists of solid, compact clay at least 100 feet thick.

### Groundwater Flow

The water table is located within the Upper Glacial aquifer and is found at depths ranging from less than 6 feet at the Area 1A Parcel, adjacent to Hempstead Harbor, to approximately 115 feet below grade, approximately 1 mile to the east of the Site. Regional horizontal groundwater flow is westward toward Hempstead Harbor. Therefore, areas to the east of the Site property are considered upgradient to the site with respect to groundwater flow. At the Area 1A Parcel, hydraulic head measurements from deep and shallow groundwater monitoring wells identify a strong upward vertical gradient, indicating this is an area of groundwater discharge.

## **1.3 Summary of Previous Investigation Findings**

The Phase I ESA completed by Fluor Daniel GTI suggested the presence of several potential Recognized Environmental Conditions (RECs) in each of the three site areas. These RECs included leach fields, former above ground storage tanks (ASTs), fill deposits/areas, debris piles, structures, and gas handling/processing facilities.

The Phase II ESA completed by Fluor Daniel GTI investigated the proposed RECs reported in the Phase I ESA. Analytical results from samples collected during the Phase II ESA were compared to referenced background concentrations published by state and federal sources. Analytical results from the Phase II ESA suggested the following:

- Volatile organic compounds (VOCs) were present in groundwater in Area-1A at concentrations above published background levels;
- Inorganics were present in soil in Area-1B at concentrations above published background levels;
- Inorganics and polychlorinated biphenyls (PCBs) were present in soil in Area-2 at concentrations above published background levels; and
- VOCs, semivolatile organic compounds (SVOCs), and inorganics were present in soil in Area-3 at concentrations above published background levels.

The Supplemental ESA completed by IT Corporation was conducted to "delineate the chemicals detected during the Phase II ESA, and determine remediation cost estimates based on the delineation of chemical impacts." Analytical results from the Supplemental ESA suggested the following:

- VOCs were present in shallow groundwater on the west side of Area-1A at concentrations exceeding NYSDEC groundwater standards;
- Ash, asbestos and inorganics (particularly arsenic and vanadium) were present in surface and subsurface soils in the central portion of Area-1B. Arsenic and vanadium were present in concentrations above eastern United States background levels;
- In Area-2, mercury and polycyclic aromatic hydrocarbons (PAHs) were detected in debris piles along the western portion of the property above NYSDEC guidance values. Mercury was detected in soil borings from the former septic system in excess of NYSDEC guidance values. PCBs and PAHs were detected in soil borings in the boiler waste pit area;
- In Area-3, PAHs and PCBs were detected in the wastewater/condensate accumulation area above NYSDEC guidance values. One boring contained VOCs marginally above NYSDEC guidance values. PCBs were also detected above NYSDEC guidance values in the yard storage area.

A supplemental ESA and risk analysis was performed by VHB to evaluate VOCs in groundwater and inorganics in soil in Area-1. Analytical results from this investigation suggested the following:

- The arsenic and vanadium present in the surface and shallow subsurface soils in Area-1B was evaluated relative to certain site development scenarios. However, there was no immediate threat, and there was no evidence of migration from the site or into groundwater at that time, and access to the site was currently controlled. Additional characterization of the area was not necessary since the analytes of concern were associated with the presence of ash, which could be easily distinguished through visual inspection.
- VOCs were present in shallow groundwater in Area-1A above NYSDEC guidance values.

An upgradient Shallow Groundwater Investigation was performed on March 2 and 3, 2000 to determine whether a source of VOCs was present in shallow groundwater areas adjacent to Shore Road, and adjacent to former and existing septic tanks and leach fields.

- Nineteen groundwater samples were collected from temporary wells approximately 8 to 12 feet in depth installed using direct-push technology. In addition, four existing monitoring wells were sampled. These samples were analyzed for VOCs.
- Analytical results indicated the presence of chlorinated VOCs (tetrachloroethene (PCE), trichloroethene (TCE)) in shallow groundwater upgradient of Area-1, however the concentrations detected are well below the levels found in Area-1, and are also below applicable regulatory criteria.
- There appears to be no existing sources of VOCs in subsurface soils and shallow groundwater adjacent to Shore Road, the compressor building, storage sheds, laboratory, and associated septic structures.

Specific objectives of the VCA investigation included: determining if the storm sewers were a conduit or source of VOCs to shallow groundwater in Area-1A; verify presence of VOCs in shallow groundwater in Area- 1A; determine if a sinking dense non-aqueous phase liquids (DNAPL) plume exists in Area-1A; determine potential impact to shallow groundwater in Area-1B associated with overlying fill materials; collection of co-located surface water/sediment samples from the tidal pond in Area 1B to determine potential for surface water discharges; sampling under gas holder to determine if VOCs and/or SVOCs were present, and determine if inorganics were migrating or exist under the holder pad. The results from this investigation suggested the following:



- Geotechnical and analytical results from shallow groundwater samples in Area- 1A were consistent with previous investigations. The compounds and concentrations detected were consistent with previous data. No substantial confining layer was found in Area-1A. Analytical results indicated VOCs at depth in the Area-1A upgradient well. Based on the comprehensive investigation conducted in this area, there was no evidence of DNAPL or a sunken plume. Sufficient characterization was performed for the purpose of performing a preliminary remedial design. The shallow subsurface area between the drywells and Hempstead Harbor appeared to be a source of VOCs to shallow groundwater. Analytical results from Area-1A surface soil samples indicated five locations with SVOCs above site-specific action levels.
- Analytical results indicated an isolated area of VOCs in shallow groundwater in the northeast corner of Area-1B. The compounds detected were typically associated with the degradation of PCE and TCE. The primary 36-inch reinforced-concrete pipe (RCP) main that runs between Area-1A/1B serves as a shallow groundwater divide. No VOCs were found in the sewer or adjacent tidal pond. Analytical results for surface water samples collected from the pond in Area-1B indicated SVOCs were present in both samples at concentrations below action levels. Sediment samples collected from the pond indicated SVOCs were present in one of the two samples, but at concentrations below action levels.
- Discrete surface soil samples from areas 2 and 3 contained SVOCs, but at concentrations below action levels.
- Analytical results from subsurface soil samples collected from Area-2 confirmed the presence of SVOCs and PCBs at concentrations above site-specific action levels in isolated hotspots as previously defined.
- Analytical results from the subsurface soils collected from beneath the gas holder foundation in Area-3 indicated there were no compounds present at levels which require action. Analytical results of the grab groundwater sample contained no compounds that require action or indicate a migration of material from the drip storage area.
- The storm sewers were constructed consistent with as-built documentation. A 36-inch diameter RCP running east to west down the main site access road, between Areas- 1A and 1B, carries most of the storm runoff from the site to Hempstead Harbor. Analytical results from the storm sewer system indicated that there were no sources of VOCs in, or migrating from Area-2, Area-3, and off-site sources via the sewer.
- The survey conducted on the compressor building sub-floor found no evidence of a release or potential release to the subsurface from the building. All compressor equipment was removed from the building. A thorough examination of the sub-floor was conducted. The building sumps and roofs drains were connected to the main 36-inch site storm sewer.

A groundwater investigation was completed in three separate phases between March 2006 and December 2007 by National Grid to determine the likelihood that the chlorinated VOCs previously detected in groundwater at the Area 1A Parcel are actually associated with upgradient sources and do not originate from the Glenwood Landing Site. The findings of the first two phases were presented to the NYSDEC in a report dated August 2006. The combined findings of all three phases were then presented to the NYSDEC in a June 2008 Groundwater Investigation Findings report. A total of 15 groundwater probes, five membrane interface probes (MIPs) and one temporary monitoring well were completed as part of this investigation. A total of 110 groundwater samples were collected from the completed groundwater probes and temporary well for VOC analysis.

Based on the westerly direction of groundwater flow toward Hempstead Harbor, a minimum of five potential sources of chlorinated VOCs have been identified approximately 1 mile directly upgradient of the National Grid property including four dry cleaning businesses and an electronics manufacturer. The chlorinated VOC groundwater contamination located in the vicinity of the upgradient sites is referred to as the Glen Head groundwater plume by the NYSDEC. Based on currently available information, the total length, width and vertical thickness of the Glen Head groundwater plume has not been defined by the NYSDEC. However, based on regional ground flow, the National Grid property is clearly within the projected path of the plume.

The completed groundwater investigation identified contamination in groundwater consistent with the suspected upgradient sources extending well to the north and south of the National Grid Site. The identified contamination consists predominantly of PCE (a dry cleaning solvent) and, to a lesser degree, related contaminants such as TCE and 1,2-dichloroethene (1,2-DCE). Total chlorinated VOC concentrations were detected up to 1,347 ug/l along Shore Road, a minimum of 600 feet north and sidegradient of the National Grid property. The investigation data clearly indicates that the Glen Head groundwater plume, or other groundwater contaminant sources located upgradient of the National Grid Site, is impacting groundwater quality over a relatively large area, including the National Grid Site. Based on regional groundwater flow, the groundwater contaminant plume associated with these upgradient sources

migrates under the National Grid Site and is likely discharging to Hempstead Harbor. Based on D&B's assessment of the data generated by the NYSDEC in 2006 (and the results presented in the June 2008 report from D&B), the plume appears to be at least 2,800 feet in width along Shore Road, and well north and south (sidegradient) of the National Grid property.

## **1.4 Summary of Remedial Actions**

The Site was remediated in accordance with the Conceptual Remedial Action Plan provided in the NYSDEC-approved Supplemental Environmental Assessment Report dated September 2001. The remedial work was documented in the Remedial Action Summary Report – Surface and Shallow Subsurface Soil, dated August 2003.

The following is a summary of the Remedial Actions performed at the Site:

- Area-1A: Hot spot removal (excavation and off-site disposal) of surface soils (designated discrete areas 1A-5a through 1A-5e) with concentrations of carcinogenic polycyclic aromatic hydrocarbons (CPAHs) above the site cleanup objectives.
- Area-1B: The fill area of 1B was consolidated and covered with a clean fill cover to isolate detected levels of inorganics with concentrations above the site cleanup objectives.
- Area-2: Hot spot removal (excavation and off-site disposal) of surface and subsurface soils with concentrations of PCBs, CPAHs, and inorganics above the site cleanup objectives was completed down to the water table.
- Area-3: Hot spot removal (excavation and off-site disposal) of surface and subsurface soils with concentrations of PCBs, CPAHs, and inorganics above the site cleanup objectives was completed down to the water table.
- Demolition and removal of four Drip Pits located on the north, south, east, and west sides of the former gas holder foundation. Contaminated soil above the site cleanup objectives was also excavated from the Drip Pit footprints.
- Demolition and removal of the holder pad, compressor building, and ancillary facilities, utilizing proper environmental controls and techniques.
- Execution and recording of a Deed Restriction to restrict land use and prevent future exposure to any contamination remaining at the Site.

- Development and implementation of a Site Management Plan for long-term management of remaining contamination as required by the Deed Restriction, which includes plans for: (1) Institutional and Engineering Controls, (2) monitoring and (3) reporting.

Remedial activities were completed at the Site from October 2001 through January 2002, and completed in September 2002. The Deed Restriction will be executed and recorded once the SMP is finalized. At that time the Deed Restriction will be provided in Appendix A.

#### 1.4.1 Removal of Contaminated Materials from the Site

As part of the remedial activities at the Site, approximately 10,880 tons of non-hazardous contaminated soil was excavated and transported off-site for disposal at Clean Earth of New Castle, Inc., a permitted waste disposal facility located in New Castle, Delaware. A summary of the total amount of soil removed by remedial area is shown on Table 1-1.

Areas of soil contamination were excavated based on the concentrations of contaminants detected above applicable site specific cleanup goals. The site specific cleanup goals were based on a residential site reuse scenario using the following guidance documents: United States Environmental Protection Agency (USEPA) Region III Risk Based Concentrations; NYSDEC Technical and Administrative Guidance Memorandum (TAGM) No. 4046 Soil Cleanup Objectives (SCOs); and Association for Environmental Health and Sciences (AEHS) background levels for PAHs and selected metals in New England urban soils. A list of the SCOs for the Site is shown on Table 1-2.

Upon completion of the initial excavations, excavation endpoint samples were collected from each excavation area. One sample was collected from the bottom of the excavation, one outside each horizontal limit on the surface, and one sidewall sample per 5 feet of depth (i.e., an 8-foot deep excavation had two samples collected from each sidewall). Duplicate samples were collected from this matrix at a rate of 1 per 10. Samples collected were analyzed for SVOCs, PCBs, and Inorganics by Method 8270C, 8020, and NYS ASP 95 TAL Metals, respectively, at a

**Table 1-1**  
**SOIL DISPOSAL SUMMARY**

<b>Excavation Area</b>	<b>Estimated Soil Removal Quantity (tons)</b>
AREA 1-A	220
AREA 2-2	5,413
AREA 2-3	283
AREA 2-4	354
AREA 2-6	91
AREA 2-7	900
AREA 3-1	3,600
AREA 3-8 (DRIP PITS)	22

New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) facility. Results were compared to the SCOs for the Site, as shown on Table 1-2.

Based on the results of the excavation endpoint samples, several areas were re-excavated in order to address the full extent of the contamination. Excavation endpoint samples were collected again in the same fashion as described above. A map showing areas where excavation was performed is shown on the as-built drawing for the Site (see Appendix B).

#### 1.4.2 On-Site and Off-Site Treatment Systems

No long-term treatment systems were installed as part of the site remedy.

#### 1.4.3 Remaining Contamination

##### 1.4.3.1 – Soil

As discussed in Section 4.3, the property east of Shore Road was remediated to site-specific residential use SCOs established under the Department-approved conceptual RAP, dated September 2001. Excavations were limited to surface and shallow subsurface and did not extend below the water table in accordance with the conceptual RAP. At three locations, the site-specific residential use SCOs were not achieved because the excavations reached the water table. A summary of the excavation endpoint sample results from each area of the Site, as presented in the August 2003 “Remedial Action Summary Report – Surface and Shallow Subsurface Soil” (VHB, 2003), is included in Appendix C.

**Table 1-2**

**SITE SPECIFIC SOIL CLEANUP OBJECTIVES**

<b>Contaminant</b>	<b>Soil Cleanup Objective (mg/kg)</b>
Arsenic	20
Lead	400
Vanadium	500
Benzo(a)anthracene	1.0
Benzo(b)fluoranthene	1.0
Benzo(a)pyrene	0.1
Indeno(1,2,3-cd)pyrene	1.0
Benzo(g,h,i)perylene	310
Dibenzo(a,h)anthracene	0.1
PCBs	2.0

It should be noted that since the time the remedial excavation activities were completed, the NYSDEC has adopted new soil cleanup standards, which are presented in 6 NYCRR Part 375-6. As per this standard, different SCOs have been defined based on the intended future use of the property. Therefore, based on this new standard, the soil sample results collected from the area located to the west of Shore Road, which is intended to be used as open space, were compared to the restricted-residential use criteria and the soil sample results collected from the area located to the east of Shore Road, which is intended to be used as an electric generating station, were compared to the industrial use criteria. Although the endpoint soil samples collected in the areas located to the east of Shore Road are compared to the industrial use criteria, it should be noted that 94% of the VCA related property located to the east of Shore Road meets the restricted-residential criteria. As presented on the tables in Appendix C, several excavation endpoint samples were detected above the applicable 6 NYCRR Part 375 SCOs:

- Sample GLA1-2, collected from excavation Area 3-1, exhibited concentrations of benzo(a)pyrene and total PCBs above their applicable industrial use SCO;
- Samples GLDPW-02 and GLDPW-04S, collected from the drips pits west area, exhibited concentrations of arsenic above its applicable industrial use SCO; and
- Lastly, four soil samples collected from Area 2-2 had concentrations of PCBs above the site-specific cleanup goal of 2 mg/kg. However, the PCB concentrations were below the industrial use SCO for total PCBs of 25 mg/kg.

Excavation endpoint samples were not collected from Area 1B as part of the remedial activities; however, samples collected during previous investigations throughout Area 1B exhibited concentrations of arsenic, chromium, copper, mercury and nickel, above their applicable restricted residential use SCOs. Vanadium was also detected at elevated concentrations above the Site Specific Soil Cleanup Objectives, however 6 NYCRR Part 375 does not contain an applicable soil cleanup objective for vanadium.

The location of the areas with residual contamination above the application SCOs, as discussed above, is provided on the as-built drawing provided in Appendix B.



#### 1.4.3.2 – Groundwater

A groundwater investigation was completed in three separate phases between March 2006 and December 2007 by National Grid to determine the likelihood that the chlorinated VOCs previously detected in groundwater at the Area 1A Parcel are actually associated with upgradient sources and do not originate from the Glenwood Landing Site. The findings of the first two phases were presented to the NYSDEC in a report dated August 2006. The combined findings of all three phases were then presented to the NYSDEC in a June 2008 Groundwater Investigation Findings report. A total of 15 groundwater probes, five membrane interface probes (MIPs) and one temporary monitoring well were completed as part of this investigation. A total of 110 groundwater samples were collected from the completed groundwater probes and temporary well for VOC analysis.

Based on the westerly direction of groundwater flow toward Hempstead Harbor, a minimum of five potential sources of chlorinated VOCs have been identified approximately 1 mile directly upgradient of the Site including four dry cleaning businesses and an electronics manufacturer. The chlorinated VOC groundwater contamination located in the vicinity of the upgradient sites is referred to as the Glen Head groundwater plume by the NYSDEC. Based on currently available information, the total length, width and vertical thickness of the Glen Head groundwater plume has not been defined by the NYSDEC. However, based on regional ground flow, the Site is clearly within the projected path of the plume.

The completed groundwater investigation identified contamination in groundwater consistent with the suspected upgradient sources extending well to the north and south of the Site. The identified contamination consists predominantly of PCE (a dry cleaning solvent) and, to a lesser degree, related contaminants such as TCE and 1,2-dichloroethene (1,2-DCE). Total chlorinated VOC concentrations were detected up to 1,347 ug/l along Shore Road, a minimum of 600 feet north and sidegradient of the Site. The investigation data clearly indicates that the Glen Head groundwater plume, or other groundwater contaminant sources located upgradient of the Site, is impacting groundwater quality over a relatively large area, including the Site. Based on regional groundwater flow, the groundwater contaminant plume associated with these upgradient

sources migrates under the Site and is likely discharging to Hempstead Harbor. Based on D&B's assessment of the data generated by the NYSDEC in 2006 (and the results presented in the June 2008 report from D&B), the plume appears to be at least 2,800 feet in width along Shore Road, and well north and south (sidegradient) of the Site.

#### 1.4.4 Engineering and Institutional Controls

Since remaining contamination is present at this site, Engineering Controls and Institutional Controls have been implemented to protect public health and the environment for the applicable future use. The Site has the following Engineering Controls:

- A cover system in Area 3 consisting of clean fill from the bottom of the excavation area to approximately 6 inches below grade and 6 inches of topsoil and seed; and
- A cover system in Area 1B consisting of 10 oz./square yard geotextile, 1 foot of clean clay/soil cover and 6 inches of topsoil and seed, including perimeter drainage improvements.
- The potential for vapor intrusion must be evaluated for any new buildings proposed on the Site, and mitigated as necessary to allow for safe construction;

A series of Institutional Controls are required to implement, maintain and monitor these Engineering Controls. The Deed Restriction requires compliance with these Institutional Controls, to ensure that:

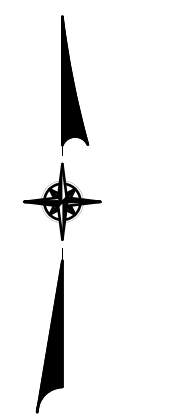
- All Engineering Controls are maintained as specified in this SMP;
- All Engineering Controls on the Site are inspected and certified at a frequency and in a manner defined in this SMP;
- Soil vapor and other environmental or public health monitoring is performed as defined in this SMP; and
- Data and information pertinent to Site Management for the Site is reported at the frequency and in a manner defined in this SMP.

In addition, the Deed Restriction places the following restrictions on the property:

- Any future activities on the property that will disturb remaining contamination in Areas 3 and 1B must be conducted in accordance with the Excavation Work Plan included in this SMP;
- The portion of the property located to the east of Shore Road may be used for industrial use, provided that the long-term Engineering and Institutional Controls remain in use as described in this SMP;
- The portion of the property located to the west of Shore Road may be used for restricted residential use, provided that the long-term Engineering and Institutional Controls, in particular the Area 1B soil cover system, remain in use as described in this SMP;
- Any proposed changes to the portions of the property that are subject to Engineering and Institutional Controls must be approved by NYSDEC; and
- Use of groundwater underlying the Site property is prohibited without testing and/or treatment to ensure it is safe for the intended use.

These EC/ICs are designed to:

- Prevent ingestion/direct contact with contaminated soil;
- Prevent ingestion of groundwater with contaminant levels that exceed drinking water standards;
- Prevent contact with or inhalation of volatiles from contaminated groundwater;
- Prevent the discharge of site-related contaminants to surface water; and
- Prevent migration of site-related contaminants that would result in off-site groundwater or surface water contamination.



HEMPSTEAD  
HARBOR

- LEGEND**
- INDUSTRIAL USE AREAS
  - RESTRICTED RESIDENTIAL USE AREAS
  - NASSAU COUNTY TAX MAP LOT BOUNDARY
  - EASEMENT BOUNDARY

SOURCE:  
AUGUST 8, 2001 GLENWOOD LANDING SURVEY, KEYSPAN ENGINEERING & SURVEY, INC.  
MARCH 2003 SITE PLAN, VHB, INC.

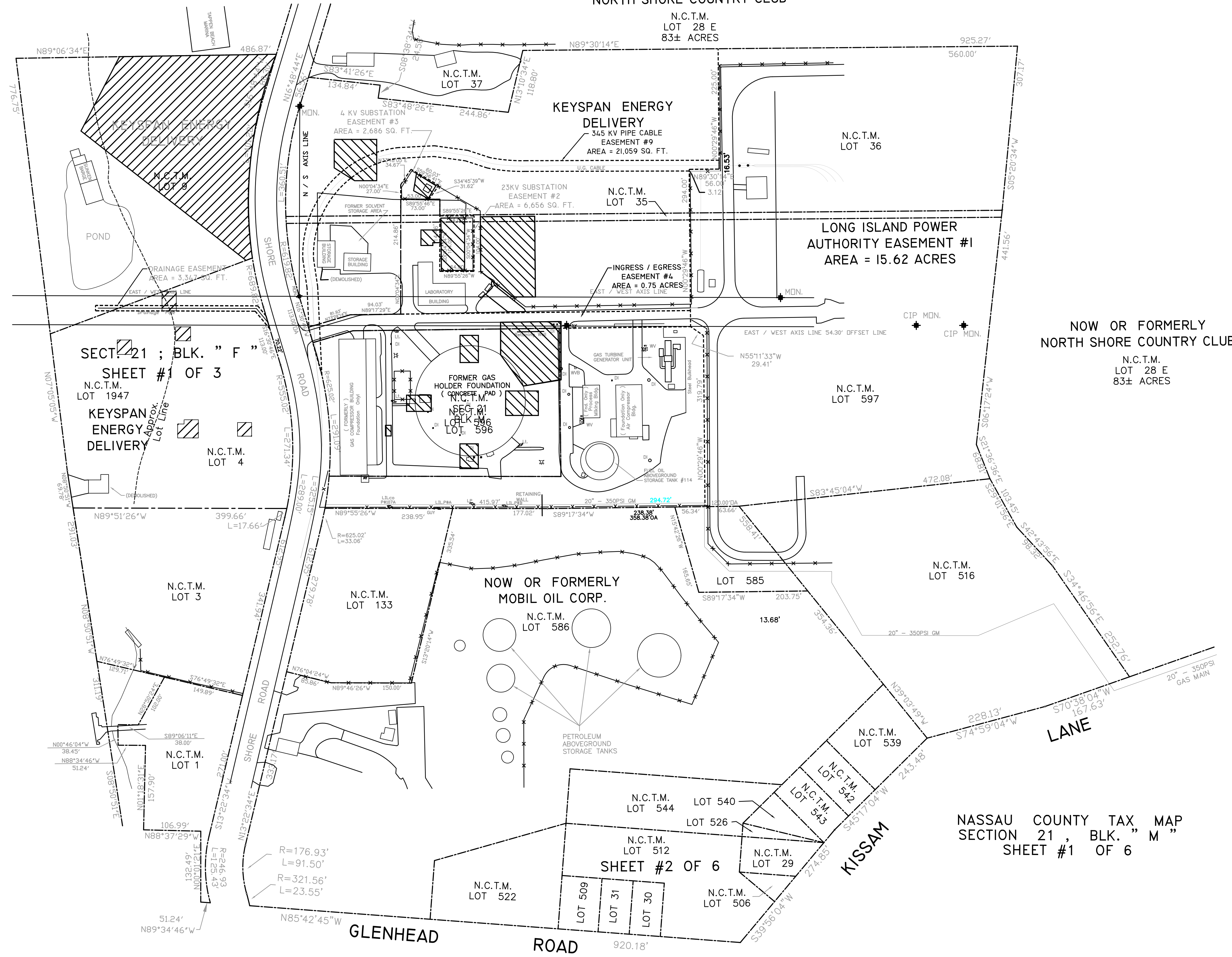


NATIONAL GRID GLENWOOD LANDING

**SITE PLAN**

NOW OR FORMERLY  
NORTH SHORE COUNTRY CLUB

N.C.T.M.  
LOT 28 E  
83± ACRES



NOW OR FORMERLY  
NORTH SHORE COUNTRY CLUB

N.C.T.M.  
LOT 28 E  
83± ACRES

NASSAU COUNTY TAX MAP  
SECTION 21, BLK. "M"  
SHEET #1 OF 6

SCALE: 1" = 100'

## **2.0 ENGINEERING AND INSTITUTIONAL CONTROL PLAN**

### **2.1 Introduction**

#### **2.1.1 General**

Remedial activities completed at the site were conducted in accordance with the NYSDEC-approved VCA Work Plan for the Site (September 2001) and the NYSDEC-approved Supplemental Environmental Assessment Report for the Site (September 2001). The remedial goals included attainment of site specific SCOs for on-site soils for residential use. However, the portion of the Site to the east of Shore Road was ultimately developed as an electric generating station following remedial actions, thus some contamination above the site specific SCOs for residential use, but less than the SCOs for industrial use, was left in place. Approximately 94% of the VCA related property located to the east of Shore Road meets restricted-residential use standards. The initial site specific SCOs and all changes to the site specific SCOs were approved by the NYSDEC and are listed in Table 1-2.

Since remaining contaminated soil and groundwater exists beneath the site, Engineering Controls and Institutional Controls (EC/ICs) exist to protect human health and the environment. It should be noted that while contaminated groundwater exists beneath the Site, it is due to an upgradient source; however, provisions to protect human health and the environment from this groundwater contamination is included in this Plan.

This Engineering and Institutional Control Plan describes the procedures for the implementation and management of all EC/ICs at the site. The EC/IC Plan is one component of the SMP and is subject to revision by NYSDEC.

#### **2.1.2 Purpose**

The purpose of this Plan is to provide:

- A description of all EC/ICs on the site;
- The basic operation and intended role of each implemented EC/IC;
- A description of the key components of the ICs created as stated in the Deed Restriction;
- A description of the features that should be evaluated during each periodic inspection and compliance certification period;
- A description of plans and procedures to be followed for implementation of EC/ICs, such as the implementation of the Excavation Work Plan for the safe handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the site; and
- Any other provisions necessary to identify or establish methods for implementing the EC/ICs required by the site remedy, as determined by the NYSDEC.

## **2.2 Engineering Controls**

### **2.2.1 Engineering Control Systems**

Exposure to remaining soil/fill contamination in portions of the Site is prevented by two soil cover systems. A soil cover system was placed in Area 1B, which is comprised of a 10 oz./square yard geotextile, 1 foot of clean clay/soil cover and 6 inches of topsoil and seed and Area 3, which is comprised of clean fill from the bottom of the excavation area to approximately 6 inches below grade and 6 inches of topsoil and seed. A summary of the soil cover system thickness is provided on Table 2-1. The Excavation Work Plan that appears in Appendix D outlines the procedures required to be implemented in the event the soil cover system is breached, penetrated or temporarily removed, and any underlying remaining contamination is disturbed. Procedures for the inspection and maintenance of this soil cover are provided in the Monitoring Plan included in Section 3.0 of this SMP.

### **2.2.2 Criteria for Completion of Remediation/Termination of Remedial Systems**

The soil cover systems are a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals in perpetuity.

**Table 2-1**

**SOIL COVER SYSTEM SUMMARY**

<b>Area</b>	<b>Soil Cover System Thickness (feet from ground surface)</b>
1B	1'-6"
3-1	8'
3 (Drip Pits West)	6'

## 2.3 Institutional Controls

A series of Institutional Controls is required by the Voluntary Cleanup Agreement to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limit the use and development of the Site to the east of Shore Road as industrial use only and to the west of Shore Road as restricted residential use only (unless other future uses are approved by the NYSDEC). Adherence to these Institutional Controls on the site is required by the Deed Restriction and will be implemented under this Site Management Plan. These Institutional Controls are:

- Compliance with the Deed Restriction by the Grantor and the Grantor's successors and assigns with all elements of this SMP;
- All Engineering Controls must be operated and maintained as specified in this SMP;
- All Engineering Controls on the Controlled Property must be inspected and certified at a frequency and in a manner defined in the SMP;
- Soil vapor and other environmental or public health monitoring must be performed as defined in this SMP; and
- Data and information pertinent to Site Management for the Controlled Property must be reported at the frequency and in a manner defined in this SMP.

Institutional Controls may not be discontinued without an amendment to or extinguishment of the Deed Restriction.

The Site has a series of Institutional Controls in the form of site restrictions. Adherence to these Institutional Controls is required by the Deed Restriction. Site restrictions that apply to the Site are:

- Use of groundwater underlying the Site property is prohibited without testing and/or treatment to ensure it is safe for the intended use;
- All future activities on the property that will disturb contaminated material are prohibited unless they are conducted in accordance with this SMP;



- The portion of the property located to the east of Shore Road may be used for industrial use, provided that the long-term Engineering and Institutional Controls remain in use as described in this SMP.
- The portion of the property located to the west of Shore Road may be used for restricted residential use, provided that the long-term Engineering and Institutional Controls, in particular the Area 1B soil cover system, remain in use as described in this SMP.
- The two portions of the property may not be used for a higher level of use, without NYSDEC approval, and amendment and approval of the Deed Restriction.
- The site owner or remedial party will submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow and will be made by an expert that the NYSDEC finds acceptable.

### 2.3.1 Excavation Work Plan

The Site has been fully remediated for industrial use to the east of Shore Road and restricted residential use to the west of Shore Road. Any future intrusive work that will penetrate, encounter or disturb the remaining contamination, and any modifications or repairs to the existing soil cover system, will be performed in compliance with the Excavation Work Plan (EWP) that is attached as Appendix D to this SMP. Intrusive construction work must also be conducted in accordance with a Health and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) prepared for the Site, which shall be prepared by the contractor performing the excavation work in accordance with DER-10, 29 CFR 1910, 29 CFR 1926, and all other applicable Federal, State and local regulations. A summary of any intrusive construction work performed will also be included in the periodic inspection and certification reports submitted under the Site Management Reporting Plan (See Section 4.0).

The Site owner and the contractor performing the excavation work, are completely responsible for the safe performance of all invasive work, the structural integrity of excavations, the identification of any buried utilities within the excavation area and for structures that may be affected by excavations (such as building foundations and footings). In addition, the Site owner will ensure that site development activities will not interfere with, or otherwise impair or compromise, the engineering controls described in this SMP.

### 2.3.2 Soil Vapor Intrusion Evaluation

Prior to the construction of any new enclosed structures on the Area 1 part of the Site property, a soil vapor intrusion (SVI) evaluation will be performed to determine whether any mitigation measures are necessary to eliminate potential exposure to vapors in the proposed structure. The design of the building foundation will also be considered in this type of evaluation. Alternatively, an SVI mitigation system can be installed as an element of the building foundation without first conducting an investigation. The mitigation system would potentially include a vapor barrier and passive sub-slab venting system that is capable of being converted to an active system.

Prior to conducting an SVI investigation or installing a mitigation system, a work plan would be developed and submitted to the NYSDEC and NYSDOH for approval. This work plan would be developed in accordance with the most recent NYSDOH “Guidance for Evaluating Vapor Intrusion in the State of New York.” Measures to be employed to mitigate potential vapor intrusion will be evaluated, selected, designed, installed, and maintained based on the SVI evaluation, the NYSDOH guidance, and construction details of the proposed structure.

SVI sampling data will be forwarded to the NYSDEC and NYSDOH for initial review and interpretation. Upon validation, the final data will be transmitted to the agencies, along with a recommendation for follow-up action.

SVI sampling results, evaluations, and follow-up actions will also be summarized in the subsequent Periodic Review Report (see Section 4.0).

## **2.4 Inspections and Notifications**

### **2.4.1 Inspections**

Inspections of all remedial components at the Site will be conducted at the frequency specified in the SMP Monitoring Plan schedule. A comprehensive site-wide inspection will be conducted annually, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether Engineering Controls continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Deed Restriction;
- If site records are complete and up to date; and
- Changes, or needed changes, to the Engineering Controls.

Inspections will be conducted in accordance with the procedures set forth in the Monitoring Plan of this SMP (Section 3.0). The reporting requirements are outlined in the Management Reporting Plan (Section 4.0).

If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs, an inspection of the site will be conducted within 5 days of the event to verify the effectiveness of the EC/ICs implemented at the site by a qualified environmental professional as determined by NYSDEC.

### **2.4.2 Notifications**

Relative to areas of the Site covered by this SMP, notifications will be submitted by the property owner to the NYSDEC as needed for the following reasons:

- 60-day advance notice of any proposed changes in Site use that are required under the terms of the Voluntary Cleanup Agreement (VCA), 6 NYCRR Part 375, and/or Environmental Conservation Law.
- 15-day advance notice of any proposed ground-intrusive activities pursuant to the Excavation Work Plan.
- Notice within 5 business days (48 hours) of any damage or defect to the foundations structures that reduces or has the potential to reduce the effectiveness of other Engineering Controls and likewise any action to be taken to mitigate the damage or defect.
- Notice within 5 business days (48 hours) of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of Engineering Controls in place at the site, including a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action shall be submitted to the NYSDEC within 45 days and shall describe and document actions taken to restore the effectiveness of the ECs.

Any change in the ownership of the site or the responsibility for implementing this SMP will include the following notifications:

- At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser has been provided with a copy of the Voluntary Cleanup Agreement (VCA), and all approved work plans and reports, including this SMP
- Within 15 days after the transfer of all or part of the Site, the new owner's name, contact representative, and contact information will be confirmed in writing.

## **2.5 Contingency Plan**

Emergencies may include injury to personnel, fire or explosion, environmental release, or serious weather conditions.

### 2.5.1 Emergency Telephone Numbers

In the event of any environmentally related situation or unplanned occurrence requiring assistance, the Owner or Owner's representative(s) should contact the appropriate party from the contact list as provided in Table 2-2. For emergencies, appropriate emergency response personnel should be contacted. These emergency contact lists must be maintained in an easily accessible location at the site.

### 2.5.2 Map and Directions to Nearest Health Facility

**Site Location:** Glenwood Landing Former Gas Plant Site

**Nearest Hospital Name:** Glen Cove Hospital

**Hospital Location:** 101 St. Andrews Lane, Glen Cove, NY 11542

**Hospital Telephone:** 516-674-7300

**Directions to the Hospital:** From the Site, head south on Shore Road. Turn left at Glen Cove Avenue (2.2 miles). Continue on Brewster Street (0.3 miles). Continue on Forest Avenue (0.6 miles). Turn right at Walnut Road (0.1 mile). Turn right at Saint Andrews Lane (472 feet). The hospital is located on the left.

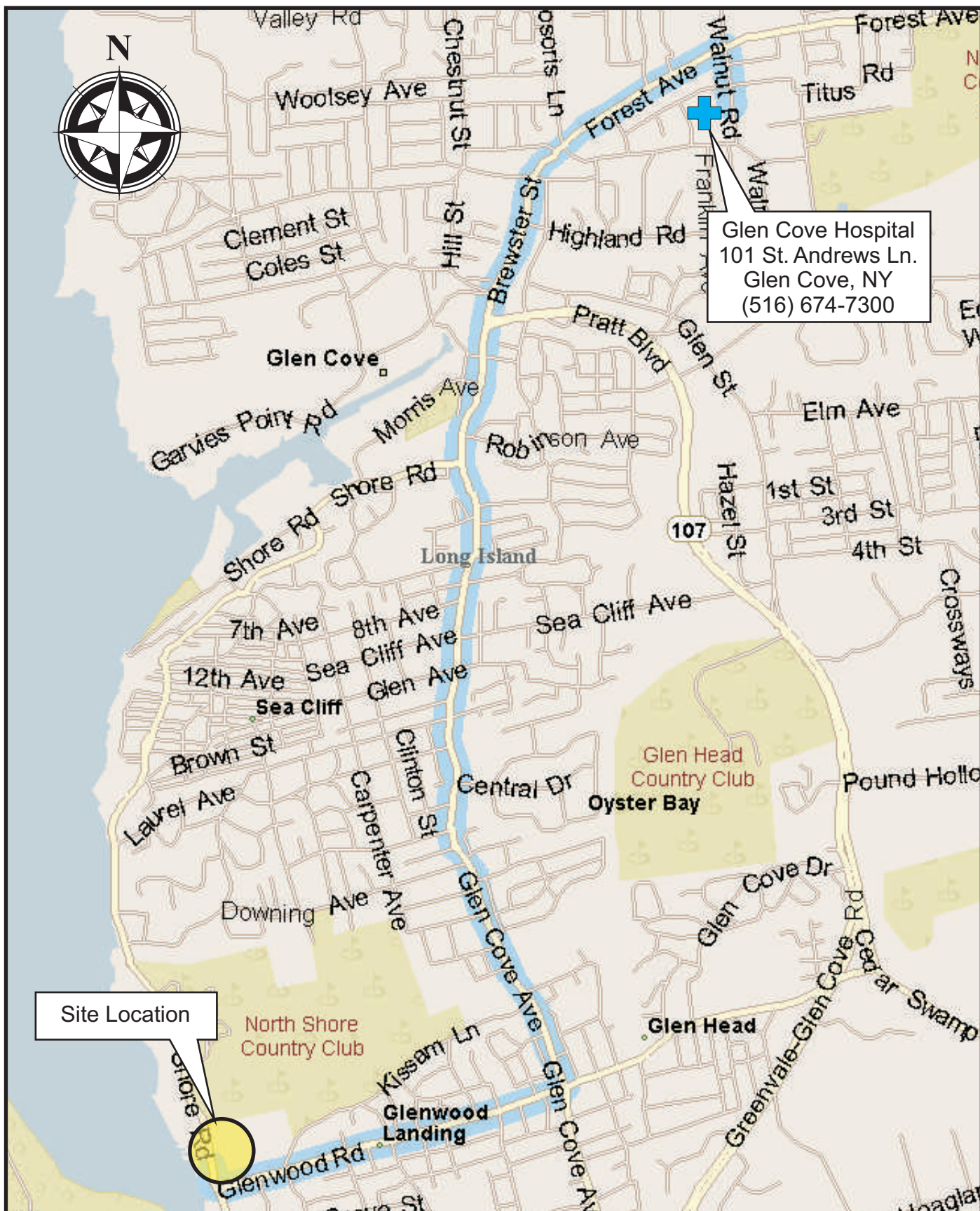
**Total Distance:** 4.4 miles

**Total Estimated Time:** 12 minutes

A map depicting the route to the hospital is provided as Figure 2-1.

### 2.5.3 Response Procedures

As appropriate, the Fire Department and other emergency response group will be notified immediately by telephone of the emergency. The emergency telephone number list can be found in Table 2-2. The list will also be posted prominently at the site and made readily available to all personnel at all times.



Source: Microsoft Streets and Trips 2001

1620 Figures/Glenwood Landing/Hospital Route Map Fig 2-1.cdr (7/20/09)

**Table 2-2**  
**EMERGENCY CONTACT NUMBERS**

<b>Agency</b>	<b>Phone Number</b>
Police Department:	911
Fire Department:	911
Ambulance	911
Hospital	(516) 674-7300
One Call Center:	(800) 962-7962
Region 2 EPA Hotline	(800) 424-8802
Poison Control Center:	(800) 292-6678
National Response Center (NRC) for Oil/Chemical Spills	(800) 424-8802
NYSDEC Spills Hotline	(800) 457-7362

\* Note: Contact numbers subject to change and should be updated as necessary

## **3.0 MONITORING PLAN**

### **3.1 Introduction**

#### **3.1.1 General**

The Monitoring Plan describes the measures for evaluating the performance and effectiveness of the remedy to reduce or mitigate contamination at the site, including all engineering controls (ECs) and all affected site media. ECs at the site include a soil cover system. This Monitoring Plan may only be revised with the approval of NYSDEC.

#### **3.1.2 Purpose and Schedule**

This Monitoring Plan describes the methods to be used for:

- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment; and
- Preparing the necessary reports for the various monitoring activities.

To adequately address these issues, this Monitoring Plan provides information on:

- Inspection protocol and frequency;
- Reporting requirements; and
- Annual inspection and periodic certification.

Annual monitoring of the performance of the remedy will be conducted for the first 5 years. The frequency thereafter will be determined by NYSDEC. Monitoring programs are summarized in Table 3-1 and outlined in detail in Sections 3.2 and 3.3 below.



**Table 3-1**

**MONITORING/INSPECTION SCHEDULE**

<b>Monitoring Program</b>	<b>Frequency*</b>
Area 1B: Soil Cover System	Annual
Area 3: Soil Cover System	Annual

\* The frequency of events will be conducted as specified until otherwise approved by NYSDEC and NYSDOH

## **3.2 Engineering Control System Monitoring**

Exposure to remaining contamination in soil/fill at the site is prevented by a soil cover system placed over portions of the Site. This cover system in Area 1B is comprised of a 10 oz./square yard geotextile, 1 foot of clean clay/soil cover and 6 inches of topsoil and seed, and Area 3 has clean fill from the bottom of the excavation area to approximately 6 inches below grade and 6 inches of topsoil and seed. In addition, a perimeter drainage swale, consisting of vegetated waterways and riprap, was installed along the north, east, and portions of the south side of the Area 1B soil cover system area to accommodate runoff. An as-built drawing depicting the soil cover system is provided in Appendix B.

### **3.2.1 Monitoring Schedule**

As provided in Table 3-1, the inspection frequency for the soil cover systems will be on an annual basis. Inspection will consist of a visual observation of the cover systems to ensure it remains in place and has not been disturbed. Disturbances can include non-backfilled excavations, areas which do not show a uniform stand of vegetative cover or areas which appear to be eroding. In addition, the inspection of Area 1B will also include visual observation of the soil cover system perimeter drainage system to ensure nothing is impeding the system and it has not been disturbed.

Inspection frequency is subject to change with the approval of the NYSDEC. Unscheduled inspections may take place when a suspected failure of the soil cover system has been reported or an emergency occurs that is deemed likely to affect the operation of the system.

### **3.2.2 Repair Schedule**

If after the completion of the inspections of the soil cover system a deficiency is noted, it shall be repaired by the Site owner in a timely manner, integrating appropriate engineering evaluation as necessary. Repair of the soil cover system in Area 1B will include the following:

- Placement of a 10 oz./square yard geotextile material if existing geotextile has been damaged;
- Placement of a clean fill/clay mixture to approximately 6 inches below grade;
- Placement of 6 inches of topsoil to grade;
- Seeding and/or the placement of sod in restored area;
- Watering and mowing of restored areas to ensure a uniform stand of vegetation is produced; and
- Placement of riprap within areas of the perimeter drainage swale.

Repair of the soil cover system in Area 3 will include the following:

- Placement of a clean fill to approximately 6 inches below grade;
- Placement of 6 inches of topsoil to grade;
- Seeding and/or the placement of sod in restored area; and
- Watering and mowing of restored areas to ensure a uniform stand of vegetation is produced.

All repairs completed will be verified by the qualified environmental professional as part of their inspection of the engineering controls (see Section 4.0).

### **3.3 Site-Wide Inspection**

Site-wide inspections will be performed on a regular schedule at a minimum of once a year. Site-wide inspections will also be performed after all severe weather conditions that may affect the Engineering Controls. During these inspections, an inspection form will be completed (Appendix E). The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage;
- An evaluation of the condition and continued effectiveness of ECs;

- General site conditions at the time of the inspection;
- The site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection;
- Confirm that site records are up to date.

### **3.4 Monitoring Reporting Requirements**

Forms and any other information generated during regular monitoring events and inspections will be kept on file at a central location. All forms, and other relevant reporting formats used during the monitoring/inspection events, will be (1) subject to approval by NYSDEC and (2) submitted at the time of the Periodic Review Report, as specified in the Reporting Plan of this SMP. Data will be reported in hard copy or digital format as determined by NYSDEC.

## **4.0 SITE MANAGEMENT REPORTING PLAN**

### **4.1 Introduction**

A Periodic Review Report will be submitted to NYSDEC annually, beginning eighteen months after the No Further Action letter is issued. The Periodic Review Report will be prepared in accordance with NYSDEC DER-10 “Technical Guidance for Site Investigation and Remediation” requirements. The frequency of submittal of the Periodic Review Report may be modified with the approval of the NYSDEC.

This report will include the following:

- Identification of all EC/ICs required for the site;
- An assessment of the effectiveness of all Institutional and Engineering Controls for the site;
- An evaluation of the Engineering and Institutional Control Plan and the Monitoring Plan for adequacy in meeting remedial goals;
- Results of the required annual site inspections and severe condition inspections, if any;
- A compilation of all deliverables generated during the reporting period, as specified in the EC/IC Plan and the Monitoring Plan; and
- Certification of the EC/ICs.

In the event that the site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the site as described in the Deed Restriction.

### **4.2 Certification of Engineering and Institutional Controls**

Information on the EC/ICs can be found in the Engineering and Institutional Control Plan portion of the SMP. Inspection of the EC/ICs will occur at a frequency described in the Monitoring Plan. After the last inspection of the reporting period, a qualified environmental

professional or Professional Engineer licensed to practice in New York State will sign and certify the document. The document will certify that:

- On-site ECs/ICs are unchanged from the previous certification;
- Site use is compliant with the Deed Restriction;
- On-site ECs/ICs remain in-place and are effective;
- Nothing has occurred that would impair the ability of the controls to protect the public health and environment;
- Access is available to the site by NYSDEC and NYSDOH to evaluate continued maintenance of such controls;
- The inspection of the site to confirm the effectiveness of the IC/ECs was performed under the direction of the individual making this certification;
- To the best of their knowledge and belief, the work and conclusions described in the certification are in accordance with the requirements of the site remedial program;
- The information presented is accurate and complete; and
- The signed certification will be included in the Periodic Review Report (see Section 5.4).

## **4.3 Site Inspections**

### **4.3.1 Inspection Frequency**

All inspections will be conducted at the frequency specified in the schedules provided in the Monitoring Plan section of this SMP. Inspections of remedial components will also be conducted whenever a severe condition has taken place, such as an erosion or flooding event that may affect the ECs.

### **4.3.2 Inspection Forms**

All inspections and monitoring events will be recorded on the forms which are contained in Appendix E. These forms are subject to NYSDEC revision.

All applicable inspection forms and other records generated for the site during the reporting period will be included in the Periodic Review Report.

#### 4.3.3 Evaluation of Records and Reporting

The results of the inspection and site monitoring data will be evaluated as part of the EC/IC certification to confirm that the:

- EC/ICs are in place, are performing properly, and remain effective;
- The Monitoring Plan is being implemented;
- EC repair activities are being conducted properly; and,
- The site remedy continues to be protective of public health and the environment and is performing as designed.

#### 4.4 Periodic Review Report

A Periodic Review Report will be submitted on an annual basis, beginning eighteen months after the No Further Action Letter is issued and within 45 days of the end of each certification period. The report will include:

- EC/IC certification;
- All applicable inspection forms and other records generated for the site during the reporting period;
- A summary of any information generated during the reporting period with comments and conclusions;
- A site evaluation, which includes the following:
  - The compliance of the remedy with the requirements of the site-specific Conceptual Remedial Action Plan presented in the NYSDEC-approved Supplemental Environmental Site Assessment Report dated September 2001 and this SMP;

- The condition of all ECs, including identification of any needed repairs or modifications;
- Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring Plan;
- Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan; and
- The overall performance and effectiveness of the remedy.

The Periodic Review Report will be submitted, in hard-copy format, to the NYSDEC - Region 1 Office, and in electronic format to NYSDEC Central Office and the NYSDOH Bureau of Environmental Exposure Investigation.

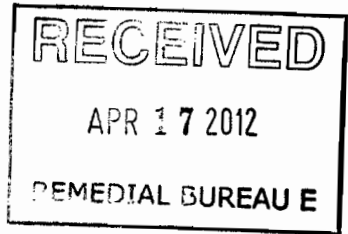
#### **4.5 Corrective Measures Plan**

If any component of the remedy is found to be compromised, or if the periodic certification cannot be provided due to an issue with an institutional or engineering control, a Corrective Measures Plan will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the Corrective Measures Plan until it is approved by the NYSDEC.



## **APPENDIX A**

### **DEED RESTRICTION**



NASSAU COUNTY CLERK'S OFFICE  
ENDORSEMENT COVER PAGE

Recorded Date: 02-24-2012  
Recorded Time: 11:43:30 a

Record and Return To:  
AECOM  
ATTN TAMERA REBY  
100 CORPORATE PKWY  
SUITE 341  
AMHERST, NY 14226

Liber Book: D 12804  
Pages From: 723  
To: 737 *A*

Control  
Number: 747  
Ref #:  
Doc Type: D03 DECLARATION RESTRICTIONS

Location:	Section	Block	Lot	Unit
OYSTER BAY (2824)	0021	0000F-00	00004	
OYSTER BAY (2824)	0021	0000F-00	00009	
OYSTER BAY (2824)	0021	0000F-00	01947	

	Taxes Total	.00
GJS001	Recording Totals	190.00
	Total Payment	190.00

THIS PAGE IS NOW PART OF THE INSTRUMENT AND SHOULD NOT BE REMOVED  
MAUREEN O'CONNELL  
COUNTY CLERK



2012022400747

R/R AECOM  
100 Corporate Pkwy  
Suite 341  
Amherst, N.Y. 14226  
Attn: Tamara Reby

## DECLARATION of COVENANTS and RESTRICTIONS

**THIS COVENANT** is made the 21<sup>st</sup> day of October 2011, by KeySpan Gas East Corporation d/b/a National Grid, a corporation of the State of New York, having its principal office at 175 East Old Country Road, Hicksville, New York 11801; and

**WHEREAS**, Glenwood Landing Propane Plant and Compressor Station is the subject of Voluntary Cleanup Agreement executed by KeySpan Energy Delivery Long Island, the former fictitious name (*i.e.*, d/b/a) of KeySpan Gas East Corporation as part of the New York State Department of Environmental Conservation's (the Department's) Voluntary Cleanup Program, namely that parcel of real property located On Nassau County Tax Map Section 21, Block F, Lots 4, 9 and 1947, located on Shore Road in the Town of Oyster Bay, County of Nassau, State of New York, which is part of lands conveyed by Long Island Lighting Company to MarketSpan Gas Corporation by deed dated May 27, 1998 and recorded in the Nassau County Clerk's Office in Liber 10921 from Page 0406 through Page 0415 and being more particularly described in Appendix "A," attached to this declaration and made a part hereof and hereinafter referred to as "the Property"; and

**WHEREAS**, the Department approved a remedy to eliminate or mitigate all significant threats to the environment presented by the contamination disposed at the Property and such remedy requires that the Property be subject to restrictive covenants.

**NOW, THEREFORE**, KeySpan Gas East Corporation, for itself and its successors and/or assigns, covenants that:

First, the Property subject to this Declaration is as shown on a map attached to this Declaration as Appendix "B" and made a part hereof.

Second, unless prior written approval by the Department or, if the Department shall no longer exist, any New York State agency or agencies subsequently created to protect the environment of the State and the health of the State's citizens (hereinafter referred to as the "Relevant Agency"), is first obtained, where contamination remains at the Property subject to the provisions of the approved Site Management Plan (the "SMP"), dated October 2011, there shall be no construction, use or occupancy of the Property that results in the disturbance or excavation of the Property, which threatens the integrity of the soil cap, or which results in unacceptable human exposure to contaminated soils. The cover page and table of contents of the SMP is attached to this Declaration as Appendix "C" and made a part hereof.

Third, the Owner of the Property shall maintain the cap covering the Property by maintaining its grass cover or, after obtaining the written approval of the Department or Relevant Agency, by capping the Property with another material. The Owner of the Property shall not disturb, remove, or otherwise interfere with the installation, use,

operation, and maintenance of engineering controls required for the remedy, which are described in the SMP, unless in each instance the Owner obtains a written waiver of such prohibition from the Department or Relevant Agency.

Fourth, the Owner of the Property shall prohibit the Property from ever being used for purposes other than for Restricted Residential, Commercial or Industrial Use without the express written waiver of such prohibition by the Department or Relevant Agency.

Fifth, the Owner of the Property shall prohibit the use of the groundwater underlying the Property without treatment rendering it safe for drinking water or industrial purposes, as appropriate, unless the user first obtains permission to do so from the Department or Relevant Agency.

Sixth, the Owner of the Property shall continue in full force and effect any institutional and engineering controls required under the SMP and maintain such controls, unless the Owner first obtains permission to discontinue such controls from the Department or Relevant Agency.

Seventh, this Declaration is and shall be deemed a covenant that shall run with the land and shall be binding upon all future owners of the Property, and shall provide that the Owner and its successors and assigns consent to enforcement by the Department or Relevant Agency of the prohibitions and restrictions that the SMP requires to be recorded, and hereby covenant not to contest the authority of the Department or Relevant Agency to seek enforcement.

Eighth, any deed of conveyance of the Property, or any portion thereof, shall recite, unless the Department or Relevant Agency has consented to the termination of such covenants and restrictions, that said conveyance is subject to this Declaration.

[Signature Page Follows]

IN WITNESS WHEREOF, the undersigned has executed this instrument the day written below.

Robert P Teetz  
Name: Robert P Teetz

Title: vice president

::ODMA\PCDOCS\DOCS\287179\I

STATE OF NEW YORK )  
 )ss:  
COUNTY OF Nassau )

On the 21<sup>st</sup> day of October in the year 2011, before me, the undersigned, personally appeared Robert D. Teetz, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signatures(s) on the instrument, the individual(s), or the person on behalf of which the individual(s) acted, executed the instrument.

Beth P Santanello  
Notary Signature

Notary Stamp & Expiration Date:

BETH P. SANTANELLO  
NOTARY PUBLIC, State of New York  
No. 018A6197484  
Qualified in Nassau County  
Commission Expires December 1, 2012

Schedule A

Quad 01327  
Job - FE1106  
Dated: 02/08/11

Description of NYSDEC Env. Remediation Area #1  
Nassau County Tax Map (2010)  
Glenwood Gas Plant - Parcel 177  
SBL Section 021; Block "F"; P/O Lot 4  
Sheet #1 of 3  
Situating in  
Glenwood Landing, Town of Oyster Bay  
Nassau County, State of New York

Beginning at the southeasterly corner of the herein described easement the said true point or place of beginning being more fully described and located as follows:

Beginning at the intersection of the northerly right-of-way line of Glenhead Road and the easterly right-of-way line of Shore Road; running thence northerly along the easterly right-of-way line of Shore Road the following THREE (3) bearings and distances:

1. Along the arc of a curve to the right having a radius of 321.56 feet an a arc length of 23.55 feet to a point;
  2. Along the arc of a curve to the right having a radius of 176.93 feet an a arc length of 91.50 feet to a point;
  3. North 13° 22' 34" East 612.95 feet to a point;
- Thence running across Shore Road North 76° 37' 26" West 70.00 feet to a point on the westerly right-of-way line of Shore Road; Thence northerly along the westerly right-of-way line of Shore Road along the arc of a curve to the left having a radius of 555.02 feet an a arc length of 153.69 feet to a point; Thence running through P/O Lot 4 along a Tie-Line Due West 76.44 feet to the true point or place of beginning;

Thence continuing running though P/O Lot 4 the following FOUR ( 4 ) bearings and distances:

1. Due West 26.34 feet to a point;
2. Due North 25.48 feet to a point;
3. Due East 26.34 feet to a point;
4. Due South 25.48 feet to the true point of place of beginning;

Containing within said bounds 671 Sq. Ft. more or less.

Being and intending to be a part of the same premises conveyed to the party of the first part by deeds recorded in the Nassau County Clerks Office as follows;

<u>Deed Dated</u>	<u>Recorded</u>	<u>Recorded Date</u>
May 8, 1947	Liber 3330, Page 240	May 14, 1947
May 27, 1998	Liber 10921, Page 406	June 18, 1998

Legal Description was  
Established From a Map By:  
Nationgrid Survey Division  
Dated: May 22, 2001  
Revised: Feb. 8, 2011  
Revived: Sept. 17, 2011

Bearings, Distances and Area  
Of Easement were computed  
By Nationalgrid System Surveyor  
Roy D. Hunt L.S. #050220



Schedule A

Quad 01327  
Job - FE1106  
Dated: 02/08/11

Description of NYSDEC Env. Remediation Area #2  
Nassau County Tax Map (2010)  
Glenwood Gas Plant - Parcel 177  
Section 021; Block "F"; P/O Lot 4  
Sheet #1 of 3  
Situated in  
Glenwood Landing, Town of Oyster Bay  
Nassau County, State of New York

Beginning at the southeasterly corner of the herein described easement the said true point or place of beginning being more fully described and located as follows:

Beginning at the intersection of the northerly right-of-way line of Glenhead Road and the easterly right-of-way line of Shore Road; running thence northerly along the easterly right-of-way line of Shore Road the following THREE (3) bearings and distances:

1. Along the arc of a curve to the right having a radius of 321.56 feet an a arc length of 23.55 feet to a point;
2. Along the arc of a curve to the right having a radius of 176.93 feet an a arc Length of 91.50 feet to a point;
3. North 13° 22' 34" East 612.95 feet to a point;

Thence running across Shore Road North 76° 37' 26" West 70.00 feet to a point on the westerly right-of-way line of Shore Road; Thence northerly along the westerly right-of-way line of Shore Road along the arc of a curve to the left having a radius of 555.02 feet an a arc length of 150.21 feet to a point; Thence running through P/O Lot 4 along a Tie-Line Due West 176.23 feet to the true point or place of beginning;

Thence continuing running though P/O Lot 4 the following SIX ( 6 ) bearings and distances:

1. Due West 38.69 feet to a point;
2. Due North 25.99 feet to a point;
3. Due East 11.96 feet to a point;
4. Due North 7.93 feet to a point;
5. Due East 26.74 feet to a point;
6. Due South 33.93 feet to the true point of place of beginning;

Containing within said bounds 1,218 Sq. Ft. more or less.

Being and intending to be a part of the same premises conveyed to the party of the first part by deeds recorded in the Nassau County Clerks Office as follows;

<u>Deed Dated</u>	<u>Recorded</u>	<u>Recorded Date</u>
May 8, 1947	Liber 3330, Page 240	May 14, 1947
May 27, 1998	Liber 10921, Page 406	June 18, 1998

Legal Description was  
Established From a Map By:  
Nationgrid Survey Division  
Dated: May 22, 2001  
Revised: Feb. 8, 2011  
Revised: Sept. 17, 2011

Bearings, Distances and Area  
Of Easement were computed  
By Nationalgrid System Surveyor  
Roy D. Hunt L.S. #050220



Schedule A

Quad 01327  
Job - FE1106  
Dated: 02/08/11

Description of NYSDEC Env. Remediation Area #3  
Nassau County Tax Map (2010)  
Glenwood Gas Plant - Parcel 177  
Section 021; Block "F"; P/O Lot 1947  
Sheet #1 of 3  
Situated in  
Glenwood Landing, Town of Oyster Bay  
Nassau County, State of New York

Beginning at the southeasterly corner of the herein described easement the said true point or place of beginning being more fully described and located as follows:

Beginning at the intersection of the northerly right-of-way line of Glenhead Road and the easterly right-of-way line of Shore Road; running thence northerly along the easterly right-of-way line of Shore Road the following THREE (3) bearings and distances:

1. Along the arc of a curve to the right having a radius of 321.56 feet an a arc length of 23.55 feet to a point;
2. Along the arc of a curve to the right having a radius of 176.93 feet an a arc Length of 91.50 feet to a point;
3. North 13° 22' 34" East 612.95 feet to a point;

Thence running across Shore Road North 76° 37' 26" West 70.00 feet to a point on the westerly right-of-way line of Shore Road; Thence running northerly along the westerly right-of-way line of Shore Road the following TWO ( 2 ) bearings and distances:

1. Along the arc of a curve to the left having a radius of 555.02 feet an a arc length of 288.53 feet to a point;
2. North 16° 30' 46" West 20.76 feet to a point;

Thence running through P/O Lots 4 and 1947 along a Tie-Line Due West 272.78 feet to the true point or place of beginning;

Thence continuing running though P/O Lot 1947 the following FOUR ( 4 ) bearings and distances:

1. Due West 26.75 feet to a point;
2. Due North 27.03 feet to a point;
3. Due East 26.75 feet to a point;
4. Due South 27.03 feet to the true point of place of beginning;

Containing within said bounds 723 Sq. Ft. more or less.

Being and intending to be a part the same premises conveyed to the party of the first part by deeds recorded in the Nassau County Clerks Office as follows;

<u>Deed Dated</u>	<u>Recorded</u>	<u>Recorded Date</u>
May 8, 1947	Liber 3330, Page 240	May 14, 1947
May 27, 1998	Liber 10921, Page 406	June 18, 1998

Legal Description was  
Established From a Map By:  
Nationgrid Survey Division  
Dated: May 22, 2001  
Revised: Feb. 8, 2011  
Revised: Sept. 17, 2011

Bearings, Distances and Area  
Of Easement were computed  
By Nationalgrid System Surveyor  
Roy D. Hunt L.S. #050220





Schedule A

Quad 01327  
Job - FE1106  
Dated: 02/08/11

Description of NYSDEC Env. Remediation Area #4  
Nassau County Tax Map (2010)  
Glenwood Gas Plant - Parcel 177  
Section 021; Block "F"; P/O Lot 4  
Sheet #1 of 3  
Situated in  
Glenwood Landing, Town of Oyster Bay  
Nassau County, State of New York

Beginning at the southeasterly corner of the herein described easement the said true point or place of beginning being more fully described and located as follows:

Beginning at the intersection of the northerly right-of-way line of Glenhead Road and the easterly right-of-way line of Shore Road; running thence northerly along the easterly right-of-way line of Shore Road the following THREE (3) bearings and distances:

1. Along the arc of a curve to the right having a radius of 321.56 feet an a arc length of 23.55 feet to a point;
2. Along the arc of a curve to the right having a radius of 176.93 feet an a arc Length of 91.50 feet to a point;
3. North 13° 22' 34" East 612.95 feet to a point;

Thence running across Shore Road North 76° 37' 26" West 70.00 feet to a point on the westerly right-of-way line of Shore Road; Thence running northerly along the westerly right-of-way line of Shore Road the following TWO ( 2 ) bearings and distances:

1. Along the arc of a curve to the left having a radius of 555.02 feet an a arc length of 288.53 feet to a point;
2. North 16° 30' 46" West 47.11 feet to a point;

Thence running through P/O Lot 4 along a Tie-Line Due West 154.91 feet to the true point or place of beginning;

Thence continuing running though P/O Lot 4 the following FOUR ( 4 ) bearings and distances:

1. Due West 28.07 feet to a point;
2. Due North 26.00 feet to a point;
3. Due East 28.07 feet to a point;
4. Due South 26.00 feet to the true point of place of beginning;

Containing within said bounds 730 Sq. Ft. more or less.

Being and intending to be a part of the same premises conveyed to the party of the first part by deeds recorded in the Nassau County Clerks Office as follows;

<u>Deed Dated</u>	<u>Recorded</u>	<u>Recorded Date</u>
May 8, 1947	Liber 3330, Page 240	May 14, 1947
May 27, 1998	Liber 10921, Page 406	June 18, 1998

Legal Description was  
Established From a Map By:  
Nationgrid Survey Division  
Dated: May 22, 2001  
Revised: Feb. 8, 2011  
Revised: Sept. 17, 2011

Bearings, Distances and Area  
Of Easement were computed  
By Nationalgrid System Surveyor  
Roy D. Hunt L.S. #050220



Schedule A

Quad 01327  
Job - FE1106  
Dated: 02/08/11

Description of NYSDEC Env. Remediation Area #5  
Nassau County Tax Map (2010)  
Glenwood Gas Plant - Parcel 177  
Section 021; Block "F"; P/O Lots 4 & 1947  
Sheet #1 of 3  
Situated in  
Glenwood Landing, Town of Oyster Bay  
Nassau County, State of New York

Beginning at the southeasterly corner of the herein described easement the said true point or place of beginning being more fully described and located as follows:

Beginning at the intersection of the northerly right-of-way line of Glenhead Road and the easterly right-of-way line of Shore Road; running thence northerly along the easterly right-of-way line of Shore Road the following THREE (3) bearings and distances:

1. Along the arc of a curve to the right having a radius of 321.56 feet an a arc length of 23.55 feet to a point;
2. Along the arc of a curve to the right having a radius of 176.93 feet an a arc Length of 91.50 feet to a point;
3. North 13° 22' 34" East 612.95 feet to a point;

Thence running across Shore Road North 76° 37' 26" West 70.00 feet to a point on the westerly right-of-way line of Shore Road; Thence running northerly along the westerly right-of-way line of Shore Road the following TWO ( 2 ) bearings and distances:

1. Along the arc of a curve to the left having a radius of 555.02 feet an a arc length of 288.53 feet to a point;
2. North 16° 30' 46" West 105.64 feet to a point;

Thence running through P/O Lot 4 along a Tie-Line Due West 164.97 feet to the true point or place of beginning;

Thence continuing running though P/O Lots 4 and Lot 1947 the following FOUR ( 4 ) bearings and distances:

1. Due West 26.75 feet to a point;
2. Due North 35.58 feet to a point;
3. Due East 26.75 feet to a point;
4. Due South 35.58 feet to the true point of place of beginning;

Containing within said bounds 952 Sq. Ft. more or less.

Being and intending to be a part of the same premises conveyed to the party of the first part by deeds recorded in the Nassau County Clerks Office as follows;

<u>Deed Dated</u>	<u>Recorded</u>	<u>Recorded Date</u>
May 8, 1947	Liber 3330, Page 240	May 14, 1947
May 27, 1998	Liber 10921, Page 406	June 18, 1998

Legal Description was  
Established From a Map By:  
Nationgrid Survey Division  
Dated: May 22, 2001  
Revised: Feb. 8, 2011  
Revised: Sept. 17, 2011

Bearings, Distances and Area  
Of Easement were computed  
By Nationalgrid System Surveyor  
Roy D. Hunt L.S. #050220



Schedule A

Quad 01327  
Job - FE1106  
Dated: 02/08/11

Description of NYSDEC Env. Remediation Area #6  
Nassau County Tax Map (2010)  
Glenwood Gas Plant - Parcel 177  
Section 021; Block "F"; P/O Lots 9 & 1947  
Sheet #1 of 3  
Situated in  
Glenwood Landing, Town of Oyster Bay  
Nassau County, State of New York

Beginning at the southeasterly corner of the herein described easement the said true point or place of beginning being more fully described and located as follows:

Beginning at the intersection of the northerly right-of-way line of Glenhead Road and the easterly right-of-way line of Shore Road; running thence northerly along the easterly right-of-way line of Shore Road the following THREE (3) bearings and distances:

1. Along the arc of a curve to the right having a radius of 321.56 feet an a arc length of 23.55 feet to a point;
  2. Along the arc of a curve to the right having a radius of 176.93 feet an a arc Length of 91.50 feet to a point;
  3. North 13° 22' 34" East 612.95 feet to a point;
- Thence running across Shore Road North 76° 37' 26" West 70.00 feet to a point on the westerly right-of-way line of Shore Road; Thence running northerly along the westerly right-of-way line of Shore Road the following THREE ( 3 ) bearings and distances:
1. Along the arc of a curve to the left having a radius of 555.02 feet an a arc length of 288.53 feet to a point;
  2. North 16° 30' 46" West 113.00 feet to a point;
  3. Along the arc of a curve to the right having a radius of 689.82 feet an a arc length of 93.93 feet to the true point or place of beginning;

Thence running along the division line of Lots 4 and 9 South 69° 25' 48" West 12.76 feet to a point;

Thence running though P/O Lots 9 and Lot 1947 the following TWO ( 2 ) bearings and distances:

1. North 51° 55' 18" West 392.18 feet to a point;
2. North 27° 25' 15" East 156.50 feet to a point on the division line of Lots 9 and Lot 10-B ( Town of Oyster Bay ) ;

Thence running along said division line North 89° 06' 34" East 293.38 feet to a point on the westerly right-of-way line of Shore Road;

Thence running along said right-of-way the following TWO ( 2 ) bearings and distances:

1. South 16° 48' 44" West 80.30 feet to a point;
3. Along the arc of a curve to the left having a radius of 689.82 feet an a arc length of 307.29 feet to the true point of place of beginning;

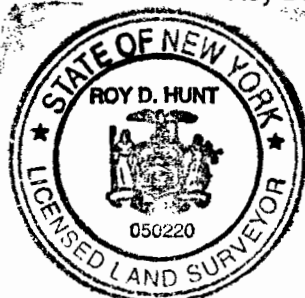
Containing within said bounds 82,549 Sq. Ft. or 1.90 Acres more or less.

Being and intending to be a part of the same premises conveyed to the party of the first part by deeds recorded in the Nassau County Clerks Office as follows;

<u>Deed Dated</u>	<u>Recorded</u>	<u>Recorded Date</u>
May 8, 1947	Liber 3330, Page 240	May 14, 1947
May 27, 1998	Liber 10921, Page 406	June 18, 1998

Legal Description was  
Established From a Map By:  
Nationgrid Survey Division  
Dated: May 22, 2001  
Revised: Feb. 8, 2011  
Revised: Sept. 17, 2011

Bearings, Distances and Area  
Of Easement were computed  
By Nationalgrid System Surveyor  
Roy D. Hunt L.S. #050220



Schedule A

Quad 01327  
Job - FE1106  
Dated: 02/08/11

Description of NYSDEC Env. Remediation Area #6  
Nassau County Tax Map (2010)  
Glenwood Gas Plant - Parcel 177  
Section 021; Block "F"; P/O Lots 9 & 1947  
Sheet #1 of 3  
Situated in  
Glenwood Landing, Town of Oyster Bay  
Nassau County, State of New York

Beginning at the southeasterly corner of the herein described easement the said true point or place of beginning being more fully described and located as follows:

Beginning at the intersection of the northerly right-of-way line of Glenhead Road and the easterly right-of-way line of Shore Road; running thence northerly along the easterly right-of-way line of Shore Road the following THREE (3) bearings and distances:

1. Along the arc of a curve to the right having a radius of 321.56 feet an a arc length of 23.55 feet to a point;
  2. Along the arc of a curve to the right having a radius of 176.93 feet an a arc Length of 91.50 feet to a point;
  3. North 13° 22' 34" East 612.95 feet to a point;
- Thence running across Shore Road North 76° 37' 26" West 70.00 feet to a point on the westerly right-of-way line of Shore Road; Thence running northerly along the westerly right-of-way line of Shore Road the following THREE ( 3 ) bearings and distances:
1. Along the arc of a curve to the left having a radius of 555.02 feet an a arc length of 288.53 feet to a point;
  2. North 16° 30' 46" West 113.00 feet to a point;
  3. Along the arc of a curve to the right having a radius of 689.82 feet an a arc length of 93.93 feet to the true point or place of beginning;

Thence running along the division line of Lots 4 and 9 South 69° 25' 48" West 12.76 feet to a point;

Thence running though P/O Lots 9 and Lot 1947 the following TWO ( 2 ) bearings and distances:

1. North 51° 55' 18" West 392.18 feet to a point;
2. North 27° 25' 15" East 156.50 feet to a point on the division line of Lots 9 and Lot 10-B ( Town of Oyster Bay ) ;

Thence running along said division line North 89° 06' 34" East 293.38 feet to a point on the westerly right-of-way line of Shore Road;

Thence running along said right-of-way the following TWO ( 2 ) bearings and distances:

1. South 16° 48' 44" West 80.30 feet to a point;
3. Along the arc of a curve to the left having a radius of 689.82 feet an a arc length of 307.29 feet to the true point of place of beginning;

Containing within said bounds 82,549 Sq. Ft. or 1.90 Acres more or less.

Being and intending to be a part of the same premises conveyed to the party of the first part by deeds recorded in the Nassau County Clerks Office as follows;

<u>Deed Dated</u>	<u>Recorded</u>	<u>Recorded Date</u>
May 8, 1947	Liber 3330, Page 240	May 14, 1947
May 27, 1998	Liber 10921, Page 406	June 18, 1998

Legal Description was  
Established From a Map By:  
Nationgrid Survey Division  
Dated: May 22, 2001  
Revised: Feb. 8, 2011  
Revised: Sept. 17, 2011

Bearings, Distances and Area  
Of Easement were computed  
By Nationalgrid System Surveyor  
Roy D. Hunt L.S. #050220



**nationalgrid**

N.C.T.M. LOT 10-B  
Now or Formerly  
Town Of Oyster Bay

LEASE AGREEMENT  
AREA #10  
AREA = 5,509 SQ. FT.

N.C.T.M. LOT 28 E  
83± ACRES

**KEYSPAN ENERGY DELIVERY**  
TOTAL AREA = 29.43 AC.

N.C.T.M. LOT 36

**LONG ISLAND POWER AUTHORITY EASEMENT #1**  
AREA = 15.62 ACRES

N.C.T.M. LOT 28 E  
83± ACRES

**NOW OR FORMERLY NORTH SHORE COUNTRY CLUB**

**KEYSPAN ENERGY DELIVERY**  
TOTAL AREA = 29.43 AC.  
- 2.75 AC  
26.68 AC

**NOW OR FORMERLY MOBILE OIL CORP.**

**NASSAU COUNTY TAX MAP**  
SECTION 21, BLK. "M"  
SHEET #1 OF 6

**GLEN HEAD ROAD**

**KISSAM**

**LEGEND**  
P.B. = Point of Beginning  
= NYSDEC Env. Areas

**GRAPHIC SCALE**  
1" = 100'

**GRAPHIC SCALE**  
1" = 100'

**NOTES:**  
1. Unauthorized alteration or addition to a survey map bearing a licensed land surveyor seal is a violation of section 7209, sub-section 2 of the N.Y. State Education Law and is illegal.  
2. Only codes from the original of this survey marked with an original of the land surveyor's enclosed seal or purple seal shall be valid copies.  
3. Certifications indicated herein signify that this survey was prepared in accordance with the existing Code of Practice for Land Surveys adopted by the N.Y. State Association of Professional Land Surveyors. Said certifications shall run only to the person for whom the survey is prepared, and on behalf of the Title Company, governmental agency and lending institution listed herein, and to the assignees of the lending institution. Certifications are not transferable to additional institutions or subsequent owners.  
4. Underground improvements or encroachments, if any, are not shown herein.

**PREPARED BY**  
NATIONALGRID ENGINEERING & SURVEY, INC.  
175 EAST OLD COUNTRY ROAD  
HICKSVILLE, NEW YORK 11801

**DATE**  
1/22/01

**SCALE**  
1" = 100'

**PROJECT**  
NASSAU COUNTY TAX MAP SECTION 21, BLK. "M"

**DATE**  
1/22/01

**SCALE**  
1" = 100'

**PROJECT**  
NASSAU COUNTY TAX MAP SECTION 21, BLK. "M"

**SITE MANAGEMENT PLAN**

**NATIONAL GRID GLENWOOD LANDING FORMER GAS PLANT SITE  
GLENWOOD LANDING, NEW YORK**

**VOLUNTARY CLEANUP AGREEMENT NO. R1-0001-01-01**

*Prepared for:*

**NATIONAL GRID  
HICKSVILLE, NEW YORK**

*Prepared by:*

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

**OCTOBER 2011**

**SITE MANAGEMENT PLAN  
NATIONAL GRID GLENWOOD LANDING FORMER GAS PLANT SITE**

**TABLE OF CONTENTS**

<u>Section</u>	<u>Description</u>	<u>Page</u>
	<b>EXECUTIVE SUMMARY .....</b>	<b>ES-1</b>
<b>1.0</b>	<b>INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM .....</b>	<b>1-1</b>
1.1	Introduction.....	1-1
1.1.1	General.....	1-1
1.1.2	Purpose.....	1-4
1.1.3	Revisions.....	1-5
1.2	Site Background.....	1-5
1.2.1	Site Location and Description.....	1-5
1.2.2	Site History .....	1-6
1.2.3	Geologic Conditions .....	1-7
1.3	Summary of Previous Investigation Findings.....	1-10
1.4	Summary of Remedial Actions.....	1-15
1.4.1	Removal of Contaminated Materials from the Site .....	1-16
1.4.2	On-Site and Off-Site Treatment Systems .....	1-18
1.4.3	Remaining Contamination .....	1-18
1.4.3.1	Soil .....	1-18
1.4.3.2	Groundwater .....	1-20
1.4.4	Engineering and Institutional Controls .....	1-22
<b>2.0</b>	<b>ENGINEERING AND INSTITUTIONAL CONTROL PLAN.....</b>	<b>2-1</b>
2.1	Introduction.....	2-1
2.1.1	General .....	2-1
2.1.2	Purpose.....	2-1
2.2	Engineering Controls .....	2-2
2.2.1	Engineering Control Systems .....	2-2
2.2.2	Criteria for Completion of Remediation/ Termination of Remedial Systems.....	2-2
2.3	Institutional Controls .....	2-4
2.3.1	Excavation Work Plan .....	2-5
2.3.2	Soil Vapor Intrusion Evaluation .....	2-6
2.4	Inspections and Notifications.....	2-7
2.4.1	Inspections .....	2-7
2.4.2	Notifications.....	2-7

## TABLE OF CONTENTS (continued)

<u>Section</u>	<u>Description</u>	<u>Page</u>
2.5	Contingency Plan .....	2-8
2.5.1	Emergency Telephone Numbers.....	2-9
2.5.2	Map and Directions to Nearest Health Facility.....	2-9
2.5.3	Response Procedures .....	2-9
<b>3.0</b>	<b>MONITORING PLAN .....</b>	<b>3-1</b>
3.1	Introduction.....	3-1
3.1.1	General .....	3-1
3.1.2	Purpose and Schedule .....	3-1
3.2	Engineering Control System Monitoring.....	3-3
3.2.1	Monitoring Schedule.....	3-3
3.2.2	Repair Schedule .....	3-3
3.3	Site-Wide Inspection.....	3-4
3.4	Monitoring Reporting Requirements .....	3-5
<b>4.0</b>	<b>SITE MANAGEMENT REPORTING PLAN .....</b>	<b>4-1</b>
4.1	Introduction.....	4-1
4.2	Certification of Engineering and Institutional Controls.....	4-1
4.3	Site Inspections .....	4-2
4.3.1	Inspection Frequency .....	4-2
4.3.2	Inspection Forms.....	4-2
4.3.3	Evaluation of Records and Reporting.....	4-3
4.4	Periodic Review Report .....	4-3
4.5	Corrective Measures Plan .....	4-4

### List of Appendices

Deed Restriction.....	A
As-Built Drawing.....	B
Excavation Endpoint Sample Results .....	C
Excavation Work Plan .....	D
Institutional and Engineering Control Inspection Form .....	E



## TABLE OF CONTENTS (continued)

### List of Figures

---

1-1	Site Plan .....	1-2
1-2	Site Location Map .....	1-3
1-3	Cross Section Key Map .....	1-8
1-4	Geologic Cross Section of Site and Upgradient Areas .....	1-9
2-1	Hospital Route Map .....	2-10

### List of Tables

---

1-1	Soil Disposal Summary .....	1-17
1-2	Site-Specific Soil Cleanup Objectives .....	1-19
2-1	Soil Cover System Summary .....	2-3
2-2	Emergency Contact Numbers .....	2-11
3-1	Monitoring/Inspection Schedule .....	3-2

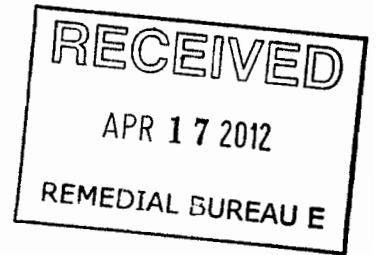
### List of Drawings

---

1	Site Plan .....	Map Pocket at end of Section 1.0
---	-----------------	----------------------------------



NASSAU COUNTY CLERK'S OFFICE  
ENDORSEMENT COVER PAGE



Recorded Date: 02-24-2012  
Recorded Time: 11:43:30 a

Record and Return To:  
AECOM  
ATTN TAMERA REBY  
100 CORPORATE PKWY  
SUITE 341  
AMHERST, NY 14226

Liber Book: D 12804  
Pages From: 738  
To: 758

Control  
Number: 748  
Ref #:  
Doc Type: D03 DECLARATION RESTRICTIONS

Location:	Section	Block	Lot	Unit
OYSTER BAY (2824)	0021	0000M-00	00035	
OYSTER BAY (2824)	0021	0000M-00	00036	
OYSTER BAY (2824)	0021	0000M-00	00516	
OYSTER BAY (2824)	0021	0000M-00	00585	
OYSTER BAY (2824)	0021	0000M-00	00596-597	

	Taxes Total	.00
GJS001	Recording Totals	220.00
	Total Payment	220.00

THIS PAGE IS NOW PART OF THE INSTRUMENT AND SHOULD NOT BE REMOVED  
MAUREEN O'CONNELL  
COUNTY CLERK



R/R AECOM  
100 Corporate Park  
Suite 301  
Amherst, N.Y. 14226  
Attn: Tamara Raby

## DECLARATION of COVENANTS and RESTRICTIONS

**THIS COVENANT** is made the 21<sup>st</sup> day of October 2011, by KeySpan Gas East Corporation d/b/a National Grid, a corporation of the State of New York, having its principal office at 175 East Old Country Road, Hicksville, New York 11801; and

**WHEREAS**, Glenwood Landing Propane Plant and Compressor Station is the subject of Voluntary Cleanup Agreement executed by KeySpan Energy Delivery Long Island, the former fictitious name (*i.e.*, d/b/a) of KeySpan Gas East Corporation as part of the New York State Department of Environmental Conservation's (the Department's) Voluntary Cleanup Program, namely that parcel of real property found on Nassau County Tax Map Section 21, Block M, Lots 35, 36, 516, 585, 596 and 597, located on Shore Road in the Town of Oyster Bay, County of Nassau, State of New York, which is part of lands conveyed by Long Island Lighting Company to MarketSpan Gas Corporation by deed dated May 27, 1998 and recorded in the Nassau County Clerk's Office in Liber 10921 from Page 0406 through Page 0415 and being more particularly described in Appendix "A," attached to this declaration and made a part hereof and hereinafter referred to as "the Property"; and

**WHEREAS**, the Department approved a remedy to eliminate or mitigate all significant threats to the environment presented by the contamination disposed at the Property and such remedy requires that the Property be subject to restrictive covenants.

**NOW, THEREFORE**, KeySpan Gas East Corporation, for itself and its successors and/or assigns, covenants that:

First, the Property subject to this Declaration is as shown on a map attached to this Declaration as Appendix "B" and made a part hereof.

Second, unless prior written approval by the Department or, if the Department shall no longer exist, any New York State agency or agencies subsequently created to protect the environment of the State and the health of the State's citizens (hereinafter referred to as the "Relevant Agency"), is first obtained, where contamination remains at the Property subject to the provisions of the approved Site Management Plan (the "SMP"), dated October 2011, there shall be no construction, use or occupancy of the Property that results in the disturbance or excavation of the Property, which threatens the integrity of the soil cap, or which results in unacceptable human exposure to contaminated soils. The cover page and table of contents of the SMP is attached to this Declaration as Appendix "C" and made a part hereof.

Third, the Owner of the Property shall maintain the cap covering the Property by maintaining its grass cover or, after obtaining the written approval of the Department or Relevant Agency, by capping the Property with another material. The Owner of the Property shall not disturb, remove, or otherwise interfere with the installation, use,

operation, and maintenance of engineering controls required for the remedy, which are described in the SMP, unless in each instance the Owner obtains a written waiver of such prohibition from the Department or Relevant Agency.

Fourth, the Owner of the Property shall prohibit the Property from ever being used for purposes other than for Industrial Use without the express written waiver of such prohibition by the Department or Relevant Agency.

Fifth, the Owner of the Property shall prohibit the use of the groundwater underlying the Property without treatment rendering it safe for drinking water or industrial purposes, as appropriate, unless the user first obtains permission to do so from the Department or Relevant Agency.

Sixth, the Owner of the Property shall continue in full force and effect any institutional and engineering controls required under the SMP and maintain such controls, unless the Owner first obtains permission to discontinue such controls from the Department or Relevant Agency.

Seventh, this Declaration is and shall be deemed a covenant that shall run with the land and shall be binding upon all future owners of the Property, and shall provide that the Owner and its successors and assigns consent to enforcement by the Department or Relevant Agency of the prohibitions and restrictions that the SMP requires to be recorded, and hereby covenant not to contest the authority of the Department or Relevant Agency to seek enforcement.

Eighth, any deed of conveyance of the Property, or any portion thereof, shall recite, unless the Department or Relevant Agency has consented to the termination of such covenants and restrictions, that said conveyance is subject to this Declaration.

[Signature Page Follows]

IN WITNESS WHEREOF, the undersigned has executed this instrument the day written below.

Robert D. Teetz  
Name: Robert Teetz

Title: VICE President

::ODMA\PCDOCS\DOCS\287179\1

STATE OF NEW YORK )  
 )ss:  
COUNTY OF Nassau )

On the 21<sup>st</sup> day of October in the year 2011, before me, the undersigned, personally appeared Robert D. Teetz, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signatures(s) on the instrument, the individual(s), or the person on behalf of which the individual(s) acted, executed the instrument.

Beth P. Santanello  
Notary Signature

Notary Stamp & Expiration Date:

BETH P. SANTANELLO  
NOTARY PUBLIC, State of New York  
No. 01SA6197484  
Qualified in Nassau County  
Commission Expires December 1, 2012



**SITE MANAGEMENT PLAN**

**NATIONAL GRID GLENWOOD LANDING FORMER GAS PLANT SITE  
GLENWOOD LANDING, NEW YORK**

**VOLUNTARY CLEANUP AGREEMENT NO. R1-0001-01-01**

*Prepared for:*

**NATIONAL GRID  
HICKSVILLE, NEW YORK**

*Prepared by:*

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

**OCTOBER 2011**

**SITE MANAGEMENT PLAN  
NATIONAL GRID GLENWOOD LANDING FORMER GAS PLANT SITE**

**TABLE OF CONTENTS**

<u>Section</u>	<u>Description</u>	<u>Page</u>
	<b>EXECUTIVE SUMMARY .....</b>	<b>ES-1</b>
<b>1.0</b>	<b>INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM .....</b>	<b>1-1</b>
1.1	Introduction.....	1-1
1.1.1	General.....	1-1
1.1.2	Purpose.....	1-4
1.1.3	Revisions.....	1-5
1.2	Site Background.....	1-5
1.2.1	Site Location and Description.....	1-5
1.2.2	Site History .....	1-6
1.2.3	Geologic Conditions .....	1-7
1.3	Summary of Previous Investigation Findings.....	1-10
1.4	Summary of Remedial Actions.....	1-15
1.4.1	Removal of Contaminated Materials from the Site .....	1-16
1.4.2	On-Site and Off-Site Treatment Systems .....	1-18
1.4.3	Remaining Contamination .....	1-18
1.4.3.1	Soil .....	1-18
1.4.3.2	Groundwater .....	1-20
1.4.4	Engineering and Institutional Controls .....	1-22
<b>2.0</b>	<b>ENGINEERING AND INSTITUTIONAL CONTROL PLAN.....</b>	<b>2-1</b>
2.1	Introduction.....	2-1
2.1.1	General.....	2-1
2.1.2	Purpose.....	2-1
2.2	Engineering Controls .....	2-2
2.2.1	Engineering Control Systems .....	2-2
2.2.2	Criteria for Completion of Remediation/ Termination of Remedial Systems.....	2-2
2.3	Institutional Controls .....	2-4
2.3.1	Excavation Work Plan .....	2-5
2.3.2	Soil Vapor Intrusion Evaluation .....	2-6
2.4	Inspections and Notifications.....	2-7
2.4.1	Inspections .....	2-7
2.4.2	Notifications.....	2-7



## TABLE OF CONTENTS (continued)

<u>Section</u>	<u>Description</u>	<u>Page</u>
2.5	Contingency Plan .....	2-8
2.5.1	Emergency Telephone Numbers .....	2-9
2.5.2	Map and Directions to Nearest Health Facility .....	2-9
2.5.3	Response Procedures .....	2-9
<b>3.0</b>	<b>MONITORING PLAN .....</b>	<b>3-1</b>
3.1	Introduction .....	3-1
3.1.1	General .....	3-1
3.1.2	Purpose and Schedule .....	3-1
3.2	Engineering Control System Monitoring .....	3-3
3.2.1	Monitoring Schedule .....	3-3
3.2.2	Repair Schedule .....	3-3
3.3	Site-Wide Inspection .....	3-4
3.4	Monitoring Reporting Requirements .....	3-5
<b>4.0</b>	<b>SITE MANAGEMENT REPORTING PLAN .....</b>	<b>4-1</b>
4.1	Introduction .....	4-1
4.2	Certification of Engineering and Institutional Controls .....	4-1
4.3	Site Inspections .....	4-2
4.3.1	Inspection Frequency .....	4-2
4.3.2	Inspection Forms .....	4-2
4.3.3	Evaluation of Records and Reporting .....	4-3
4.4	Periodic Review Report .....	4-3
4.5	Corrective Measures Plan .....	4-4

### **List of Appendices**

---

Deed Restriction .....	A
As-Built Drawing .....	B
Excavation Endpoint Sample Results .....	C
Excavation Work Plan .....	D
Institutional and Engineering Control Inspection Form .....	E

## TABLE OF CONTENTS (continued)

### List of Figures

---

1-1	Site Plan .....	1-2
1-2	Site Location Map .....	1-3
1-3	Cross Section Key Map .....	1-8
1-4	Geologic Cross Section of Site and Upgradient Areas .....	1-9
2-1	Hospital Route Map .....	2-10

### List of Tables

---

1-1	Soil Disposal Summary .....	1-17
1-2	Site-Specific Soil Cleanup Objectives .....	1-19
2-1	Soil Cover System Summary .....	2-3
2-2	Emergency Contact Numbers .....	2-11
3-1	Monitoring/Inspection Schedule .....	3-2

### List of Drawings

---

1	Site Plan .....	Map Pocket at end of Section 1.0
---	-----------------	----------------------------------

Schedule A

Quad 01327  
Job - FE1106  
Dated: 02/08/11

Description of NYSDEC Env. Remediation Area #7  
Nassau County Tax Map (2010)  
Glenwood Gas Plant - Parcel 177  
Section 021; Block "M"; P/O Lot 596  
Sheet #1 of 6  
Situated in  
Glenwood Landing, Town of Oyster Bay  
Nassau County, State of New York

Beginning at the southwesterly corner of the herein described easement the said true point or place of beginning being more fully described and located as follows:

Beginning at the intersection of the northerly right-of-way line of Glenhead Road and the easterly right-of-way line of Shore Road; running thence northerly along the easterly right-of-way line of Shore Road the following FOUR ( 4 ) bearings and distances:

1. Along the arc of a curve to the right having a radius of 321.56 feet an a arc length of 23.55 feet to a point;
  2. Along the arc of a curve to the right having a radius of 176.93 feet an a arc length of 91.50 feet to a point;
  3. North 13° 22' 34" East 612.95 feet to a point;
  4. Along the arc of a curve to the left having a radius of 625.02 feet an a arc length of 169.97 feet to a point;
- Thence running through P/O Lot 596 Due East 103.93 feet to the true point or place of beginning;

Thence continuing running though P/O Lots 596 the following FOUR ( 4 ) bearings and distances:

1. Due North 19.81 feet to a point;
2. Due East 10.54 feet to a point;
3. Due South 19.81 feet to a point;
4. Due West 10.54 feet to the true point of place of beginning;

Containing within said bounds 209 Sq. Ft. more or less.

Being and intending to be a part of the same premises conveyed to the party of the first part by deeds recorded in the Nassau County Clerks Office as follows;

<u>Deed Dated</u>	<u>Recorded</u>	<u>Recorded Date</u>
May 8, 1947	Liber 3330, Page 240	May 14, 1947
May 27, 1998	Liber 10921, Page 406	June 18, 1998

Legal Description was  
Established From a Map By:  
Nationgrid Survey Division  
Dated: May 22, 2001  
Revised: Feb. 8, 2011  
Revised: Sept. 17, 2011

Bearings, Distances and Area  
Of Easement were computed  
By Nationalgrid System Surveyor  
Roy D. Hunt L.S. #050220



Schedule A

Quad 01327  
Job - FE1106  
Dated: 02/08/11

Description of NYSDEC Env. Remediation Area #8  
Nassau County Tax Map (2010)  
Glenwood Gas Plant - Parcel 177  
Section 021; Block "M"; P/O Lot 596  
Sheet #1 of 6  
Situated in  
Glenwood Landing, Town of Oyster Bay  
Nassau County, State of New York

Beginning at the southwesterly corner of the herein described easement the said true point or place of beginning being more fully described and located as follows:

Beginning at the intersection of the northerly right-of-way line of Glenhead Road and the easterly right-of-way line of Shore Road; running thence northerly along the easterly right-of-way line of Shore Road the following FOUR ( 4 ) bearings and distances:

1. Along the arc of a curve to the right having a radius of 321.56 feet an a arc length of 23.55 feet to a point;
2. Along the arc of a curve to the right having a radius of 176.93 feet an a arc length of 91.50 feet to a point;
3. North 13° 22' 34" East 612.95 feet to a point;
4. Along the arc of a curve to the left having a radius of 625.02 feet an a arc length of 108.84 feet to a point;  
Thence running through P/O Lot 596 Due East 243.69 feet to the true point or place of beginning;

Thence continuing running though P/O Lots 596 the following FOUR ( 4 ) bearings and distances:

1. Due North 46.27 feet to a point;
2. Due East 34.31 feet to a point;
3. Due South 46.27 feet to a point;
4. Due West 34.31 feet to the true point of place of beginning;

Containing within said bounds 1,587 Sq. Ft. more or less.

Being and intending to be a part of the same premises conveyed to the party of the first part by deeds recorded in the Nassau County Clerks Office as follows;

<u>Deed Dated</u>	<u>Recorded</u>	<u>Recorded Date</u>
May 8, 1947	Liber 3330, Page 240	May 14, 1947
May 27, 1998	Liber 10921, Page 406	June 18, 1998

Legal Description was  
Established From a Map By:  
Nationgrid Survey Division  
Dated: May 22, 2001  
Revised: Feb. 8, 2011  
Revised: Sept. 17, 2011

Bearings, Distances and Area  
Of Easement were computed  
By Nationalgrid System Surveyor  
Roy D. Hunt L.S. #050220



Schedule A

Quad 01327  
Job - FE1106  
Dated: 02/08/11

Description of NYSDEC Env. Remediation Area #9  
Nassau County Tax Map (2010)  
Glenwood Gas Plant - Parcel 177  
Section 021; Block "M"; P/O Lot 596  
Sheet #1 of 6  
Situated in  
Glenwood Landing, Town of Oyster Bay  
Nassau County, State of New York

Beginning at the southwesterly corner of the herein described easement the said true point or place of beginning being more fully described and located as follows:

Beginning at the intersection of the northerly right-of-way line of Glenhead Road and the easterly right-of-way line of Shore Road; running thence northerly along the easterly right-of-way line of Shore Road the following FOUR ( 4 ) bearings and distances:

1. Along the arc of a curve to the right having a radius of 321.56 feet an a arc length of 23.55 feet to a point;
  2. Along the arc of a curve to the right having a radius of 176.93 feet an a arc length of 91.50 feet to a point;
  3. North 13° 22' 34" East 612.95 feet to a point;
  4. Along the arc of a curve to the left having a radius of 625.02 feet an a arc length of 215.96 feet to a point;
- Thence running through P/O Lot 596 Due East 146.83 feet to the true point or place of beginning;

Thence continuing running though P/O Lots 596 the following FOUR ( 4 ) bearings and distances:

1. Due North 30.36 feet to a point;
2. Due East 46.22 feet to a point;
3. Due South 30.36 feet to a point;
4. Due West 46.22 feet to the true point of place of beginning;

Containing within said bounds 1,403 Sq. Ft more or less.

Being and intending to be a part of the same premises conveyed to the party of the first part by deeds recorded in the Nassau County Clerks Office as follows;

<u>Deed Dated</u>	<u>Recorded</u>	<u>Recorded Date</u>
May 8, 1947	Liber 3330, Page 240	May 14, 1947
May 27, 1998	Liber 10921, Page 406	June 18, 1998

Legal Description was  
Established From a Map By:  
Nationgrid Survey Division  
Dated: May 22, 2001  
Revised: Feb. 8, 2011  
Revised: Sept. 17, 2011

Bearings, Distances and Area  
Of Easement were computed  
By Nationalgrid System Surveyor  
Roy D. Hunt L.S. #050220



Schedule A

Quad 01327  
Job - FE1106  
Dated: 02/08/11

Description of NYSDEC Env. Remediation Area#10  
Nassau County Tax Map (2010)  
Glenwood Gas Plant - Parcel 177  
Section 021; Block "M"; P/O Lot 596  
Sheet #1 of 6  
Situated in  
Glenwood Landing, Town of Oyster Bay  
Nassau County, State of New York

Beginning at the southwesterly corner of the herein described easement the said true point or place of beginning being more fully described and located as follows:

Beginning at the intersection of the northerly right-of-way line of Glenhead Road and the easterly right-of-way line of Shore Road; running thence northerly along the easterly right-of-way line of Shore Road the following FOUR ( 4 ) bearings and distances:

1. Along the arc of a curve to the right having a radius of 321.56 feet an a arc length of 23.55 feet to a point;
  2. Along the arc of a curve to the right having a radius of 176.93 feet an a arc length of 91.50 feet to a point;
  3. North 13° 22' 34" East 612.95 feet to a point;
  4. Along the arc of a curve to the left having a radius of 625.02 feet an a arc length of 309.06 feet to a point;
- Thence running through P/O Lot 596 Due East 264.36 feet to the true point or place of beginning;

Thence continuing running though P/O Lots 596 the following FOUR ( 4 ) bearings and distances:

1. Due North 50.75 feet to a point;
2. Due East 34.20 feet to a point;
3. Due South 50.75 feet to a point;
4. Due West 34.20 feet to the true point of place of beginning;

Containing within said bounds 1,736 Sq. Ft more or less.

Being and intending to be a part of the same premises conveyed to the party of the first part by deeds recorded in the Nassau County Clerks Office as follows;

<u>Deed Dated</u>	<u>Recorded</u>	<u>Recorded Date</u>
May 8, 1947	Liber 3330, Page 240	May 14, 1947
May 27, 1998	Liber 10921, Page 406	June 18, 1998

Legal Description was  
Established From a Map By:  
Nationgrid Survey Division  
Dated: May 22, 2001  
Revised: Feb. 8, 2011  
Revised: Sept. 17, 2011

Bearings, Distances and Area  
Of Easement were computed  
By Nationalgrid System Surveyor  
Roy D. Hunt L.S. #050220



Schedule A

Quad 01327  
Job - FE1106  
Dated: 02/08/11

Description of NYSDEC Remediation Area #11  
Nassau County Tax Map (2010)  
Glenwood Gas Plant - Parcel 177  
Section 021; Block "M"; P/O Lot 596  
Sheet #1 of 6  
Situated in  
Glenwood Landing, Town of Oyster Bay  
Nassau County, State of New York

Beginning at the southwesterly corner of the herein described easement the said true point or place of beginning being more fully described and located as follows:

Beginning at the intersection of the northerly right-of-way line of Glenhead Road and the easterly right-of-way line of Shore Road; running thence northerly along the easterly right-of-way line of Shore Road the following FOUR ( 4 ) bearings and distances:

1. Along the arc of a curve to the right having a radius of 321.56 feet an a arc length of 23.55 feet to a point;
  2. Along the arc of a curve to the right having a radius of 176.93 feet an a arc length of 91.50 feet to a point;
  3. North 13° 22' 34" East 612.95 feet to a point;
  4. Along the arc of a curve to the left having a radius of 625.02 feet an a arc length of 208.35 feet to a point;
- Thence running through P/O Lot 596 Due East 331.32 feet to the true point or place of beginning;

Thence continuing running though P/O Lots 596 the following FOUR ( 4 ) bearings and distances:

1. Due North 45.74 feet to a point;
2. Due East 61.16 feet to a point;
3. Due South 45.74 feet to a point;
4. Due West 61.16 feet to the true point of place of beginning;

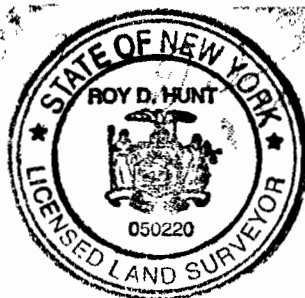
Containing within said bounds 2,798 Sq. Ft more or less.

Being and intending to be a part of the same premises conveyed to the party of the first part by deeds recorded in the Nassau County Clerks Office as follows;

<u>Deed Dated</u>	<u>Recorded</u>	<u>Recorded Date</u>
May 8, 1947	Liber 3330, Page 240	May 14, 1947
May 27, 1998	Liber 10921, Page 406	June 18, 1998

Legal Description was  
Established From a Map By:  
Nationgrid Survey Division  
Dated: May 22, 2001  
Revised: Feb. 8, 2011  
Revised: Sept. 17, 2011

Bearings, Distances and Area  
Of Easement were computed  
By Nationalgrid System Surveyor  
Roy D. Hunt L.S. #050220



Schedule A

Quad 01327  
Job - FE1106  
Dated: 02/08/11

Description of NYSDEC Env. Remediation Area #12  
Nassau County Tax Map (2010)  
Glenwood Gas Plant - Parcel 177  
Section 021; Block "M"; P/O Lots 596 and 597  
Sheet #1 of 6  
Situating in  
Glenwood Landing, Town of Oyster Bay  
Nassau County, State of New York

Beginning at the southwesterly corner of the herein described easement the said true point or place of beginning being more fully described and located as follows:

Beginning at the intersection of the northerly right-of-way line of Glenhead Road and the easterly right-of-way line of Shore Road; running thence northerly along the easterly right-of-way line of Shore Road the following FOUR ( 4 ) bearings and distances:

1. Along the arc of a curve to the right having a radius of 321.56 feet an a arc length of 23.55 feet to a point;
  2. Along the arc of a curve to the right having a radius of 176.93 feet an a arc length of 91.50 feet to a point;
  3. North 13° 22' 34" East 612.95 feet to a point;
  4. Along the arc of a curve to the left having a radius of 625.02 feet an a arc length of 263.96 feet to a point;
- Thence running through P/O Lot 596 Due East 372.47 feet to the true point or place of beginning;

Thence continuing running though P/O Lots 596 and Lot 597 the following FIVE ( 5 ) bearings and distances:

1. North 36° 02' 25" West 72.15 to a point;
2. North 00° 04' 00" West 60.86 feet to a point;
3. North 89° 21' 15" East 113.21 feet to a point;
4. Due South 108.21 feet to a point;
5. South 80° 09' 18" West 71.73 feet to the true point of place of beginning;

Containing within said bounds 11,887 Sq. Ft or 0.27 Acres more or less.

Being and intending to be a part of the same premises conveyed to the party of the first part by deeds recorded in the Nassau County Clerks Office as follows;

<u>Deed Dated</u>	<u>Recorded</u>	<u>Recorded Date</u>
May 8, 1947	Liber 3330, Page 240	May 14, 1947
May 27, 1998	Liber 10921, Page 406	June 18, 1998

Legal Description was  
Established From a Map By:  
Nationgrid Survey Division  
Dated: May 22, 2001  
Revised: Feb. 8, 2011  
Revised: Sept. 17, 2011

Bearings, Distances and Area  
Of Easement were computed  
By Nationalgrid System Surveyor  
Roy D. Hunt L.S. #050220





Schedule A

Quad 01327  
Job - FE1106  
Dated: 02/08/11

Description of NYSDEC Env. Remediation Area #13  
Nassau County Tax Map (2010)  
Glenwood Gas Plant - Parcel 177  
Section 021; Block "M"; P/O Lot 597  
Sheet #1 of 6  
Situating in  
Glenwood Landing, Town of Oyster Bay  
Nassau County, State of New York

Beginning at the southwesterly corner of the herein described easement the said true point or place of beginning being more fully described and located as follows:

Beginning at the intersection of the northerly right-of-way line of Glenhead Road and the easterly right-of-way line of Shore Road; running thence northerly along the easterly right-of-way line of Shore Road the following FIVE ( 5 ) bearings and distances:

1. Along the arc of a curve to the right having a radius of 321.56 feet an a arc length of 23.55 feet to a point;
2. Along the arc of a curve to the right having a radius of 176.93 feet an a arc length of 91.50 feet to a point;
3. North 13° 22' 34" East 612.95 feet to a point;
4. Along the arc of a curve to the left having a radius of 625.02 feet an a arc length of 325.05 feet to a point;
5. North 16° 30' 46" West 82.98 feet to a point;  
Thence running through P/O Lot 597 Due East 381.41 feet to the true point or place of beginning;

Thence continuing running though P/O Lots 597 the following ELEVEN ( 11 ) bearings and distances:

1. North 51° 43' 22" West 52.57 feet to a point;
2. North 44° 59' 11" East 16.65 feet to a point;
3. North 12° 05' 22" East 2.08 feet to a point;
4. North 09° 27' 29" West 2.65 feet to a point;
5. North 19° 47' 24" West 3.86 feet to a point;
6. North 12° 43' 07" East 4.62 feet to a point;
7. South 63° 25' 28" East 2.92 feet to a point;
8. South 21° 06' 56" East 6.86 feet to a point;
9. South 51° 37' 10" East 71.19 feet to a point;
10. South 23° 11' 20" East 5.54 feet to a point;
11. South 89° 44' 59" West 33.28 feet to the true point of place of beginning;

Containing within said bounds 1,576 Sq. Ft more or less.

Being and intending to be a part of the same premises conveyed to the party of the first part by deeds recorded in the Nassau County Clerks Office as follows;

<u>Deed Dated</u>	<u>Recorded</u>	<u>Recorded Date</u>
May 8, 1947	Liber 3330, Page 240	May 14, 1947
May 27, 1998	Liber 10921, Page 406	June 18, 1998

Legal Description was  
Established From a Map By:  
Nationgrid Survey Division  
Dated: May 22, 2001  
Revised: Feb. 8, 2011  
Revised: Sept. 17, 2011

Bearings, Distances and Area  
Of Easement were computed  
By Nationalgrid System Surveyor  
Roy D. Hunt L.S. #050220



Schedule A

Quad 01327  
Job - FE1106  
Dated: 02/08/11

Description of NYSDEC Env. Remediation Area #14  
Nassau County Tax Map (2010)  
Glenwood Gas Plant - Parcel 177  
Section 021; Block "M"; P/O Lots 35 and Lot 597  
Sheet #1 of 6  
Situating in  
Glenwood Landing, Town of Oyster Bay  
Nassau County, State of New York

Beginning at the southwesterly corner of the herein described easement the said true point or place of beginning being more fully described and located as follows:

Beginning at the intersection of the northerly right-of-way line of Glenhead Road and the easterly right-of-way line of Shore Road; running thence northerly along the easterly right-of-way line of Shore Road the following FIVE ( 5 ) bearings and distances:

1. Along the arc of a curve to the right having a radius of 321.56 feet an a arc length of 23.55 feet to a point;
  2. Along the arc of a curve to the right having a radius of 176.93 feet an a arc length of 91.50 feet to a point;
  3. North 13° 22' 34" East 612.95 feet to a point;
  4. Along the arc of a curve to the left having a radius of 625.02 feet an a arc length of 325.05 feet to a point;
  5. North 16° 30' 46" West 111.91 feet to a point;
- Thence running through P/O Lot 597 Due East 398.98 feet to the true point or place of beginning;

Thence continuing running though P/O Lots 35 and Lot 597 the following FIVE ( 5 ) bearings and distances:

1. North 51° 37' 16" West 76.40 feet to a point;
2. North 00° 24' 49" West 102.44 feet to a point;
3. North 89° 30' 14" East 101.71 feet to a point;
4. South 00° 29' 46" East 150.86 feet to a point;
5. North 89° 51' 02" West 42.38 feet to the true point of place of beginning;

Containing within said bounds 13,894 Sq. Ft or 0.32 Acres more or less.

Being and intending to be a part of the same premises conveyed to the party of the first part by deeds recorded in the Nassau County Clerks Office as follows;

<u>Deed Dated</u>	<u>Recorded</u>	<u>Recorded Date</u>
May 8, 1947	Liber 3330, Page 240	May 14, 1947
May 27, 1998	Liber 10921, Page 406	June 18, 1998

Legal Description was  
Established From a Map By:  
Nationgrid Survey Division  
Dated: May 22, 2001  
Revised: Feb. 8, 2011  
Revised: Sept. 17, 2011

Bearings, Distances and Area  
Of Easement were computed  
By Nationalgrid System Surveyor  
Roy D. Hunt L.S. #050220



Schedule A

Quad 01327  
Job - FE1106  
Dated: 02/08/11

Description of NYSDEC Env. Remediation Area #15  
Nassau County Tax Map (2010)  
Glenwood Gas Plant - Parcel 177  
Section 021; Block "M"; P/O Lot 597  
Sheet #1 of 6  
Situating in  
Glenwood Landing, Town of Oyster Bay  
Nassau County, State of New York

Beginning at the southwesterly corner of the herein described easement the said true point or place of beginning being more fully described and located as follows:

Beginning at the intersection of the northerly right-of-way line of Glenhead Road and the easterly right-of-way line of Shore Road; running thence northerly along the easterly right-of-way line of Shore Road the following SIX ( 6 ) bearings and distances:

1. Along the arc of a curve to the right having a radius of 321.56 feet an a arc length of 23.55 feet to a point;
  2. Along the arc of a curve to the right having a radius of 176.93 feet an a arc length of 91.50 feet to a point;
  3. North 13° 22' 34" East 612.95 feet to a point;
  4. Along the arc of a curve to the left having a radius of 625.02 feet an a arc length of 325.05 feet to a point;
  5. North 16° 30' 46" West 113.00 feet to a point;
  6. Along the arc of a curve to the right having a radius of 619.82 feet an a arc length of 97.34 feet to a point;
- Thence running through P/O Lot 597 Due East 247.85 feet to the true point or place of beginning;

Thence continuing running though P/O Lots 597 the following SIX ( 6 ) bearings and distances:

1. Due North 28.98 feet to a point;
2. Due East 37.42 feet to a point;
3. South 00° 21' 34" East 23.72 feet to a point;
4. North 89° 55' 26" West 13.04 feet to a point;
5. Due South 5.27 feet to a point;
6. Due West 22.22 feet to the true point of place of beginning;

Containing within said bounds 1,006 Sq. Ft more or less.

Being and intending to be a part of the same premises conveyed to the party of the first part by deeds recorded in the Nassau County Clerks Office as follows;

<u>Deed Dated</u>	<u>Recorded</u>	<u>Recorded Date</u>
May 8, 1947	Liber 3330, Page 240	May 14, 1947
May 27, 1998	Liber 10921, Page 406	June 18, 1998

Legal Description was  
Established From a Map By:  
Nationgrid Survey Division  
Dated: May 22, 2001  
Revised: Feb. 8, 2011  
Revised: Sept. 17, 2011

Bearings, Distances and Area  
Of Easement were computed  
By Nationalgrid System Surveyor  
Roy D. Hunt L.S. #050220



Schedule A

Quad 01327  
Job - FE1106  
Dated: 02/08/11

Description of NYSDEC Env. Remediation Area #16  
Nassau County Tax Map (2010)  
Glenwood Gas Plant - Parcel 177  
Section 021; Block "M"; P/O Lots 35 and Lot 597  
Sheet #1 of 6  
Situated in  
Glenwood Landing, Town of Oyster Bay  
Nassau County, State of New York

Beginning at the southwesterly corner of the herein described easement the said true point or place of beginning being more fully described and located as follows:

Beginning at the intersection of the northerly right-of-way line of Glenhead Road and the easterly right-of-way line of Shore Road; running thence northerly along the easterly right-of-way line of Shore Road the following SIX ( 6 ) bearings and distances:

1. Along the arc of a curve to the right having a radius of 321.56 feet an a arc length of 23.55 feet to a point;
  2. Along the arc of a curve to the right having a radius of 176.93 feet an a arc length of 91.50 feet to a point;
  3. North 13° 22' 34" East 612.95 feet to a point;
  4. Along the arc of a curve to the left having a radius of 625.02 feet an a arc length of 325.05 feet to a point;
  5. North 16° 30' 46" West 113.00 feet to a point;
  6. Along the arc of a curve to the right having a radius of 619.82 feet an a arc length of 49.57 feet to a point;
- Thence running through P/O Lot 597 Due East 277.69 feet to the true point or place of beginning;

Thence continuing running though P/O Lots 35 and Lot 597 the following FOUR ( 4 ) bearings and distances:

1. North 00° 36' 06" West 98.40 feet to a point;
2. North 89° 22' 50" East 44.31 feet to a point;
3. South 00° 01' 55" West 97.96 feet to a point;
4. South 88° 47' 36" West 43.23 feet to the true point of place of beginning;

Containing within said bounds 4,297 Sq. Ft more or less.

Being and intending to be a part of the same premises conveyed to the party of the first part by deeds recorded in the Nassau County Clerks Office as follows;

<u>Deed Dated</u>	<u>Recorded</u>	<u>Recorded Date</u>
May 8, 1947	Liber 3330, Page 240	May 14, 1947
May 27, 1998	Liber 10921, Page 406	June 18, 1998

Legal Description was  
Established From a Map By:  
Nationgrid Survey Division  
Dated: May 22, 2001  
Revised: Feb. 8, 2011  
Revised: Sept. 17, 2011

Bearings, Distances and Area  
Of Easement were computed  
By Nationalgrid System Surveyor  
Roy D. Hunt L.S. #050220



Schedule A

Quad 01327  
Job - FE1106  
Dated: 02/08/11

Description of NYSDEC Env. Remediation Area #17  
Nassau County Tax Map (2010)  
Glenwood Gas Plant - Parcel 177  
Section 021; Block "M"; P/O Lot 36  
Sheet #1 of 6  
Situated in  
Glenwood Landing, Town of Oyster Bay  
Nassau County, State of New York

Beginning at the southwesterly corner of the herein described easement the said true point or place of beginning being more fully described and located as follows:

Beginning at the intersection of the northerly right-of-way line of Glenhead Road and the easterly right-of-way line of Shore Road; running thence northerly along the easterly right-of-way line of Shore Road the following SIX ( 6 ) bearings and distances:

1. Along the arc of a curve to the right having a radius of 321.56 feet an a arc length of 23.55 feet to a point;
  2. Along the arc of a curve to the right having a radius of 176.93 feet an a arc length of 91.50 feet to a point;
  3. North 13° 22' 34" East 612.95 feet to a point;
  4. Along the arc of a curve to the left having a radius of 625.02 feet an a arc length of 325.05 feet to a point;
  5. North 16° 30' 46" West 113.00 feet to a point;
  6. Along the arc of a curve to the right having a radius of 619.82 feet an a arc length of 199.93 feet to a point;
- Thence running through P/O Lot 36 Due East 239.05 feet to the true point or place of beginning;

Thence continuing running though P/O Lot 36 the following FOUR ( 4 ) bearings and distances:

1. North 09° 26' 19" East 32.49 feet to a point;
2. South 58° 09' 49" East 42.83 feet to a point;
3. South 30° 53' 08" West 28.24 feet to a point;
4. North 61° 29' 52" West 30.97 feet to the true point of place of beginning;

Containing within said bounds 1,080 Sq. Ft more or less.

Being and intending to be a part of the same premises conveyed to the party of the first part by deeds recorded in the Nassau County Clerks Office as follows;

<u>Deed Dated</u>	<u>Recorded</u>	<u>Recorded Date</u>
May 8, 1947	Liber 3330, Page 240	May 14, 1947
May 27, 1998	Liber 10921, Page 406	June 18, 1998

Legal Description was  
Established From a Map By:  
Nationgrid Survey Division  
Dated: May 22, 2001  
Revised: Feb. 8, 2011  
Revised: Sept. 17, 2011

Bearings, Distances and Area  
Of Easement were computed  
By Nationalgrid System Surveyor  
Roy D. Hunt L.S. #050220



Schedule A

Quad 01327  
Job - FE1106  
Dated: 02/08/11

Description of NYSDEC Env. Remediation Area #18  
Nassau County Tax Map (2010)  
Glenwood Gas Plant - Parcel 177  
Section 021; Block "M"; P/O Lot 36  
Sheet #1 of 6  
Situated in  
Glenwood Landing, Town of Oyster Bay  
Nassau County, State of New York

Beginning at the southwesterly corner of the herein described easement the said true point or place of beginning being more fully described and located as follows:

Beginning at the intersection of the northerly right-of-way line of Glenhead Road and the easterly right-of-way line of Shore Road; running thence northerly along the easterly right-of-way line of Shore Road the following SIX ( 6 ) bearings and distances:

1. Along the arc of a curve to the right having a radius of 321.56 feet an a arc length of 23.55 feet to a point;
  2. Along the arc of a curve to the right having a radius of 176.93 feet an a arc length of 91.50 feet to a point;
  3. North 13° 22' 34" East 612.95 feet to a point;
  4. Along the arc of a curve to the left having a radius of 625.02 feet an a arc length of 325.05 feet to a point;
  5. North 16° 30' 46" West 113.00 feet to a point;
  6. Along the arc of a curve to the right having a radius of 619.82 feet an a arc length of 242.72 feet to a point;
- Thence running through P/O Lot 36 Due East 87.65 feet to the true point or place of beginning;

Thence continuing running though P/O Lot 36 the following FIVE ( 5 ) bearings and distances:

1. Due North 53.22 feet to a point;
2. Due East 79.45 feet to a point;
3. Due South 77.16 feet to a point;
4. Due West 41.24 feet to a point;
5. North 57° 55' 43" West 45.09 feet to the true point of place of beginning;

Containing within said bounds 5,673 Sq. Ft more or less.

Being and intending to be a part of the same premises conveyed to the party of the first part by deeds recorded in the Nassau County Clerks Office as follows;

<u>Deed Dated</u>	<u>Recorded</u>	<u>Recorded Date</u>
May 8, 1947	Liber 3330, Page 240	May 14, 1947
May 27, 1998	Liber 10921, Page 406	June 18, 1998

Legal Description was  
Established From a Map By:  
Nationgrid Survey Division  
Dated: May 22, 2001  
Revised: Feb. 8, 2011  
Revised: Sept. 17, 2011

Bearings, Distances and Area  
Of Easement were computed  
By Nationalgrid System Surveyor  
Roy D. Hunt L.S. #050220



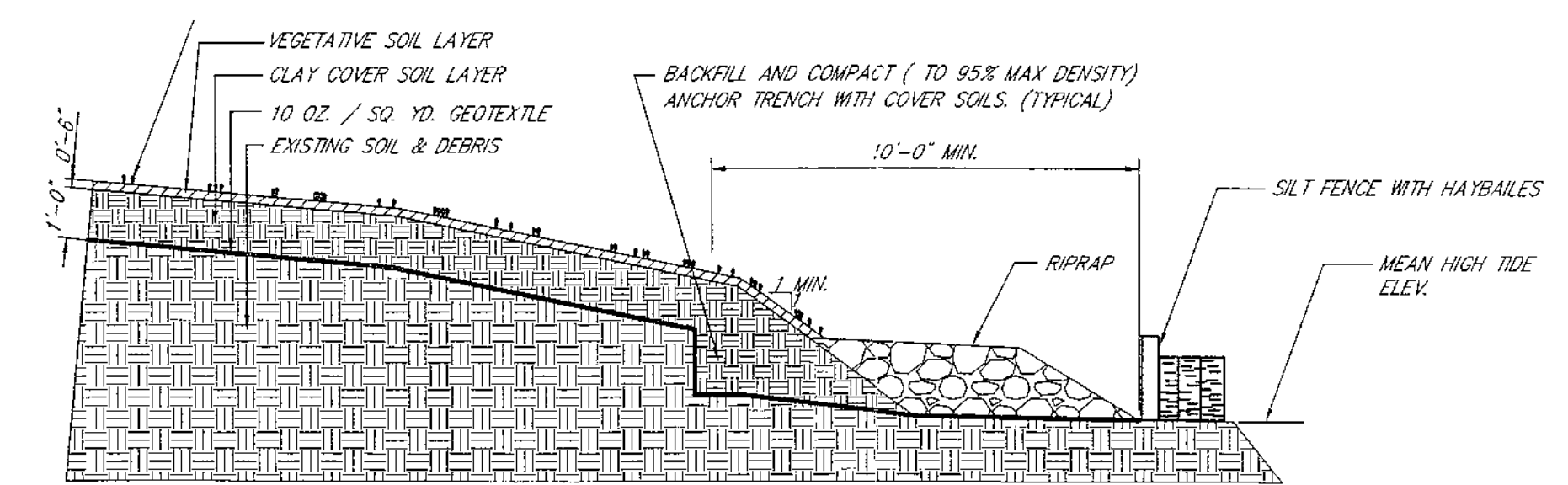
## **APPENDIX B**

### **AS-BUILT DRAWING**

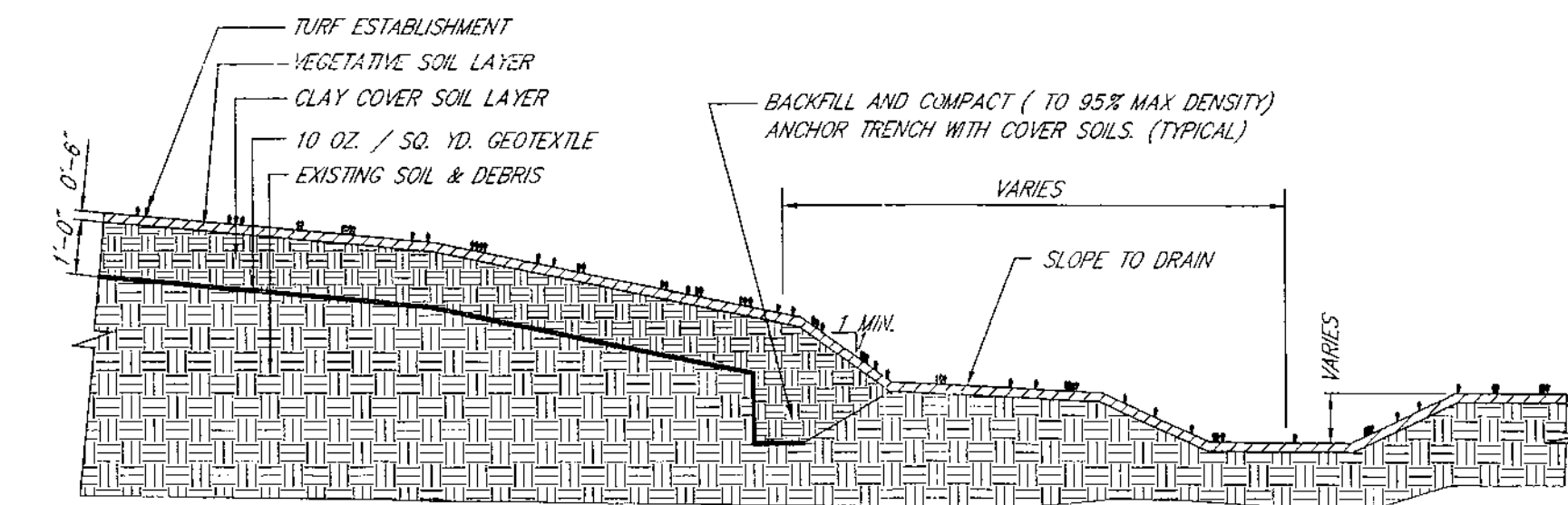


## LEGEND

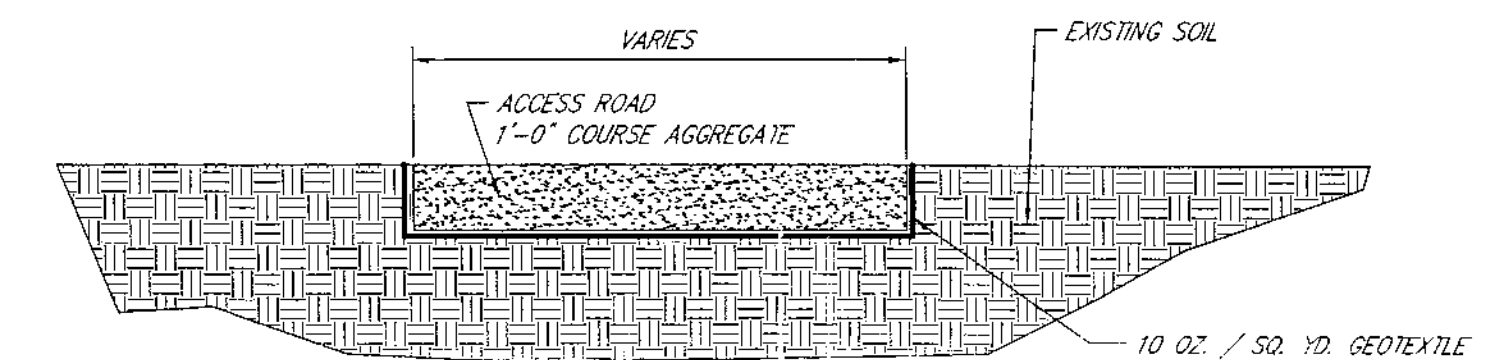
- MONITORING WELL
- SOIL BORING
- SURFACE SOIL SAMPLE
- GEOPROBE SAMPLE
- SURFACE WATER/SEDIMENT SAMPLE
- M.H. MANHOLE
- DW DRYWELL
- OF OUTFALL
- C.B. CATCH BASIN
- AS-BUILT MINOR CONTOUR
- AS-BUILT MAJOR CONTOUR
- FORMER MINOR CONTOUR
- FORMER MAJOR CONTOUR
- FORMER TOP OF BANK
- TREE/BRUSH LINE
- RIPRAP



TYPICAL COVER AND TRENCH DETAIL  
SECTION 'C-C'  
(Not To Scale)



TYPICAL COVER AND TRENCH DETAIL  
SECTION 'B-B'  
(Not To Scale)



TYPICAL GRAVEL ACCESS ROAD DETAIL  
SECTION 'A-A'  
(Not To Scale)

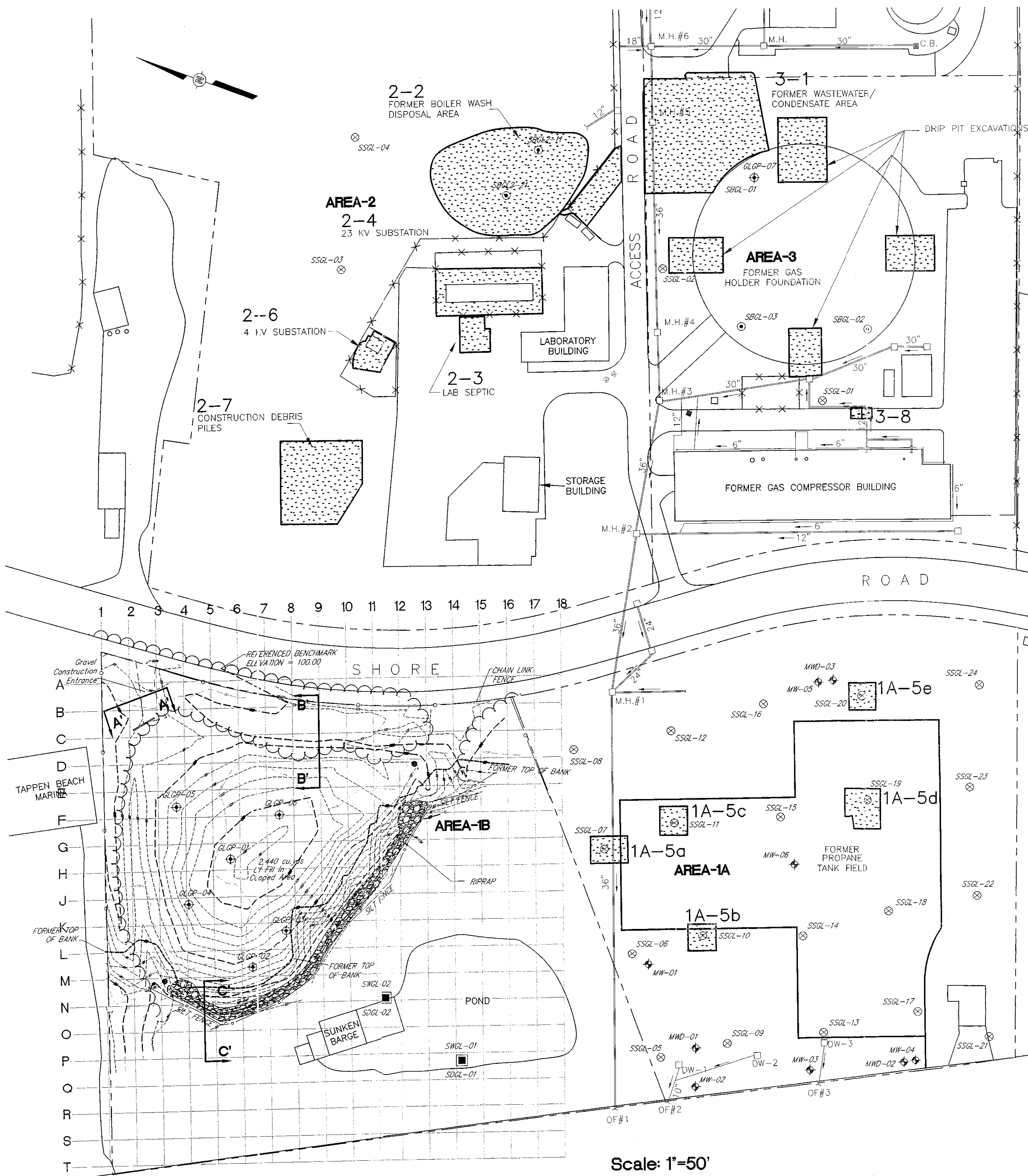
PROPOSED EXCAVATION VOLUMES				ACTUAL EXCAVATION VOLUMES		
AREA	AREA(FT.)	DEPTH (FT)	VOL.(C.Y.)	AREA(FT.)	DEPTH (FT)	VOL.(C.Y.)
AREA 1A-5 HOT SPOTS	25'x25' (5)	1'	12C	25'x25' (3) 35'x35' (2)	1'	161
AREA 2-2 FORMER BOILER WASH DISPOSAL AREA	90'x 100'	8'	2670	90'x 145'	8'	3867
AREA 2-3 LAB SEPTIC	30'x 20'	8'	18C	34'x 20'	8'	180
AREA 2-4 23 KV SUBSTATION	25'x 70'	2'	105	200'x 12' 15'x 18'	2'	198
AREA 2-6 4 KV SUBSTATION	35'x 25'	2'	65	35'x 25'	2'	65
AREA 2-7 CONSTRUCTION DEBRIS PILES	100'x 40'	5'	74C	100'x 40'	5'	740
AREA 3-1 FORMER WASTEWATER/CONDENSATE AREA	100'x90'	8'	2670	100'x90'	8'	2670
AREA 3-8 COMP. BLDG./GAS HOLDER	10'x 10'	2'	8	20'x 10'	2'	15

Proposed Remedial Action Objectives  
For Soils in Areas 1, 2, and 3 (mg/kg)

Analyte	Objective
Benzo(a)anthracene	1
Benzo(b)fluoranthene	1
Benzo(a)pyrene	0.1
Indeno (1,2,3-cd)pyrene	1
Benzo(g,h,i)perylene	310
Dibenzo(a,h)anthracene	0.1
Arsenic	20
Lead	400
Vanadium	500
PCBs	2

Response actions should meet the designated values to the Groundwater Interface.

EXCAVATION AREAS



Scale: 1"=50'

Glenwood Landing  
Gas Plant Site  
Glenwood Landing, New York

Issued for  
**KETSPAN**  
ENERGY

Drawing Title

SITE PLAN

Drawing Number

1-2

Sheet of

1 1

Project Number

06392-26



## **APPENDIX C**

### **EXCAVATION ENDPOINT SAMPLE RESULTS**

Table 1  
Summary of Analytical Results From Area 3-1  
KeySpan Energy - Glenwood Landing  
Queens, NY

Analyte	Sample Collection Designation & Collection Date																
	GLA1-1A 11/02/01	GLA1-1B 11/02/01	GLA1-2 11/02/01	GLA1-3 11/02/01	GLA1-3S 11/02/01	GLA1-3SSA 1/23/02	GLA1-4 11/02/01	GLA1-4B 11/20/01	GLA1-4C 11/20/01	GLA1-4S 11/02/01	GLA1-5 11/02/01	GLA1-5S 11/02/01	GLA1-6 11/02/01	GLA1-6S 11/02/01	GLA1-6SA 12/12/01	GLA1-6SB 12/12/01	GLA1-6SB 12/12/01
SVOC 8170 (ug/kg)																	
2-Methylnaphthalene	390 U	390 U	22000 J	340 U	36 J	330 U	28 J	360 U	380 U	14 J	88 J	360 U	340 U	330 U	32 Ua	390 Ua	380 U
4-Chloroaniline	390 U	390 U	37000 U	340 U	340 U	330 U	360 U	360 U	4 J	350 U	360 U	360 U	340 U	330 U	28 U	390 U	380 U
4-Methylphenol	390 U	390 U	37000 U	340 U	340 U	330 U	360 U	360 U	380 U	10 J	360 U	360 U	340 U	330 U	20 U	390 Ua	380 U
Acenaphthene	390 U	390 U	2000 J	340 U	18 J	330 U	360 U	360 U	380 U	9 J	8 J	360 U	340 U	330 U	17 U	390 Ua	18 J
Acenaphthylene	390 U	390 U	10000 J	340 U	1400	330 U	60 J	360 U	380 U	58 J	44 J	360 U	340 U	330 U	12 U	61 Ja	55 J
Anthracene	390 U	390 U	3700 J	340 U	400	330 U	360 U	360 U	380 U	51 J	23 J	4 J	340 U	330 U	19 Ja	49 Ja	84 J
Benzo(a)anthracene	390 U	390 U	1500 J	340 U	220 J	330 U	360 U	360 U	380 U	150 J	30 J	11 J	340 U	330 U	51 Ja	160 Ja	310 J
Benzo(a)pyrene	390 U	390 U	1200 J	340 U	300 J	330 U	360 U	360 U	380 U	150 J	31 J	10 J	340 U	330 U	51 Ja	180 Ja	290 J
Benzo(b)fluoranthene	390 U	390 U	680 J	340 U	300 J	330 U	360 U	360 U	380 U	120 J	18 J	10 J	340 U	330 U	43 Ua	150 Ja	240 J
Benzo(g,h,i)perylene	390 U	390 U	37000 U	340 U	140 J	330 U	89 J	360 U	380 U	78 J	29 J	360 U	340 U	330 U	42 Ja	190 Ja	230 J
Benzo(k)fluoranthene	390 U	390 U	890 J	340 U	320 J	330 U	360 U	360 U	380 U	140 J	19 J	10 J	340 U	330 U	49 Ja	170 Ja	290 J
Benzoic acid	1900 U	1900 U	180000 U	1600 U	190 J	1600 U	1800 U	1700 U	1800 U	130 J	1800 U	1700 U	1600 U	1600 U	750 U	1900 U	1800 U
bis(2-Ethylhexyl)phthalate	390 U	390 U	37000 U	340 U	38 J	330 U	360 U	320 J	240 J	49 J	360 U	360 U	340 U	330 U	41 UB	390 U	380 U
Butylbenzylphthalate	390 U	390 U	37000 U	340 U	14 J	330 U	360 U	470	400	16 J	360 U	360 U	340 U	330 U	15 U	390 U	380 U
Carbazole	390 U	390 U	37000 U	340 U	16 J	330 U	360 U	360 U	380 U	17 J	2 J	360 U	340 U	330 U	25 U	390 Ua	380 U
Chrysene	390 U	390 U	1600 J	340 U	260 J	330 U	360 U	360 U	380 U	180 J	31 J	11 J	340 U	330 U	72 Ja	210 Ja	380 J
Dibenzo(a,h)anthracene	390 U	390 U	37000 U	340 U	20 J	330 U	360 U	360 U	380 U	29 J	360 U	360 U	340 U	330 U	20 Ua	53 Ja	85 J
Dibenzofuran	390 U	390 U	37000 U	340 U	12 J	330 U	360 U	360 U	380 U	6 J	360 U	360 U	340 U	330 U	17 U	390 Ua	380 U
Di-n-butylphthalate	390 U	390 U	37000 U	340 U	12 J	330 U	360 U	360 U	380 U	45 J	360 U	360 U	340 U	330 U	16 U	390 U	380 U
Di-n-octylphthalate	390 U	390 U	37000 U	340 U	340 U	330 U	360 U	360 U	11 J	350 U	360 U	360 U	340 U	330 U	14 U	390 U	380 U
Fluoranthene	390 U	390 U	3600 J	340 U	280 J	330 U	360 U	360 U	380 U	250 J	35 J	21 J	340 U	330 U	95 Ja	250 Ja	520
Fluorene	390 U	390 U	5700 J	340 U	340 U	330 U	360 U	360 U	380 U	15 J	20 J	360 U	340 U	330 U	23 U	380 U	380 U
Indeno(1,2,3-cd)pyrene	390 U	390 U	37000 U	340 U	100 J	330 U	360 U	360 U	380 U	89 J	15 J	5 J	340 U	330 U	37 Ja	150 Ja	210 J
Naphthalene	390 U	390 U	43000	340 U	34 J	330 U	360 U	360 U	18 J	16 J	360 U	360 U	340 U	330 U	36 U	390 Ua	380 U
Phenanthrene	390 U	390 U	15000 J	340 U	230 J	330 U	360 U	360 U	25 J	220 J	89 J	17 J	340 U	330 U	81 Ja	110 Ja	290 J
Phenol	390 U	390 U	37000 U	340 U	340 U	330 U	360 U	11 J	5 J	350 U	360 U	360 U	340 U	330 U	27 U	390 Ua	380 U
Pyrene	390 U	390 U	5800 J	340 U	330 J	330 U	360 U	360 U	380 U	320 J	60 J	21 J	340 U	330 U	120 Ja	320 Ja	680
CLP Metals (mg/kg)																	
Aluminum	1450 *	578 *	3000 *	1620 *	9340 *	1520	970 *	1060	1120	5360 *	2040 *	1270 *	930 *	1240 *	11000	7490	
Antimony	1.1 UN	1.1 UN	0.91 UN	0.86 UN	0.97 UN	1.1 U	0.96 UN	0.96 UN	0.83 UN	0.95 UN	1.0 UN	0.95 UN	0.98 UN	0.84 UN	0.24 B	0.37 B	
Arsenic	1.1 U	1.0 U	2.2	1.2 B	11.6	1.5	1.0 B	1.1 B	1.2 B	4.9	6.6	1.1 B	0.92 U	1.0 B	9.0	9.6	
Barium	4.1 B	1.5 B	18.4 B	6.6 B	34.7 B	8.3	3.0 B	3.4 B	3.8 B	36.8 B	8.0 B	4.0 B	3.9 B	5.5 B	34.3	34.1	
Beryllium	0.17 B	0.11 U	0.26 B	0.17 B	0.41 B	0.45 U	0.10 U	0.10 U	0.090 U	0.42 B	0.13 B	0.10 B	0.16 B	0.18 B	0.34 B	0.29 B	
Cadmium	0.19 U	0.18 U	0.15 U	0.15 U	0.19 B	0.91 U	0.16 U	0.17 U	0.14 U	0.17 B	0.18 U	0.16 U	0.17 U	0.14 U	0.0013 U	0.14 B	
Calcium	141. B	64.3 B	1620	168. B	1210	131	573. B	109. B	121. B	2880	5450	134. B	67.1 B	96.3 B	701	1800	
Chromium	2.6	1.4 B	12.6	4.4	24.8	3.7	3.0	1.9 B	1.9	59.0	25.8	2.4	2.9	4.1	29.1	14.7	
Cobalt	0.43 B	0.29 U	2.2 B	0.78 B	3.0 B	1.1	0.26 U	0.27 U	0.27 B	3.0 B	0.85 B	0.26 U	0.68 B	0.97 B	3.6	3.7	
Copper	2.3 B	1.2 B	6.8	3.8 B	17.4	2.9	1.6 B	2.3 B	2.2 B	18.1	4.7 B	2.1 B	1.7 B	2.0 B	15.6	15.8	
Iron	1090	704	5200	2940	12900	4280	809	912	750	11800	3270	1300	2310	3060	14500	11800	
Lead	3.7 N	1.2 N	13.6 N	6.0 N	103. N	2.6	2.6 N	2.2	2.0	206. N	14.6 N	2.4 N	0.95 N	1.8 N	68.8	52.2	
Magnesium	40.4 B	13.8 B	463. B	185. B	1390	284	303. B	27.2 B	24.8 B	1610	462. B	35.3 B	124. B	188. B	1280	1430	
Manganese	8.3	3.3 B	113.	51.8	177.	95.6	4.9	2.4 B	1.7 B	186.	31.0	6.6	28.8	54.4	175	209	
Mercury	0.0032 U	0.0029 U	0.016	0.0037 B	0.36	0.13 U	0.0032 U	0.077	0.26	0.13	0.0054	0.0027 U	0.0028 U	0.0037 U	0.25 B	0.39 B	
Nickel	0.52 B	0.32 U	4.0 B	1.8 B	10.6	2.1	0.65 B	0.36 B	0.39 B	11.5	1.8 B	0.51 B	1.2 B	1.9 B	11.6	12.0	
Potassium	156. B	65.8 B	330 B	144. B	479. B	178	88.9 B	82.0 B	78.2 B	416. B	193. B	191. B	90.5 B	138. B	541 ^	650 ^	
Selenium	1.2 U	1.1 U	0.92 U	0.88 U	0.99 U	1.5 U	0.98 U	1.0 U	0.88 U	0.97 U	1.1 U	0.97 U	1.0 U	0.86 U	0.24 B	0.37 B	
Silver	0.24 U	0.23 U	0.19 U	0.18 U	0.21 U	0.27 U	0.20 U	0.21 U	0.18 U	0.20 U	0.22 U	0.20 U	0.21 U	0.18 U	0.061 B	0.19 B	
Sodium	11.8 B	9.5 B	29.6 B	9.8 B	29.0 B	34.5	5.9 B	13.7 B	13.4 B	28.3 B	23.8 B	13.4 B	7.0 B	8.0 B	31.3 B	34.0 B	
Thallium	2.4 U	2.3 U	1.9 U	1.8 U	2.1 U	2.7 U	2.0 U	3.9 U	3.3 U	2.0 U	2.2 U	2.0 U	2.1 U	1.8 U	0.0091 U	0.0095 U	
Vanadium	8.5 B	3.9 B	10.7	6.7 B	38.0	5.0	6.4 B	5.0 B	4.2 B	29.8	7.8 B	5.3 B	3.1 B	3.6 B	40.5	34.2	
Zinc	6.6 BE	2.9 BE	40.4 E	8.5 E	143. E	5.7	5.6 BE	3.1 B	3.1 B	140. E	17.6 E	3.7 BE	3.8 BE	6.2 E	51.5	95.3	
PCB 8082 (ug/kg)																	
Aroclor-1242	40. U	40. U	35000	34. U	35. U	17. U	740 U	36. U	38. U	35. U	480	36. U	34. U	33. U	19 U	20 U	
Aroclor-1248	22. J	2.9 J	7300 U	24. J	59.	17. U	3700	36. U	38. U	86.	190 U	21. J	3.9 J	18. J	19 U	20 U	
Aroclor-1254	40. U	40. U	7300 U	34. U	90.	17. U	740 U	7.0 J	38. U	150	190 U	36. U	34. U	33. U	19 U	20 U	
Aroclor-1260	40. U	40. U	2100 J	34. U	180	17. U	480 J	6.4 J	2.6 J	120	59. J	36. U	34. U	33. U	46	36	

SVOC and PCB analytical results reported in micrograms per kilogram (ug/kg), or parts per billion (ppb).  
Metals analytical results reported in milligrams per kilogram (mg/kg), or parts per million (ppm).  
U - Indicates analyte was not detected at or above the reporting limit.  
J - Indicates that the compound was analyzed for and determined to be present in the sample. However, the concentration indicated is an estimated value which is less than the specified minimum detection limit but greater than zero.  
B - Indicates result between instrument detection limit (IDL) and contract required detection limit (CRDL).  
E - Indicates that the concentration is estimated due to matrix interferences.  
N - Spiked sample recovery not within control limits.  
^ - Concentration exceeds the instrument calibration range or is below the reporting limit.  
^ - Instrument quality control not within control limits.  
\* - Batch quality control not within control limits.  
NS - Not Sampled

Table 2  
Summary of Analytical Results From Area 2-2  
KeySpan Energy - Glenwood Landing  
Queens, NY

Analyte	Sample Collection Designation & Collection Date																											
	GLA2-1 11/27/01	GLA2-1A 12/12/01	GLA2-2 11/27/01	GLA2-2A 12/12/01	GLA2-3 11/15/01	GLA2-3S 11/15/01	GLA2-4 11/27/01	GLA2-4S 11/27/01	GLA2-5 11/15/01	GLA2-5S 11/15/01	GLA2-6 11/15/01	GLA2-6A 12/12/01	GLA2-6B 12/12/01	GLA2-6S 11/15/01	GLA2-7 11/15/01	GLA2-8 11/27/01	GLA2-9 11/27/01	GLA2-10 11/27/01	GLA2-10A 12/12/01	GLA2-10AD 12/12/01	GLA2-10B 12/12/01	GLA2-11 11/27/01	GLA2-11A 12/12/01	GLA2-11S 11/27/01	GLA2-11SA 12/12/01	GLA2-TPDK 12/13/01	GLA2-TP/LT 12/13/01	
SVOC 8270 (ug/kg)																												
2-Methylnaphthalene	1300 U	40 U	160 J	42 U	330 U	42 J	320 U	350 U	330 U	16 J	330 U	34 U	33 U	21 J	320 U	330 U	330 U	13 J	33 U	33 U	33 U	330 U	33 U	370 U	37 U	33 U	33 U	
4-Chloroaniline	1300 U	210 Ja	380 U	36 U	330 U	9 J	320 U	350 U	330 U	10 J	330 U	29 U	29 U	23 J	320 U	330 U	330 U	840	29 U	29 U	28 U	330 U	29 Ua	7 J	37 Ja	29 U	28 U	
4-Methylphenol	1300 U	23 U	380 U	23 U	330 U	320 U	320 U	350 U	330 U	340 U	330 U	19 U	19 U	340 U	320 U	330 U	330 U	330 U	19 U	19 U	18 U	330 U	19 U	17 J	21 U	19 U	18 U	
Acenaphthene	300 J	60 Ja	74 J	20 U	330 U	320 U	320 U	350 U	330 U	6 J	330 U	16 U	16 U	340 U	320 U	330 U	330 U	14 J	16 U	16 U	15 U	330 U	16 U	370 U	18 U	11 U	15 U	
Acenaphthylene	280 J	640	560	14 U	11 J	75 J	320 U	350 U	330 U	110 J	330 U	12 U	11 U	63 J	320 U	330 U	24 J	1300	11 U	11 U	11 U	330 U	11 U	19 J	13 U	12 U	11 U	
Anthracene	670 J	740	290 J	16 U	330 U	30 J	320 U	350 U	330 U	46 J	330 U	13 U	12 U	27 J	320 U	330 U	330 U	320 J	12 U	12 U	12 U	330 U	13 U	24 J	14 Ja	15 U	12 U	
Benzo(a)anthracene	390 J	830 Q	410	20 U	330 U	42 J	320 U	350 U	330 U	72 J	330 U	16 U	16 U	42 J	320 U	330 U	330 U	170 J	16 U	16 U	15 U	330 U	19 Ja	110 J	51 Ja	16 U	15 U	
Benzo(a)pyrene	310 J	560 H	280 J	21 U	330 U	43 J	320 U	350 U	330 U	67 J	330 U	17 U	17 U	42 J	320 U	330 U	330 U	290 J	17 U	17 U	16 U	330 U	18 Ja	100 J	67 Ja	39 U	16 U	
Benzo(b)fluoranthene	250 J	700	200 J	49 U	330 U	37 J	320 U	350 U	330 U	65 J	330 U	40 U	39 U	40 J	320 U	330 U	330 U	100 J	39 U	39 U	39 U	330 U	40 Ua	87 J	55 Ja	17 U	38 U	
Benzo(g,h,i)perylene	1300 U	130 Ja	170 J	22 U	330 U	68 J	320 U	350 U	330 U	130 J	330 U	18 U	18 U	37 J	320 U	330 U	64 J	560	44 Ja	62 Ja	17 U	330 U	18 Ua	16 J	62 Ja	40 U	17 U	
Benzo(k)fluoranthene	360 J	430 Q	290 J	51 U	330 U	41 J	320 U	350 U	330 U	77 J	330 U	41 U	40 U	36 J	320 U	330 U	330 U	270 J	40 U	40 U	40 U	330 U	41 Ua	110 J	69 Ja	40 U	39 U	
Benzoic acid	6100 U	830 U	120 J	860 U	1600 U	32 J	1600 U	66 J	1600 U	1700 U	1600 U	700 U	680 U	110 J	1500 U	1600 U	1600 U	200 J	690 U	690 U	670 U	1600 U	690 U	280 J	770 U	680 U	670 U	
bis(2-Ethylhexyl)phthalate	1300 U	200 JaB	20 J	250 JaB	330 U	320 U	320 U	350 U	330 U	26 J	330 U	200 JaB	37 Ua	340 U	320 U	330 U	330 U	330 U	230 JaB	260 JaB	390 B	330 U	220 JaB	66 J	240 JaB	37 U	36 U	
Butylbenzylphthalate	1300 U	16 U	380 U	17 U	330 U	320 U	320 U	350 U	330 U	340 U	330 U	14 U	13 U	8 J	320 U	330 U	330 U	330 U	13 U	13 U	13 U	330 U	14 U	370 U	15 U	13 U	13 U	
Carbazole	1300 U	28 U	380 U	29 U	330 U	320 U	320 U	350 U	330 U	4 J	330 U	23 U	23 U	6 J	320 U	330 U	330 U	330 U	23 U	23 U	22 U	330 U	23 U	19 J	26 U	23 U	22 U	
Chrysene	430 J	1000	470	22 U	330 U	58 J	320 U	14 J	330 U	100 J	330 U	18 U	18 U	56 J	320 U	330 U	330 U	120 J	18 U	18 U	17 U	330 U	24 Ja	130 J	81 Ja	17 U	17 U	
Dibenz(a,h)anthracene	1300 U	23 U	36 J	23 U	330 U	18 J	320 U	350 U	330 U	28 J	330 U	19 U	19 U	340 U	320 U	330 U	330 U	160 J	19 U	19 U	18 U	330 U	19 U	370 U	21 Ua	19 U	18 U	
Dibenzofuran	1300 U	19 U	380 U	20 U	330 U	320 U	320 U	350 U	330 U	340 U	330 U	16 U	16 U	6 J	320 U	330 U	330 U	330 U	16 U	16 U	15 U	330 U	16 U	370 U	18 U	19 U	18 U	
Di-n-butylphthalate	1300 U	18 U	380 U	18 U	330 U	330 U	320 U	350 U	330 U	340 U	330 U	15 U	14 U	340 U	320 U	330 U	330 U	330 U	15 U	15 U	14 U	330 U	15 U	13 J	16 U	14 U	14 U	
Fluoranthene	820 J	1600 H	780	29 U	330 U	55 J	320 U	350 U	330 U	120 J	330 U	23 U	23 U	68 J	320 U	330 U	330 U	130 J	23 U	23 U	22 U	330 U	28 Ja	140 J	79 Ja	23 U	22 U	
Fluorene	1800	340 Ja	120 J	26 U	330 U	320 U	320 U	350 U	330 U	17 J	330 U	21 U	21 U	340 U	320 U	330 U	330 U	330 U	21 U	21 U	20 U	330 U	21 U	370 U	23 U	21 U	20 U	
Indeno(1,2,3-cd)pyrene	1300 U	89 Ja	160 J	23 U	330 U	56 J	320 U	350 U	330 U	92 J	330 U	19 U	19 U	40 J	320 U	330 U	330 U	530	19 U	25 Ja	43 Ja	18 U	330 U	19 Ua	24 J	50 Ja	19 U	
Naphthalene	1300 U	210 Ja	380 U	42 U	330 U	320 U	320 U	350 U	330 U	14 J	330 U	34 U	33 U	14 J	320 U	330 U	330 U	11 J	33 U	33 U	33 U	330 U	33 U	370 U	37 U	33 U	32 U	
Phenanthrene	4000	3200	370 J	31 U	330 U	54 J	320 U	350 U	330 U	180 J	330 U	25 U	25 U	61 J	320 U	330 U	14 J	29 J	25 U	25 U	24 U	330 U	25 U	63 J	50 Ja	25 U	24 U	
Pyrene	1600	3200	1800	25 U	9 J	130 J	320 U	18 J	330 U	270 J	330 U	20 U	20 U	110 J	320 U	330 U	330 U	410	20 U	20 U	19 U	330 U	37 Ja	210 J	120 Ja	20 U	19 U	
CLP Metals (mg/kg)																												
Aluminum	495	557	690	3350	3650	2690	1210	1540	2440	1190	1170	2310	1610	4190	1260	923	1090	824	781	602	904	2320	3630	6540	7420	1920 H^	1460 H^	
Antimony	0.98 U	0.68 B	0.77 U	0.44 B	0.99 UN	0.81 UN	0.71 U	0.87 U	0.80 UN	0.82 UN	0.73 UN	0.17 B	0.12 B	1.2 BN	0.84 UN	0.87 U	0.88 U	0.86 U	0.36 B	0.14 B	0.29 B	0.86 U	0.4 B	0.88 U	0.39 B	0.90 UH^	1.1 UH^	
Arsenic	0.94 U	1.1 B	0.73 U	1.6 B	1.8 B	2.9	0.94 B	0.83 U	0.81 B	2.6	0.70 U	1.1 B	0.83 B	3.2	0.80 U	0.84 U	1.3 B	1.2 B	0.71 B	0.43 B	0.85 B	0.82 U	4.4 B	5.2	10.4	0.81 BH^	1.2 BH^	
Barium	4.7 B	4.0	9.9 B	10.2	14.4 B	20.7 B	9.2 B	7.9 B	16.6 B	17.1 B	9.9 B	12.4	10.4	16.8 B	8.8 B	7.6 B	3.6 B	5.7 B	6.1	5.4	6.6	13.6 B	19.0	36.8 B	32.6	11.6 H^	11.3 H^	
Beryllium	0.11 U	0.007 U	0.16 B	0.086 B	0.47 B	0.75 B	0.098 B	0.17 B	0.24 B	0.46 B	0.16 B	0.17 B	0.096 B	0.58 B	0.17 B	0.096 B	0.36 B	0.28 B	0.042 B	0.036 B	0.042 B	0.18 B	0.28 B	0.41 B	0.28 B	0.18 U^	0.21 U^	
Cadmium	0.17 U	0.29 U	0.13 U	0.25 U	0.15 U	0.14 U	0.12 U	0.15 U	0.14 U	0.14 U	0.13 U	0.22 U	0.25 U	0.14 U	0.15 U	0.15 U	0.15 U	0.15 U	0.26 U	0.27 U	0.2 U	0.15 U	0.24 U	0.15 U	0.24 U	0.21 U	0.25 U	
Calcium	138 B	55.7 B	210 B	122	558 B	604 B	185 B	184 B	367 B	302 B	197 B	243	321	197 B	160 B	96.9 B	234 B	191 B	80.0	70.7 B	254	282 B	422	1340	2260	202 H^	160 H^	
Chromium	4.0	3.2	3.7	8.2	8.0	23.7	2.5	4.5	5.8	12.4	2.6	7.2	3.7	20.4	3.2	2.3	7.2	4.0	15.0	5.5	6.7	5.7	10.6	41.2	6.0 H^	4.2 H^	4.2 H^	
Cobalt	0.30 B	0.41 B	0.75 B	0.89 B	2.4 B	9.0	1.2 B	1.1 B	1.9 B	3.9 B	1.7 B	2.2	1.6 B	3.8 B	1.0 B	0.66 B	0.69 B	0.83 B	0.67 B	0.43 B	1.0 B	2.2 B	2.3	2.8 B	3.8	1.7 H^	1.6 BH^	
Copper	34.6	42.3	17.4	19.5	10	29.6	2.2 B	4.1 B	96.4	4.7	3.9 B	2.6 B	27.2	3.9 B	1.9 B	8.9	15.8	21.5	21.7	1.5 B	4.7	19.3	13.7	21.3	5.4 H^	3.2 BH^	3.2 BH^	
Iron	2850	1500	3400	4260	10100	7830	4180	4060	5950	6210	4380	8160	5200	8060	44													

Table 3  
Summary of Analytical Results From Area 2-3  
KeySpan Energy - Glenwood Landing  
Queens, NY

Analyte	Sample Collection Designation & Collection Date												
	GLA3-1 12/17/01	GLA3-1A 12/21/01	GLA3-1AD 12/21/01	GLA3-2 12/14/01	GLA3-3 12/14/01	GLA3-4 12/14/01	GLA3-4A 12/21/01	GLA3-5 12/14/01	GLA3-6 12/14/01	GLA3-7 12/14/01	GLA3-8 12/14/01	GLA3-8A 12/21/01	GLA3-9 12/14/01
SVOC 8270 (ug/kg)													
2,4-Dinitrophenol	260 U	59 U	59 U	52 U	52 U	54 U*	52 U	53 U*	52 U*	52 U*	53 U*	61 U	53 U*
4,6-Dinitro-2-methylphenol	250 U	33 U	33 U	29 U	28 U	29 U*	29 U	29 U*	29 U*	29 U*	29 U*	33 U	29 U*
2-Methylnaphthalene	170 U	33 U	33 U	29 U	28 U	29 U	29 U	29 U	29 U	29 U	29 U	33 U	29 U
Acenaphthene	110 U	17 U	17 U	15 U	15 U	16 U	15 U	16 U	15 U	15 U	15 U	18 U	15 U
Acenaphthylene	100 U	18 Ja	13 U	11 U	11 U	12 U	11 U	11 U	11 U	11 U	11 U	13 U	11 U
Anthracene	120 U	14 Ja	14 U	12 U	12 U	13 U	12 U	12 U	12 U	12 U	12 U	14 U	12 U
Benzo(a)anthracene	110 U	33 Ja	17 U	15 U	15 U	16 U	15 U	16 U	15 U	15 U	15 U	18 U	15 U
Benzo(a)pyrene	110 U	19 U	19 U	16 U	16 U	17 U	16 U	17 U	16 U	16 U	17 U	19 U	17 U
Benzo(b)fluoranthene	150 U	44 U	44 U	39 U	38 U	40 U	39 U	39 U	39 U	39 U	39 U	45 U	39 U
Benzo(ghi)perylene	160 U	20 U	20 U	17 U	17 U	18 U	17 U	18 U	17 U	17 U	18 U	20 U	18 U
Benzo(k)fluoranthene	130 U	44 U	45 U	40 U	39 U	41 U	40 U	40 U	40 U	40 U	40 U	47 U	40 U
Benzoic acid	130 U	770 U	770 U	680 U	670 U	700 Ua	680 U	690 U	680 U	680 U	680 U	790 U	680 U
bis-2-ethylhexyl-phthalate	170 UB	42 U	42 U	37 U	36 U	38 U	37 U	37 U	37 U	37 U	37 U	43 U	37 U
Chrysene	130 U	41 Ja	20 U	17 U	17 U	18 U	17 U	18 U	17 U	17 U	18 U	20 U	18 U
Dibenz(a,h)anthracene	150 U	21 U	21 U	18 U	18 U	19 U	18 U	19 U	19 U	18 U	19 U	21 U	19 U
Dibenzofuran	130 U	17 U	17 U	15 U	15 U	16 U	15 U	16 U	15 U	15 U	15 U	18 U	15 U
Fluoranthene	140 U	72 Ja	26 U	22 U	22 U	23 U	23 U	23 U	23 U	22 U	23 U	26 U	23 U
Fluorene	89 U	23 U	23 U	20 U	20 U	21 U	20 U	21 U	21 U	20 U	21 U	24 U	21 U
Indeno(1,2,3-cd)pyrene	160 U	21 U	21 U	18 U	18 U	19 Ua	18 U	19 U	19 U	18 U	19 U	21 U	19 U
Phenanthrene	120 U	32 Ja	28 U	25 U	24 U	25 U	25 U	25 U	25 U	25 U	25 U	29 U	25 U
Pyrene	310 U	98 Ja	36 Ja	19 U	19 U	20 U	19 U	20 U	20 U	19 U	20 U	23 U	20 U
CLP Metals (mg/kg)													
Aluminum	839 H	705	1260	722 H^	721 H^	1430 H^	821	1050 H^	896 H^	787 H^	566 H^	1230	867 H^
Antimony	0.93 UH	0.0041 U	0.039	0.83 UH^	1.2 UH^	0.98 UH^	0.21	0.82 UH^	1.0 UH^	1.1 UH^	1.1 UH^	0.032	0.86 UH^
Arsenic	0.64 UH	0.35	0.38	0.57 UH^	0.81 UH^	1.3 H^	0.71	0.57 UH^	0.70 UH^	1.7 H^	0.77 UH^	0.32	0.76 H^
Barium	6.9 H	11.5	53.0	5.6 H^	6.1 H^	10.6 H^	7.5	7.9 H^	4.8 H^	8.5 H^	3.6 H^	34.1	4.7 H^
Beryllium	0.18 UH	0.033	0.10	0.16 U^	0.23 U^	0.19 U^	0.12	0.16 U^	0.20 U^	0.21 U^	0.22 U^	0.15	0.17 U^
Cadmium	0.22 UH	0.069	0.35	0.20 UH	0.28 UH	0.23 UH	0.0089	0.20 UH	0.24 UH	0.26 UH	0.27 UH	0.10	0.21 UH
Calcium	220 H	78.6	174	105 H^	193 H^	170 H^	79.8	259 H^	79.5 H^	57.1 H^	43.1 H^	151	96.4 H^
Chromium	2.7	4.1	6.4	1.4 BH^	3.1 H^	3.4 H^	2.8	3.0 H^	2.7 H^	6.6 H^	2.1 H^	4.8	2.8 H^
Cobalt	0.56 H	0.65	2.4	0.84 BH^	0.85 BH^	1.4 H^	1.3	1.4 H^	0.94 H^	0.94 H^	0.26 H^	0.59	0.96 H^
Copper	10.8	45.5	132	1.6 BH^	1.5 BH^	2.8 H^	2.3	1.8 H^	4.9 H^	3.9 H^	26.1 H^	10.3	3.6 H^
Iron	3520 H	1300	1930	2600 H^	2790 H^	4630 H^	4950	3570 H^	3030 H^	4390 H^	1740 H^	1360	4100 H^
Lead	4.8 H	3.1	3.5	0.88 BH^	0.96 BH^	4.1 H^	3.8	1.2 H^	1.1 H^	1.0 H^	3.4 H^	2.1	0.86 H^
Magnesium	219 H	170	335	188 H	246 H	354 H	168	361 H	248 H	142 H	121 H	232	230 H
Manganese	51.0 H	16.8	133	92.5 H^	100 H^	135 H^	127	109 H^	95.2 H^	98.2 H^	12.7 H^	7.5	84.1 H^
Mercury	2.8 B^	0.90 B	1.2 B	0.012 B	0.0045 U	0.077 B	0.0068 B	0.0050 U	0.38 B	0.0040 U	3.0 B	0.77 B	0.35 B
Nickel	3.7 H	9.9	49.5	1.3 B	1.3 B	2.7	1.8	2.0	1.7	1.7	0.53	9.3	1.8
Potassium	111 H^	107	239	128 BH^	134 BH^	192 H^	119	243 H^	138 H^	104 H^	87.3 H^	147	188 H^
Selenium	1.3 UH	0.0045 U	0.20	1.1 UH^	1.6 UH^	1.3 UH^	0.079	1.1 UH^	1.4 UH^	1.5 UH^	1.5 UH^	0.078	1.2 UH^
Silver	0.20 UH^	0.074	0.047	0.18 UH^	0.26 UH^	0.21 UH^	0.030	0.18 UH^	0.22 UH^	0.24 UH^	0.24 UH^	0.0010 U	0.19 UH^
Sodium	12.3 H	92.4	113	16.6 BH^	13.7 BH^	27.0 H^	131	29.8 H^	40.9 H^	16.8 H^	14.4 H^	125	710 H^
Thallium	1.7 UH	0.25	0.18	1.6 UH^	2.2 UH^	1.8 UH^	0.31	1.5 UH^	1.9 UH^	2.0 UH^	2.1 UH^	0.0082 U	1.6 UH^
Vanadium	33.3 H	39.5	149	2.4 BH	2.7 BH	6.3 H	3.5	4.3 H	3.2 H	3.0 H	3.4 H	101	5.1 H
Zinc	9 H	10.9	38.0	4.1 BH^	4.2 BH^	8.4 H^	5.9	7.4 H^	6.8 H^	6.0 H^	9.4 H^	25.8	13.0 H^
PCB 8082 (ug/kg)													
Aroclor-1242	19 U	38 P	19 U	17 U	17 U	18 U	17 U	17 U	17 U	17 U	17 U	20 U	17 U
Aroclor-1248	19 U	19 U	19 U	17 U	17 U	18 U	17 U	17 U	17 U	17 U	17 U	20 U	17 U
Aroclor-1254	42 P	19 U	19 U	17 U	17 U	18 U	17 U	17 U	17 U	17 U	17 U	20 U	17 U
Aroclor-1260	19 U	19 U	19 U	17 U	17 U	18 U	17 U	17 U	17 U	17 U	17 U	20 U	17 U

SVOC and PCB analytical results reported in micrograms per kilogram ( ug/kg), or parts per billion (ppb).  
Metals analytical results reported in milligrams per kilogram (mg/kg), or parts per million (ppm).  
U - Indicates analyte was not detected at or above the reporting limit  
J - Indicates that the compound was analyzed for and determined to be present in the sample. However, the concentration indicated is an estimated value which is less than the specified minimum detection limit but greater than zero.  
B - Indicates result between instrument detection limit (IDL) and contract required detection limit (CRDL)  
E - Indicates that the concentration is estimated due to matrix interferences.  
N - Spiked sample recovery not within control limits  
a - Concentration exceeds the instrument calibration range or is below the reporting limit.  
^ - Instrument quality control not within control limits.  
\* - Batch quality control not within control limits.  
NS- Not Sampled



Table 4  
Summary of Analytical Results From Area 2-4  
KeySpan Energy - Glenwood Landing  
Queens, NY

Analyte	Sample Collection Designation & Collection Date																						
	GLA4-1 12/05/01	GLA4-2 12/18/01	GLA4-2A 1/8/02	GLA4-2S 12/18/01	GLA4-2SA 1/8/02	GLA4-2SB 1/7/02	GLA4-3 12/05/01	GLA4-4 12/05/01	GLA4-4S 12/05/01	GLA4-4SA 12/18/01	GLA4-4SB 12/18/01	GLA4-4SC 1/7/02	GLA4-4SD 1/7/02	GLA4-4SE 1/7/02	GLA4-5 12/05/01	23 KV Bottom 9/3/02	23 KV East Wall 9/3/02	23 KV North Wall 9/3/02	23 KV South Wall 9/3/02	Glenwood Bottom C 9/19/02	Glenwood Bottom N 9/19/02	Glenwood Bottom S 9/19/02	Glenwood Sidewall E 9/19/02
SVOC 8270 (ug/kg)																							
2-Methylnaphthalene	330 U	150 U	28 U	150 U	28 U	32 Ua	330 U	s J	2900 J	360 U	160 U	29 U	30 U	130 Ja	330 U	340 U	520 J	1800 U	340 U	410 U	350 U	340 U	340 U
2,4,5-Trichlorophenol	1600 U	93 U	10 U	93 U	10 U	20 Ja	1600 U	1700 U	65000 U	900 U	95 U	10 U	11 U	42 U	1600 U	840 U	4200 U	4300 U	830 U	990 U	840 U	830 U	820 U
Acenaphthene	330 U	96 U	15 U	96 U	15 U	17 Ua	330 U	350 U	9500 J	340 U	96 U	16 U	16 U	450 Ja	330 U	22 J	1600 J	110 J	13 J	410 U	350 U	340 U	340 U
Acenaphthylene	330 U	90 U	11 U	89 U	11 U	22 Ja	330 U	350 U	13000 U	340 U	92 U	11 U	12 U	85 Ja	330 U	340 U	1700 U	1800 U	340 U	410 U	350 U	340 U	340 U
Anthracene	330 U	110 U	15 Ja	110 U	12 U	48 Ja	330 U	350 U	14000	340 U	110 U	12 Ua	38 Ja	1100 Ja	330 U	52 J	2400	800 J	40 J	410 U	350 U	11 J	340 U
Benzo(a)anthracene	330 U	100 U	15 U	350 J	15 U	210 Ja	10 J	10 J	28000	160 J	660	42 Ja	84 Ja	2800	30 J	190 J	4800	3700	150 J	410 U	350 U	94 J	340 U
Benzo(a)pyrene	330 U	100 U	16 U	400	16 U	190 Ja	12 J	350 U	22000	130 J	590	41 Ja	93 Ja	2500	26 J	170 J	3900	2400	140 J	410 U	350 U	96 J	340 U
Benzo(b)fluoranthene	330 U	130 U	39 U	600	39 U	160 Ja	11 J	9 J	18000	140 J	690	39 Ua	76 Ja	1900	26 J	130 J	3700	3900	240 J	410 U	350 U	110 J	340 U
Benzo(g,h,i)perylene	330 U	140 U	17 U	160 J	17 U	200 Ja	330 U	350 U	9900 J	66 J	220 J	18 Ja	48 Ja	2400	330 U	100 J	1300 J	760 J	110 J	410 U	350 U	70 J	340 U
Benzo(k)fluoranthene	330 U	110 U	40 U	250 J	40 U	200 Ja	14 J	10 J	21000	63 J	270 J	47 Ja	85 Ja	2400	29 J	160 J	2600	1800 U	340 U	410 U	350 U	65 J	340 U
bis(2-Ethylhexyl)phthalate	330 U	150 U	36 U	150 U	37 U	250 JaB	330 U	120 JB	13000 U	340 U	150 U	37 UaB	47 JaB	340 JaB	57 J	17 J	1700 U	1800 U	99 J	410 U	350 U	100 J	340 U
Butyl benzyl phthalate	330 U	180 U	13 U	180 U	13 U	38 Ja	330 U	350 U	13000 U	340 U	190 U	13 U	14 U	55 U	330 U	340 U	1700 U	1800 U	340 U	410 U	350 U	340 U	340 U
Carbazole	330 U	na	22 U	na	22 U	37 Ja	330 U	350 U	4900 J	360 U	na	23 U	23 Ua	760 Ja	330 U	na	na	na	na	na	na	na	na
Chrysene	330 U	110 U	17 U	470	17 U	320 Ja	13 J	10 J	29000	140 J	610	54 Ja	120 Ja	3300	30 J	160 J	4200	2700	140 J	410 U	350 U	100 J	340 U
Dibenz(a,h)anthracene	330 U	130 U	18 U	130 U	18 U	70 Ja	330 U	350 U	4300 J	340 U	130 U	19 U	21 Ja	720 Ja	330 U	50 J	830 J	480 J	48 J	410 U	350 U	23 J	340 U
Dibenzofuran	330 U	110 U	15 U	110 U	15 U	17 Ua	330 U	350 U	3900 J	340 U	120 U	16 U	16 U	370 Ja	330 U	340 U	860 J	1800 U	340 U	410 U	350 U	340 U	340 U
D,n-butyl phthalate	330 U	120 U	14 U	120 U	14 U	16 Ua	330 U	350 U	13000 U	340 U	120 U	14 U	15 U	59 Ua	330 U	91 Bf	1700 U	1800 U	13 Bf	31 J	20 J	47 J	37 J
Fluoranthene	330 U	130 U	22 U	1200	22 Ua	410	330 U	15 J	56000	260 J	1000	71 Ja	120 Ja	5700	25 J	330 J	9800	6800	270 J	410 U	350 U	200 J	340 U
Fluorene	330 U	79 U	20 U	79 U	20 U	23 Ua	330 U	350 U	8200 J	340 U	80 U	21 U	21 U	580 Ja	330 U	17 J	1400 J	86 J	10 J	410 U	350 U	340 U	340 U
Indeno(1,2,3-cd)pyrene	330 U	140 U	18 U	150 J	18 U	190 Ja	330 U	350 U	10000 J	57 J	220 J	19 Ua	45 Ja	2100	10 J	96 J	1500 J	860 J	92 J	410 U	350 U	59 J	340 U
Naphthalene	330 U	80 U	32 U	80 U	33 U	36 Ua	330 U	350 U	5000 J	340 U	82 U	33 U	34 U	310 Ja	330 U	340 U	2200	1800 U	340 U	410 U	350 U	340 U	340 U
Phenanthrene	330 U	100 U	24 U	660	49 Ja	280 Ja	330 U	8 J	51000	95 J	310 J	34 Ja	45 Ja	6200	330 U	240 J	11000	1600 J	140 J	410 U	350 U	49 J	340 U
Pyrene	330 U	280 U	19 U	1300	36 Ja	640	330 U	16 J	42000	230 J	890	64 Ja	120 Ja	7900	32 J	280 J	7400	7000	410 U	350 U	160 J	340 U	340 U
CLP Metals (mg/kg)																							
Aluminum	1550	6090	1090	1530	1600	1910	1570	1620	1430	2200 H	1610	2350	2120	1940	2390	1850 E	2460 E	6140 E	2150 E	2040 E	2400 E	2200 E	1430 E
Antimony	0.90 U	1.1 U	0.30	8.7	0.29	4.7	0.78 U	0.83 U	0.71 U	0.77 UH	1.1 U	0.42	0.26	3.4	0.84 U	1.2 B	0.65 B	0.93 B	1.1 B	0.82 BN	0.59 NU	0.57 NU	0.56 NU
Arsenic	0.94 B	1.5	0.70	0.99	1.2	3.4	1.2 B	1.0 B	1.1 B	1.4 H	0.80 U	1.6	1.3	3.0	0.81 U	1.1	1.1	2.4	1.4	0.99 B	1.3	0.99 B	0.59 B
Barium	10.4 B	24.4	6.6	26.4	11.5	26.5	10.4 B	10.8 B	9.8 B	15.0 H	13.2	15.6	14.0	27.7	13.8 B	11.8 B	18.3 B	58.8	10.6 B	15.5 BE	14.4 BE	14.6 BE	9.5 BE
Beryllium	0.23 B	0.29	0.06	0.21 U	0.20	0.14	0.24 B	0.20 B	0.20 B	0.19 H	0.23 U	0.13	0.13	0.17	0.25 B	0.09 B	0.12 B	0.15 B	0.18 B	0.15 B	0.17 B	0.09 B	0.09 B
Cadmium	0.16 U	0.25 U	0.11	0.51	0.20	0.70	0.79 B	0.14 U	0.12 U	0.18 UH	0.28 U	0.14	0.17	1.6	0.15 U	0.04 B	0.08 B	0.03 B	0.47 B	0.17 B	0.03 U	0.11 B	0.03 U
Calcium	232 B	528	95.1	1340	156	1030	193 B	176 B	135 B	237 H	162	271	268	1290	351 B	194 B	221 B	7040	172 B	213 B	319 B	233 B	124 B
Chromium	3.6	9.6	3.1	8.4	38.9	12.4	3.8	3.3	4.6	6.1	3.5	5.3	4.6	33.6	4.7	3.7	5.3	10.6	4.7	6 E	4.4 E	4.5 E	4.5 E
Cobalt	1.4 B	3.2	1.1	2.2	2.4	2.8	1.5 B	1.4 B	1.8 B	1.7 H	1.4	1.9	1.7	4.1	2.1 B	1.6 B	2.7 B	4.8 B	2.4 B	2 B	5 B	1.9 B	1.4 B
Copper	15.4	5.7	1.9	59.3	6.3	44.7	6.1	3.5 B	11.8	10.3	4.3	5.1	6.7	63.0	4.3 B	5.1	6.9	31.4	3.7	7.8	5.8	7.5	2.6
Iron	4710	10100	3150	6530	9770	9790	9560	5100	4830	6210 H	4370	4830	4940	9260	6300	4960	5470	12400	6110	7020 E	6240 E	5540 E	3820 E
Lead	22.2	11.6 ^	1.0	335 ^	1.0	408	5.3	12.7	53.3	19.9 H	9.8 ^	8.1	37.0	450	5.9	17.2	16.6	61.7	5.2	31.7 *	12 *	29 *	7.4 *
Magnesium	377 B	1180	304	881	409	751	390 B	381 B	369 B	454 H	474	479	1060	573 B	376 B	591	3690	413 B	558 BE	610 E	506 BE	649 BE	649 BE
Manganese	114.	145	91.1	752	202	111	191.	129.	104.	143 H	115	133	123	97.1	123	121 N	140 N	192 N	152 N	126 N	150 N	125 N	94.7 NU
Mercury	0.0036 B	0.015 B	0.0052 U	0.095 B	0.0057 U	0.18 B	0.18	0.0081	0.19	0.095 B	0.014 B	0.012 B	0.039 B	1.8 B	0.022	0.013 U	0.015 U	0.087	0.014 U	0.016 U	0.021 B	0.014 U	0.014 U
Nickel	3.8 B	7.3	1.8	19.2	14.8	28.6	4.0 B	3.0 B	6.3	4.0 H	4.0	5.2	3.5	40.8	5.0 B	2.9 B	4.1 B	13.5	8.3	9.2	5.3	3.8 B	5.3
Potassium	207 B	454 ^	141	189 ^	223	227	232 B	202 B	206 B	265 H^	187 ^	291	232	335 B	215 B	274 B	780	248 B	334 B	322 B	249 B	218 B	218 B
Selenium	0.96 U	1.4 U^	0.19	1.5 U^	0.23	0.71	0.83 U	0.88 U	0.76 U	1.1 UH	1.6 U^	0.27	0.29	0.61	0.90 U	0.54 U	0.53 U	0.56 U	0.67	0.44 U	0.42 U	0.42 U	0.42 U
Silver	0.20 U	0.23 U^	0.00091 U	0.43 ^	0.00094 U	0.35	0.17 U	0.18 U	0.15 U	0.17 UH	0.25 U^	0.0010 U	0.020	0.56	0.18 U	0.1 U	0.1 U	0.1 U	0.1 U	0.06 U	0.05 U	0.05 U	0.05 U
Sodium	17.0 B	33.1	36.1	54.4	49.5	84.3	13.0 B	18.4 B	17.1 B	18.3 H	21.6	65.9	51.7	73.4	26.4 B	26.9 B	25.3 U	136 B	53 B	32 U	28.1 U	41.6 B	26.9 U
Thallium	3.6 U	2.0 U^	0.33	2.0 U^	0.0068 U	0.40	3.2 U	3.4 U	2.9 U	1.5 UH	2.2 U^	0.0081 U	0.0085 U	0.048	3.4 U	0.4 U	0.39 U	0.41 U	0.41 B	0.46 U	0.42 U	0.72 B	0

SVOC and PCB analytical results reported in micrograms per kilogram (ug/kg), or parts per billion (ppb).  
Metals analytical results reported in milligrams per kilogram (mg/kg), or parts per million (ppm).  
U - Indicates analyte was not detected at or above the reporting limit.  
J - Indicates that the compound was analyzed for and determined to be present in the sample. However, the concentration indicated is an estimated value which is less than the specified minimum detection limit but greater than zero.  
B - Indicates result between instrument detection limit (IDL) and correct required detection limit (CRDL).  
E - Indicates that the concentration is estimated due to matrix interference.  
N - Spiked sample recovery not within control limits.  
a - Concentration exceeds the instrument calibration range or is below the reporting limit.  
^ - Instrument quality control not within control limits.  
\* - Batch quality control not within control limits.  
NS- Not Sampled  
na- not analyzed

Table 5  
Summary of Analytical Results From Area 1A-5  
KeySpan Energy - Glenwood Landing  
Queens, NY

Analyte	Sample Collection Designation & Collection Date																			
	GLA5A-1 11/28/01	GLA5A-2 11/28/01	GLA5A-3 11/28/01	GLA5A-4 11/28/01	GLA5A-4A 12/17/01	GLA5A-4B 12/17/01	GLA5A-4C 12/17/01	GLA5A-4D 12/17/01	GLA5A-5 11/28/01	GLA5B-1 11/28/01	GLA5B-1D 11/28/01	GLA5B-2 11/28/01	GLA5B-3 11/28/01	GLA5B-4 11/28/01	GLA5B-5 11/28/01	GLA5C-1 11/28/01	GLA5C-1D 11/28/01	GLA5C-2 11/28/01	GLA5C-3 11/28/01	GLA5C-4 11/28/01
SVOC 8270 (ug/kg)																				
2-Methylnaphthalene	4 J	5 J	4 J	10 J	350 U	350 U	350 U	350 U	4	2 J	350 U	340 U	4 J	3 J	4 J	330 U	330 U	330 U	340 U	330 U
Acenaphthene	340 U	340 U	330 U	340 U	350 U	350 U	350 U	350 U	330	340 U	350 U	340 U	340 U	330 U	340 U	330 U	330 U	330 U	340 U	330 U
Acenaphthylene	340 U	340 U	330 U	340 U	350 U	350 U	350 U	350 U	330	340 U	350 U	340 U	340 U	330 U	340 U	330 U	330 U	330 U	340 U	330 U
Anthracene	6 J	7 J	15 J	32 J	350 U	350 U	350 U	350 U	9	5 J	350 U	340 U	4 J	7 J	5 J	7 J	7 J	15 J	9 J	12 J
Benzo(a)anthracene	24 J	24 J	65 J	270 J	48 J	350 U	350 U	350 U	40	16 J	14 J	340 U	20 J	16 J	21 J	32 J	30 J	79 J	32 J	52 J
Benzo(a)pyrene	23 J	25 J	58 J	210 J	53 J	350 U	350 U	350 U	59	18 J	14 J	5 J	18 J	15 J	21 J	29 J	28 J	70 J	32 J	54 J
Benzo(b)fluoranthene	30 J	29 J	59 J	220 J	80 J	350 U	37 J	350 U	57	18 J	15 J	5 J	19 J	24 J	26 J	36 J	32 J	74 J	33 J	55 J
Benzo(g,h,i)perylene	11 J	14 J	29 J	110 J	350 U	350 U	350 U	350 U	29	9 J	9 J	3 J	8 J	8 J	10 J	18 J	17 J	32 J	21 J	38 J
Benzo(k)fluoranthene	25 J	30 J	74 J	260 J	350 U	350 U	350 U	350 U	60	18 J	17 J	8 J	23 J	20 J	23 J	36 J	40 J	78 J	48 J	59 J
bis(2-Ethylhexyl)phthalate	120 J	18 J	51 J	13 J	130 J	250 JB	49 JB	110 JB	330	92 J	210 J	13 J	14 J	36 J	26 J	330 U	100 JB	330 U	340 U	2100 B
Butylbenzylphthalate	340 U	340 U	330 U	340 U	350 U	350 U	350 U	350 U	330	340 U	350 U	340 U	340 U	330 U	340 U	330 U	18 J	330 U	340 U	330 U
Carbazole					na	na	na	na	330 U			340 U	340 U	330 U	340 U	330 U	330 U	330 U	340 U	330 U
Chrysene	31 J	29 J	83 J	280 J	57 J	350 U	350 U	350 U	48	19 J	17 J	340 U	23 J	25 J	25 J	43 J	37 J	92 J	42 J	60 J
Dibenz(a,h)anthracene	5 J	6 J	9 J	40 J	350 U	350 U	350 U	350 U	12	3 J	3 J	340 U	4 J	3 J	4 J	330 U	330 U	330 U	340 U	330 U
Dibenzofuran	340 U	340 U	330 U	340 U	350 U	350 U	350 U	350 U	330	340 U	350 U	340 U	340 U	330 U	340 U	330 U	330 U	330 U	340 U	330 U
Diethylphthalate	340 U	25 JB	31 JB	340 U	350 U	350 U	350 U	350 U	330	340 U	30 JB	340 U	340 U	330 U	37 JB	330 U	23 JB	330 U	340 U	330 U
Fluoranthene	39 J	41 J	130 J	460	73 J	36 J	41 J	350 U	64	32 J	23 J	9 J	37 J	48 J	32 J	47 J	50 J	140 J	55 J	81 J
Fluorene	340 U	340 U	330 U	340 U	350 U	350 U	350 U	350 U	330	340 U	350 U	340 U	340 U	330 U	340 U	330 U	330 U	330 U	340 U	330 U
Indeno(1,2,3-cd)pyrene	10 J	12 J	25 J	96 J	350 U	350 U	350 U	350 U	26	7 J	6 J	2 J	7 J	7 J	10 J	15 J	17 J	32 J	19 J	34 J
Phenanthrene	11 J	18 J	34 J	88 J	350 U	350 U	350 U	350 U	25	18 J	350 U	4 J	12 J	22 J	16 J	23 J	20 J	33 J	27 J	38 J
Pyrene	35 J	35 J	110 J	400	76 J	350 U	350 U	350 U	47	26 J	21 J	8 J	30 J	36 J	29 J	45 J	50 J	120 J	55 J	83 J
CLP Metals (mg/kg)																				
Aluminum	1850	2670	2350	2300	2940 H	2100 H	2270 H	2360 H	2230	2390	2700	2660	2510	2570	2280	2220	2460	2410	3160	2920
Antimony	0.67 U	0.79 U	0.75 U	0.66 U	1.1 UH	1.2 UH	1.2 UH	1.2 UH	0.77 U	0.83 U	0.88 U	0.83 U	0.83 U	0.76 U	0.76 U	0.72 UN	0.68 UN	0.79 UN	0.79 UN	0.73 UN
Arsenic	1.1 B	1.6 B	1.4 B	1.5	2.0 H	1.5 H	1.5 H	1.5 H	1.1 B	0.85 U	1.3 B	1.2 B	1.7 B	1.3 B	0.91 B	0.69 U	0.65 U	0.76 U	0.97 B	3.2
Barium	14.4 B	16.8 B	17.9 B	18.4 B	21.4 H	17.7 H	19.4 H	19.9 H	14.9 B	25.3 B	31.1 B	35.8 B	33.6 B	21.7 B	17.5 B	17.0 B	19.9 B	29.5 B	22.8 B	20.5 B
Beryllium	0.11 B	0.12 B	0.14 B	0.12 B	0.22 UH	0.23 UH	0.23 UH	0.24 H	0.11 B	0.13 B	0.18 B	0.23 B	0.18 B	0.15 B	0.12 B	0.18 B	0.20 B	0.21 B	0.25 B	0.26 B
Cadmium	0.12 U	0.14 U	0.16 B	0.12 U	0.27 UH	0.28 UH	0.28 UH	0.28 UH	0.17 B	0.15 B	0.17 B	0.15 U	0.25 B	0.17 B	0.14 U	0.12 U	0.12 U	0.14 U	0.14 U	0.13 U
Calcium	295. B	342. B	711. B	378. B	1180 H	459 H	609 H	646 H	356. B	1040	1110	2510	942.	769. B	451. B	438. B	596. B	563. B	698. B	570. B
Chromium	4.5	6.6	5.9	5.3	7.0	5.3	6.3	7.1	5.2	6.2	7.6	6.9	6.8	6.6	5.7	5.5	6.3	6.4	7.4	6.2
Cobalt	1.6 B	2.2 B	2.3 B	1.9 B	2.2 H	1.9 H	2.2 H	1.8 H	1.8 B	2.4 B	3.5 B	2.2 B	3.5 B	2.5 B	2.1 B	2.0 B	2.1 B	2.3 B	2.5 B	2.0 B
Copper	3.6 B	5.3	6.0	5.2	6.2	5.1	5.5	5.2	4.8	5.8	10.9	6.5	9.6	6.8	5.5	5.5	6.2	6.5	6.9	6.5
Iron	5370	7180	6430	6020	7380 H	5920 H	6360 H	6270 H	5320	6020	8710	7720	11700	7130	5980	5340	6270	6980	7660	7350
Lead	7.6	13.8	16.2	14.3	17.9 H	15.6 H	16.5 H	17.1 H	12.5	23.1	25.3	40.4	21.6	18.2	15.6	14.6	17.6	21.0	15.7	16.7
Magnesium	457. B	814. B	680. B	629. B	920 H	680 H	760 H	828 H	668. B	1050	1030	1420	981.	869.	686. B	652. B	757.	750. B	958.	693. B
Manganese	99.8 *	124. *	102. *	80.9 *	115 H	92.9 H	102 H	86.1 H	77.4 *	94.8 *	122. *	112. *	196. *	105. *	83.6 *	85.4	92.3	184.	112.	90.2
Mercury	0.0066 B	0.012	0.0099	0.0086 B	0.046 B	0.011 B	0.011 B	0.011 B^	0.0082 B	0.42	0.0090	0.0035 U	0.0048 B	0.0057 B	0.0076 B	0.0093	0.0086	0.0087	0.0088	0.010
Nickel	4.3 B	5.9 B	5.6 B	5.8	6.3 H	5.5 H	5.5 H	5.9 H	4.9 B	6.4 B	7.8	6.7 B	9.5	6.6 B	5.8 B	5.9 B	6.1	6.0 B	7.2	6.7
Potassium	294. B	442. B	407. B	440. B	551 H^	436 H^	482 H^	472 H^	402. B	534. B	579. B	588. B	554. B	530. B	439. B	407. B	441. B	428. B	556. B	418. B
Selenium	0.73 U	0.86 U	0.81 U	0.71 U	1.6 UH	1.6 UH	1.6 UH	1.6 UH	0.83 U	0.91 U	0.95 U	0.91 U	0.91 U	0.83 U	0.83 U	0.77 U	0.73 U	0.84 U	0.86	0.78 U
Silver	0.15 U	0.18 U	0.17 U	0.14 U	0.25 UH^	0.26 UH^	0.26 UH^	0.25 UH^	0.17 U	0.18 U	0.19 U	0.18 U	0.18 U	0.17 U	0.17 U	0.16 U	0.15 U	0.17 U	0.17 U	0.16 U
Sodium	23.4 B	29.8 B	33.9 B	33.7 B	40.0 H	31.8 H	33.9 H	30.2 H	33.4 B	44.9 B	60.1 B	79.3 B	52.4 B	45.8 B	36.0 B	25.9 B	28.3 B	29.6 B	41.3 B	32.6 B
Thallium	1.5 U	1.8 U	1.7 U	1.4 U	2.1 UH	2.2 UH	2.2 UH	2.2 UH	1.7 U	1.8 U	1.9 U	1.8 U	1.8 U	1.7 U	1.7 U	2.9 U	2.8 U	3.2 U	3.2 U	3.0 U
Vanadium	5.9 B	8.6 B	8.0 B	7.2 B	9.5 H	7.6 H	8.2 H	7.4 H	7.1 B	7.3 B	9.2 B	8.2 B	10.	8.3 B	7.5 B	7.3 B	8.6	9.0	9.9	8.2
Zinc	11.1	18.8	17.5	15.7	21.7 H	16.2 H	16.4 H	18.2 H	14.5	27.4	34.0	16.5	21.0	17.0	16.6	16.9	18.6	18.2	20.8	20.3
PCB 8082 (ug/kg)																				
Aroclor-1254	34 U	34 U	33 U	34 U	17 U	17 U	17 U	17 U	33 U	34 U	35 U	33 U	35 U	33 U	34 U	33 U	33 U	34 U	33 U	34 U
Aroclor-1260	34 U	34 U	33 U	34 U	17 U	17 U	17 U	17 U	33 U	34 U	35 U	33 U	35 U	33 U	34 U	33 U	33 U	34 U	33 U	34 U

SVOC and PCB analytical results reported in micrograms per kilogram (ug/kg), or parts per billion (ppb).  
Metals analytical results reported in milligrams per kilogram (mg/kg), or parts per million (ppm).  
U - Indicates analyte was not detected at or above the reporting limit  
J - Indicates that the compound was analyzed for and determined to be present in the sample. However, the concentration indicated is an estimated value which is less than the specified minimum detection limit but greater than zero  
B - Indicates result between instrument detection limit (IDL) and contract required detection limit (CRDL)  
E - Indicates that the concentration is estimated due to matrix interferences.  
N - Spiked sample recovery not within control limits  
s - Concentration exceeds the instrument calibration range or is below the reporting limit.  
^ - Instrument quality control not within control limits.  
\* - Batch quality control not within control limits.  
NS- Not Sampled  
na- not analyzed

Table 5 cont'd  
Summary of Analytical Results From Area 1A-5  
KeySpan Energy - Glenwood Landing  
Queens, NY

Analyte	Sample Collection Designation and Collection Date																			
	GLA5C-5 11/28/01	GLA5D-1 11/28/01	GLA5D-2 11/28/01	GLA5D-2A 12/14/01	GLA5D-2B 12/14/01	GLA5D-2C 12/14/01	GLA5D-2D 12/14/01	GLA5D-3 11/28/01	GLA5D-4 11/28/01	GLA5D-5 11/28/01	GLA5D-5A 12/14/01	GLA5D-5B 12/14/01	GLA5D-5C 12/14/01	GLA5D-5D 12/14/01	GLA5E-1 12/04/01	GLA5E-2 11/28/01	GLA5E-3 11/28/01	GLA5E-4 11/28/01	GLA5E-5 11/28/01	
SVOC 8270 (ug/kg)																				
2-Methylnaphthalene	330 U	4 J	3300 U	350 U	360 Ua	350 U	350 U	5 J	3 J	12 J	360 U	350 U	350 U	360 Ua	340 U	340 U	3 J	2 J	3 J	
Acenaphthene	330 U	340 U	3300 U	350 U	27 Ja	350 U	350 U	9 J	340 U	160 J	360 U	350 U	350 U	360 U	340 U	340 U	340 U	330 U	340 U	
Acenaphthylene	330 U	340 U	3300 U	350 U	22 Ja	350 U	350 U	340 U	340 U	J	360 U	350 U	350 U	360 U	340 U	340 U	340 U	12 J	340 U	
Anthracene	8 J	6 J	3300 U	350 U	120 Ja	350 U	350 U	20 J	10 J	450 J	360 U	350 U	350 U	360 U	340 U	7 J	8 J	5 J	5 J	
Benzo(a)anthracene	34 J	24 J	110 J	350 Ua	300 Ja	27 Ja	40 Ja	58 J	47 J	1300 J	45 Ja	48 Ja	45 Ja	68 Ja	17 J	37 J	42 J	25 J	19 J	
Benzo(a)pyrene	34 J	27 J	150 J	350 U	190 Ja	30 Ja	40 Ja	52 J	46 J	970 J	44 Ja	48 Ja	48 Ja	68 Ja	16 J	34 J	38 J	27 J	22 J	
Benzo(b)fluoranthene	37 J	36 J	90 J	350 Ua	170 Ja	350 Ua	44 Ja	64 J	50 J	1000 J	43 Ja	50 Ja	55 Ja	78 Ja	19 J	44 J	52 J	28 J	28 J	
Benzo(g,h,i)perylene	20 J	15 J	250 J	350 U	170 Ja	28 Ja	33 Ja	29 J	32 J	330 J	23 Ja	28 Ja	29 Ja	54 Ja	340 U	16 J	19 J	13 J	12 J	
Benzo(k)fluoranthene	38 J	35 J	77 J	350 Ua	200 Ja	350 Ua	41 Ja	63 J	59 J	1000 J	54 Ja	58 Ja	54 Ja	100 Ja	19 J	52 J	48 J	26 J	32 J	
bis(2-Ethylhexyl)phthalate	330 U	340 U	3300 U	350 U	360 U	350 U	350 U	88 J	150 J	1900 U	360 U	350 U	350 U	360 U	340 U	130 J	22 J	87 J	140 J	
Butylbenzylphthalate	330 U	340 U	3300 U	350 U	360 U	350 U	350 U	340 U	340 U	1900 U	360 U	350 U	350 U	360 U	340 U	340 U	340 U	330 U	340 U	
Carbazole	330 U	340 U	3300 U	350 U	360 U	350 U	350 U	340 U	340 U	1900 U	360 U	350 U	350 U	120 J	340 U					
Chrysene	42 J	31 J	210 J	22 Ja	490	39 Ja	59 Ja	68 J	62 J	1400 J	55 Ja	67 Ja	63 Ja	130 Ja	21 J	62 J	50 J	29 J	32 J	
Dibenzo(a,h)anthracene	330 U	340 U	3300 U	350 U	51 Ja	350 U	350 U	10 J	340 U	120 J	360 U	350 U	350 U	360 U	340 U	7 J	7 J	3 J	4 J	
Dibenzofuran	330 U	340 U	3300 U	350 U	16 Ja	350 U	350 U	340 U	340 U	58 J	360 U	350 U	350 U	28 Ja	340 U	340 U	340 U	330 U	340 U	
Diethylphthalate	330 U	340 U	3300 U	350 U	360 U	350 U	350 U	340 U	340 U	1900 U	360 U	350 U	350 U	360 U	340 U	67 JB	22 JB	330 U	21 JB	
Fluoranthene	56 J	34 J	75 J	350 Ua	480	40 Ja	54 Ja	110 J	89 J	3000	72 Ja	75 Ja	68 Ja	350 Ja	23 J	70 J	80 J	41 J	42 J	
Fluorene	330 U	340 U	3300 U	350 U	360 U	350 U	350 U	340 U	340 U	140 J	360 U	350 U	350 U	360 U	340 U	340 U	340 U	330 U	340 U	
Indeno(1,2,3-cd)pyrene	19 J	13 J	78 J	350 U	150 Ja	21 Ja	27 Ja	23 J	26 J	340 J	20 Ja	23 Ja	22 Ja	39 Ja	340 U	14 J	16 J	9 J	10 J	
Phenanthrene	24 J	13 J	3300 U	350 U	120 Ja	350 Ua	350 Ua	69 J	36 J	1900	360 Ua	350 Ua	350 Ua	340 Ja	340 U	12 J	28 J	19 J	14 J	
Pyrene	54 J	29 J	190 J	26 Ja	770	59 Ja	86 Ja	98 J	85 J	2200	76 Ja	86 Ja	82 Ja	320 Ja	340 U	52 J	72 J	60 J	35 J	
CLP Metals (mg/kg)																				
Aluminum	2510	3030	3320	2280 H^	5440 H^	3230 H^	3190 H^	3130	3390	2230	2850 H^	3030 H^	3340 H^	2930 H^	2540	2650	2920	2760	2860	
Antimony	0.80 UN	0.68 U	0.83 U	1.2 UH^	1.1 UH^	1.0 UH^	0.99 UH^	0.63 U	0.79 U	0.78 U	0.90 UH^	0.92 UH^	1.1 UH^	0.86 UH^	0.80 U	0.89 U	0.89 U	0.68 U	0.85 U	
Arsenic	0.77 U	1.6	2.5	1.2 H^	2.4 H^	2.0 H^	1.5 H^	3.3	3.0	1.6 B	2.2 H^	2.1 H^	1.6 H^	2.1 H^	0.89 B	1.2 B	1.7 B	1.3 B	1.7 B	
Barium	20.5 B	23.5 B	25.5 B	20.8 H^	39.1 H^	24.7 H^	24.5 H^	22.0 B	22.9 B	16.2 B	25.1 H^	22.0 H^	27.8 H^	22.4 H^	20.2 B	32.3 B	20.0 B	27.2 B	21.8 B	
Beryllium	0.21 B	0.14 B	0.18 B	0.23 U^	0.33 ^	0.20 U^	0.21 ^	0.18 B	0.17 B	0.11 B	0.18 ^	0.20 ^	0.23 ^	0.21 ^	0.26 B	0.15 B	0.16 B	0.14 B	0.15 B	
Cadmium	0.14 U	0.19 B	0.24 B	0.28 UH	0.27 UH	0.24 UH	0.27 H	0.25 B	0.16 B	0.22 B	0.22 UH	0.22 UH	0.26 UH	0.21 UH	0.14 U	0.16 B	0.30 B	0.18 B	0.20 B	
Calcium	805. B	1060	666. B	638 H^	2760 H^	899 H^	767 H^	610. B	916.	440. B	605 H^	490 H^	775 H^	694 H^	656. B	804. B	691. B	645. B	708. B	
Chromium	6.1	6.4	8.3	5.7 H^	12.6 H^	8.2 H^	7.4 H^	8.5	7.9	5.2	10.4 H^	10.4 H^	7.3 H^	6.7 H^	5.7	6.2	6.4	6.6	8.7	
Cobalt	2.1 B	2.4 B	2.8 B	2.1 H^	4.3 H^	2.8 H^	2.4 H^	2.9 B	6.5 B	1.8 B	2.5 H^	2.3 H^	3.0 H^	2.3 H^	2.2 B	2.8 B	2.8 B	2.8 B	2.9 B	
Copper	6.8	6.2	8.3	5.9 H^	12.5 H^	7.0 H^	7.8 H^	8.1	8.0	6.4	7.2 H^	8.0 H^	8.2 H^	7.3 H^	6.0	6.2	6.7	6.5	7.2	
Iron	6410	6510	9260	6070 H^	12400 H^	8090 H^	7740 H^	9220	6510	5270	7890 H^	7370 H^	9880 H^	7240 H^	7540	7040	6680	7550	7880	
Lead	16.3	19.7	37.1	28.0 H^	24.8 H^	23.3 H^	23.7 H^	25.9	37.4	23.2	76.7 H^	38.7 H^	25.7 H^	24.2 H^	18.2	23.6	19.1	31.5	23.8	
Magnesium	821. B	856.	881. B	801 H	2290 H	1190 H	995 H	811.	936.	614. B	923 H	718 H	929 H	892 H	752. B	877. B	837. B	850.	818. B	
Manganese	103.	112. *	147. *	105 H^	215 H^	122 H^	119 H^	144. *	130. *	92.5 *	113 H^	130 H^	153 H^	122 H^	129.	240. *	134. *	154. *	134. *	
Mercury	0.0084 B	0.01	0.049	0.016 B	0.40 B	0.025 B	0.088 B	0.042	0.043	0.036	0.016 B	0.043 B	0.035 B	0.035 B	0.010	0.0050 U	0.013	0.0070 B	0.015	
Nickel	6.4 B	10.5	7.3 B	5.9	12.5	8.2	6.7	8.6	6.6 B	5.2 B	7.9	6.5	7.0	6.4	6.2 B	7.0 B	6.4 B	8.2	9.8	
Potassium	439. B	545. B	558. B	520 H^	1380 H^	814 H^	744 H^	536. B	486. B	389. B	585 H^	450 H^	506 H^	574 H^	459. B	539. B	432. B	590. B	539. B	
Selenium	0.86 U	0.74 U	0.90 U	1.6 UH^	1.6 UH^	1.4 UH^	1.3 UH^	0.68 U	0.86 U	0.84 U	1.2 UH^	1.3 UH^	1.5 UH^	1.2 UH^	0.85 U	0.97 U	0.97 U	0.74 U	0.93 U	
Silver	0.17 U	0.15 U	0.18 U	0.25 UH^	0.25 UH^	0.22 UH^	0.22 UH^	0.14 U	0.18 U	0.17 U	0.20 UH^	0.20 UH^	0.24 UH^	0.19 UH^	0.17 U	0.20 U	0.20 U	0.15 U	0.19 U	
Sodium	41.9 B	47.7 B	43.4 B	37.2 H^	130 H^	47.0 H^	75.6 H^	38.2 B	47.2 B	46.5 B	60.0 H^	41.8 H^	55.2 H^	44.1 H^	36.8 B	39.5 B	31.5 B	41.3 B	38.1 B	
Thallium	3.2 U	1.5 U	1.8 U	2.2 UH^	2.2 UH^	1.9 UH^	1.9 UH^	1.4 U	1.8 U	1.7 U	1.7 UH^	1.7 UH^	2.0 UH^	1.6 UH^	3.2 U	2.0 U	2.0 U	1.5 U	1.9 U	
Vanadium	8.5 B	9.0	11.0	8.0 H	17.3 H	10.8 H	10 H	12.2	9.6	7.4 B	10.1 H	10.3 H	10.3 H	9.6 H	8.3 B	8.8 B	9.0 B	8.8	9.8	
Zinc	19.0	18.2	28.9	16.7 H^	34.4 H^	23.0 H^	26.0 H^	27.0	29.4	21.5	27.6 H^	26.4 H^	31.2 H^	26.9 H^	17.3	18.6	26.6	18.5	19.6	
PCB 8082 (ug/kg)																				
Aroclor-1254	33 U	34 U	34 U	18 U	18 U	180	18 U	34 U	34 U	39 U	18 U	18 U	17 U	18 U	17 U	34 U	34 U	34 U	34 U	
Aroclor-1260	33 U	34 U	9.9 J	18 U	36	18 U	18 U	6.8 J	5.9 J	7.0 J	18 U	18 U	17 U	18 U	17 U	34 U	34 U	15 J	34 U	

SVOC and PCB analytical results reported in micrograms per kilogram (ug/kg), or parts per billion (ppb).  
Metals analytical results reported in milligrams per kilogram (mg/kg), or parts per million (ppm).  
U - indicates analyte was not detected at or above the reporting limit  
J - indicates that the compound was analyzed for and determined to be present in the sample. However, the concentration indicated is an estimated value which is less than the specified minimum detection limit but greater than zero.  
B - indicates result between instrument detection limit (IDL) and contract required detection limit (CRL)  
E - indicates that the concentration is estimated due to matrix interferences.  
N - Spiked sample recovery not within control limits  
a - Concentration exceeds the instrument calibration range or is below the reporting limit.  
^ - Instrument quality control not within control limits.  
\* - Batch quality control not within control limits.  
NS - Not Sampled  
ne - not analyzed

Table 6  
Summary of Analytical Results From Area 2-6  
KeySpan Energy - Glenwood Landing  
Queens, NY

Analyte	Sample Collection Designation & Collection Date									
	GLA6-1 11/15/01	GLA6-1B 11/20/01	GLA6-2 11/15/01	GLA6-2S 11/20/01	GLA6-3 11/20/01	GLA6-3S 11/20/01	GLA6-4 11/20/01	GLA6-4S 11/20/01	GLA6-5 11/20/01	GLA6-5S 11/20/01
<b>SVOC 8270 (ug/kg)</b>										
2-Methylnaphthalene	330 U	350 U	340 U	3 J	340 U	380 U	380 U	340 U	330 U	350 U
Benzo(a)anthracene	330 U	350 U	5 J	340 U	340 U	380 U	380 U	340 U	330 U	350 U
Benzo(a)pyrene	5 J	350 U	340 U	340 U	340 U	380 U	380 U	340 U	330 U	350 U
Benzo(b)fluoranthene	8 J	350 U	5 J	340 U	340 U	380 U	380 U	340 U	330 U	350 U
Benzo(k)fluoranthene	8 J	350 U	6 J	340 U	340 U	380 U	380 U	340 U	330 U	350 U
Chrysene	12 J	350 U	7 J	340 U	340 U	380 U	380 U	340 U	330 U	350 U
Fluoranthene	22 J	350 U	10 J	13 J	340 U	380 U	380 U	11 J	130 U	8 J
Indeno(1,2,3-cd)pyrene	330 U	350 U	340 U	340 U	340 U	380 U	380 U	5 J	330 U	350 U
Phenanthrene	10 J	350 U	340 U	340 U	340 U	380 U	380 U	340 U	330 U	350 U
Pyrene	16 J	350 U	8 J	15 J	340 U	380 U	380 U	17 J	330 U	12 J
<b>CLP Metals (mg/kg)</b>										
Aluminum	2640	1850	3490	2090	1870	3400	1370	2570	1610	2330
Antimony	0.80 UN	0.92 UN	0.98 BN	1.8 BN	0.88 UN	0.98 UN	0.92 UN	0.76 UN	0.79 UN	0.98 BN
Arsenic	1.5 B	1.6 B	2.2	1.5 B	1.2 B	1.7 B	1.0 B	1.7	1.3 B	1.8 B
Barium	14.6 B	10.4 B	16.5 B	10.7 B	13.4 B	26.5 B	11.9 B	16.5 B	11.2 B	18.2 B
Beryllium	0.22 B	0.20 B	0.25 B	0.15 B	0.16 B	0.25 B	0.10 U	0.20 B	0.13 B	0.15 B
Cadmium	0.14 U	0.16 U	0.14 U	0.17 B	0.15 U	0.17 U	0.16 U	0.13 U	0.14 U	0.16 U
Calcium	498. B	217. B	423. B	250. B	217. B	414. B	310. B	427. B	225. B	290. B
Chromium	5.2	7.5	6.4	5.9	4.3	7.2	5.2	5.1	5.5	5.2
Cobalt	1.9 B	2.0 B	2.2 B	1.9 B	1.6 B	2.4 B	2.8 B	2.2 B	2.0 B	2.4 B
Copper	4.5	9.5	6.1	5.6	3.2 B	6.3	3.4 B	9.7	4.4	5.3
Iron	7490	9200	7660	6290	5070	8540	7070	6530	6280	7320
Lead	11.4	1.9	11.6	17.3	1.5	10.6	2.0	50.4	1.9	22.9
Magnesium	714. B	454. B	779. B	557. B	554. B	777. B	371. B	729. B	450. B	496. B
Manganese	133.	112.	130.	92.2	138.	150.	150.	126.	111.	141.
Mercury	0.0068 B	0.0037 U	0.019	0.011	0.0037 U	0.012	0.0031 U	0.036	0.0031 U	0.016
Nickel	5.4 B	6.4 B	6.2 B	5.1 B	3.5 B	6.4 B	6.1 B	5.3 B	5.7 B	5.4 B
Potassium	318. B	260. B	352. B	316. B	349. B	333. B	315. B	308. B	279. B	310. B
Selenium	0.85 U	0.98 U	0.85 U	0.88 U	0.94 U	1 U	0.98 U	0.8 U	0.85 U	0.98 U
Silver	0.17 U	0.2 Y	0.7 U	0.18 U	0.19 U	0.21 U	0.2 U	0.16 U	0.17 U	0.2 U
Sodium	15.4 B	16.0 B	18.1 B	19.9 B	21.0 B	31.7 B	35.4 B	22.6 B	20.2 B	22.1 B
Thallium	3.2 U	3.7 U	3.2 U	3.3 U	3.6 U	4 U	3.7 U	3 U	3.2 U	3.7 U
Vanadium	8.4 B	6.3 B	11.3	11.7	5.7 B	9.7 B	6.4 B	10.1	6.2 B	9.7 B
Zinc	27.1	8.6	89.4	404.	7.9	17.2	12.8	22.7	6.6	18.2
<b>PCB 8082 (ug/kg)</b>										
Aroclor-1260	1.9 J	35 U	1.8 J	2.2 J	34 U	2.4 J	38 U	1.6 J	33 U	3 J

SVOC and PCB analytical results reported in micrograms per kilogram (ug/kg), or parts per billion (ppb).

Metals analytical results reported in milligrams per kilogram (mg/kg), or parts per million (ppm).

U - Indicates analyte was not detected at or above the reporting limit

J - Indicates that the compound was analyzed for and determined to be present in the sample. However, the concentration indicated is an estimated value which is less than the specified minimum detection limit but greater than zero.

B - Indicates result between instrument detection limit (IDL) and contract required detection limit (CRDL)

E - Indicates that the concentration is estimated due to matrix interferences.

N - Spiked sample recovery not within control limits

a - Concentration exceeds the instrument calibration range or is below the reporting limit.

A - Instrument quality control not within control limits.

\* - Batch quality control not within control limits.

NS - Not Sampled

na - not analyzed



Table 7  
Summary of Analytical Results From Area 2-7  
KeySpan Energy - Glenwood Landing  
Queens, NY

Analyte	Sample Collection Designation & Collection Date																					
	GLA7-1A 11/09/01	GLA7-1B 11/09/01	GLA7-1C 11/20/01	GLA7-1D 11/27/01	GLA7-1E 11/21/01	GLA7-1F 11/21/01	GLA7-2 11/09/01	GLA7-3 11/09/01	GLA7-3B 11/27/01	GLA7-3C 11/21/01	GLA7-3D 11/27/01	GLA7-3E 11/21/01	GLA7-4 11/09/01	GLA7-4A 12/12/01	GLA7-5 11/09/01	GLA7-5A 12/12/01	GLA7-5SA 12/12/01	GLA7-6 11/09/01	GLA7-6A 12/12/01	GLA7-7S 11/09/01	GLA7-7SA 12/12/01	GLA7-8S 11/09/01
SVOC 8270 (ug/kg)																						
2,4-Dimethylphenol	1700 U	8500 U	350 U	320 U	340 U	330 U	210 J	350 U	350 U	340 U	46 J	330 U	350 U	35 U	340 U	33 U	34 U	350 U	31 U	350 U	35 U	340 U
2-Methylnaphthalene	460 J	300 J	350 U	30 J	36 J	330 U	98 J	320 J	4 J	340 U	77 J	330 U	65 J	30 U	49 J	28 U	30 Ua	4 J	29 U	20 J	30 Ua	13 J
4-Methylphenol	1700 U	8500 U	350 U	320 U	340 U	330 U	39 J	8 J	350 U	340 U	340 U	330 U	350 U	20 U	340 U	18 U	19 U	350 U	18 U	350 U	20 U	340 U
Acenaphthene	620 J	950 J	350 U	320 U	340 U	330 U	15 J	51 J	350 U	340 U	14 J	330 U	7 J	16 U	36 J	15 U	16 U	350 U	15 U	14 J	16 U	340 U
Acenaphthylene	890 J	1300 J	350 U	50 J	25 J	330 U	51 J	66 J	10 J	340 U	50 J	330 U	60 J	12 U	100 J	11 U	12 U	350 U	11 U	21 J	12 U	23 J
Anthracene	2200	4700 J	350 U	20 J	18 J	330 U	57 J	290 J	350 U	340 U	62 J	330 U	46 J	13 U	180 J	12 U	13 U	19 J	12 U	53 J	13 U	17 J
Benzo(a)anthracene	9700	22000	350 U	37 J	73 J	330 U	190 J	1300	350 U	11 J	340	19 J	170 J	16 U	560	15 U	16 U	120 J	15 U	190 J	16 U	58 J
Benzo(a)pyrene	11000	24000	350 U	46 J	89 J	330 U	220 J	1200	350 U	340 U	330 J	35 J	190 J	17 U	640	16 U	17 U	140 J	16 U	180 J	17 U	70 J
Benzo(b)fluoranthene	9600	18000	350 U	41 J	81 J	330 U	210 J	1300	350 U	12 J	230 J	26 J	140 J	41 U	890	39 U	41 U	120 J	39 U	140 J	41 U	72 J
Benzo(g,h,i)perylene	870 J	12000	350 U	33 J	55 J	330 U	26 J	100 J	350 U	340 U	150 J	39 J	91 J	18 U	59 J	17 U	18 Ua	39 J	17 U	38 J	18 Ua	15 J
Benzo(k)fluoranthene	7200	18000	350 U	39 J	78 J	330 U	200 J	1200	350 U	13 J	300 J	30 J	180 J	42 U	1000	40 U	42 U	130 J	40 U	190 J	42 U	62 J
Benzoic acid	8200 U	41000 U	1700 U	1500 U	22 J	1600 U	120 J	36 J	24 J	1600 U	64 J	1600 U	1700 U	720 U	39 J	670 U	710 U	1700 U	680 U	1700 U	730 U	70 J
bis(2-Ethylhexyl)phthalate	1700 U	8500 U	350 U	320 U	340 U	330 U	310 J	350 U	29 J	340 U	47 J	330 U	72 J	240 JaB	55 J	160 JaB	210 JaB	350 U	290 JaB	350 U	210 JaB	340 U
Carbazole	320 J	8500 U	350 U	320 U	340 U	330 U	360 U	44 J	350 U	340 U	20 J	330 U	350 U	24 U	26 J	22 U	24 U	350 U	23 U	18 J	24 U	340 U
Chrysene	9600	22000	350 U	56 J	109 J	330 U	260 J	1400	350 U	14 J	360	26 J	230 J	18 U	640	17 U	18 U	140 J	17 U	230 J	19 U	64 J
Dibenz(a,h)anthracene	580 J	5100 J	350 U	13 J	21 J	330 U	360 U	51 J	350 U	340 U	67 J	330 U	40 J	20 U	340 U	18 U	19 U	16 J	17 U	20 J	18 U	340 U
Dibenzofuran	310 J	490 J	350 U	5 J	340 U	330 U	18 J	68 J	350 U	340 U	18 J	330 U	13 J	18 U	14 J	15 U	16 U	350 U	18 U	7 J	19 U	340 U
Di-n-butylphthalate	1700 U	8500 U	350 U	320 U	340 U	330 U	360 U	350 U	350 U	340 U	7 J	330 U	350 U	15 U	340 U	14 U	15 U	350 U	14 U	350 U	15 U	340 U
Fluoranthene	9900	30000	350 U	43 J	86 J	15 J	260 J	1700	8 J	16 J	370	37 J	220 J	24 U	990	22 U	24 Ua	150 J	23 Ua	290 J	24 Ua	76 J
Fluorene	710 J	1100 J	350 U	5 J	340 U	330 U	15 J	54 J	350 U	340 U	15 J	330 U	350 U	22 U	41 J	20 U	22 U	350 U	20 U	350 U	22 U	340 U
Indeno(1,2,3-cd)pyrene	1300 J	14000	350 U	26 J	54 J	330 U	34 J	140 J	350 U	5 J	180 J	25 J	98 J	20 U	58 J	18 U	19 Ua	44 J	18 U	46 J	19 Ua	18 J
Naphthalene	490 J	450 J	350 U	28 J	32 J	330 U	62 J	230 J	350 U	340 U	56 J	330 U	48 J	35 U	34 J	33 U	34 U	350 U	33 U	350 U	34 U	340 U
N-Nitrosodiphenylamine (1)	1700 U	8500 U	350 U	320 U	340 U	330 U	35 J	350 U	350 U	340 U	340 U	330 U	350 U	17 U	340 U	16 U	17 U	350 U	16 U	350 U	18 U	340 U
Phenanthrene	5700	12000	350 U	33 J	53 J	330 U	230 J	900	10 J	340 U	200 J	16 J	130 J	26 U	430	24 U	26 U	45 J	25 U	190 J	26 U	38 J
Phenol	1700 U	8500 U	350 U	320 U	340 U	330 U	40 J	4 J	350 U	340 U	340 U	330 U	350 U	26 U	3 J	24 U	26 U	350 U	25 U	350 U	26 U	340 U
Pyrene	14000	37000	350 U	78 J	120 J	14 J	400	1800	10 J	18 J	570	48 J	330 J	21 U	730	19 U	25 Ja	170 J	19 Ua	340 J	25 Ja	100 J
CLP Metals (mg/kg)																						
Aluminum	6460	7160	3020	2050	5710	1440	6090	3520	5330	1580	3580	2340	4440	4330	3170	4280	3100	7200	1730	5600	7240	5540
Antimony	0.81 UN	0.81 UN	0.86 UN	0.87 U	0.78 U	0.83 U	0.88 UN	0.87 UN	0.86 U	0.82 U	0.89 U	0.82 U	0.90 UN	0.096 B	0.75 UN	0.071 B	0.53 B	0.95 UN	0.42 B	0.79 UN	0.17 B	0.75 UN
Arsenic	3.2	2.9	1.6 B	1.1 B	3.2	1.2 B	5.5	3.4	2.2	1.2 B	2.2	1.3 B	3.7	2.3 B	3.3	2.1 B	2.8 B	3.1	1.1 B	3.9	1.9 B	4.8
Barium	44.3	46.0	25.9 B	12.7 B	29.3 B	7.9 B	42.1	28.6 B	24.4 B	9.6 B	24.2 B	15.6 B	24.6 B	17.3	23.7 B	19.8	20.4	29.6 B	12.5	34.2 B	21.4	41.3
Beryllium	0.51 B	0.52 B	0.18 B	0.18 B	0.29 B	0.094 B	0.62 B	0.43 B	0.34 B	0.17 B	0.32 B	0.19 B	0.59 B	0.23 B	0.35 B	0.22 B	0.22 B	0.62 B	0.14 B	0.47 B	0.22 B	0.57 B
Cadmium	0.14 U	0.14 U	0.15 U	0.15 U	0.14 U	0.14 U	0.15 U	0.15 U	0.15 U	0.14 U	0.15 U	0.14 U	0.16 U	0.001 U	0.13 U	0.0011 U	0.011 B	0.16 U	0.001 U	0.14 U	0.001 U	0.13 U
Calcium	3490	13400	404 B	254 B	1310	563 B	5900	3530	662 B	446 B	1210	388 B	1290	625	7000	503	2640	2250	466	8040	4790	1010
Chromium	10.4	10.4	6.0	4.6	13.8	8.1	15.0	9.5	14.0	4.6	8.4	4.5	10.8	7.7	130	9.6	10.3	10.5	4.8	8.9	6.7	12.8
Cobalt	3.2 B	3.5 B	3.0 B	1.5 B	4.0 B	1.1 B	5.4 B	4.6 B	3.5 B	1.4 B	2.9 B	1.8 B	4.1 B	2.9	2.3 B	3.9	3.6	4.7 B	2.7	3.4 B	6.2	4.1 B
Copper	10.0	11.0	4.8	4.4 B	13.5	3.1 B	76.4	46.7	7.3	7.0	18.6	3.8 B	15.6	8.5	12.8	6.7	6.9	30.2	3.2 B	27.2	75.9	36.4
Iron	9390 *	10100 *	7540	6890	11400		12200 *	7790 *	10800	5650	8910	5780	10000 *	8430	11900 *	11700	9630	13300 *	5750	11200 *	17800	10200 *
Lead	20.5 *	24.4 *	5.2	6.5	24.5	4.0	43.8 *	24.6 *	8.0	4.3	27.3	4.5	49.4 *	7.4 B	95.2 *	4.8 B	14.4	35.4 *	5.1 B	28.4 *	13.6	51.8 *
Magnesium	2100	3060	647 B	477 B	1680	592 B	1680	1440	1170	475 B	1030	602 B	1370	868	3940	1100	1730	1850	484	2680	2350	1110
Manganese	204	222	199	105 *	189 *	65.9 *	202	128	206 *	96.5 *	180 *	127 *	148	153	155	191	166	173	155	153	207	157
Mercury	0.051	0.046	0.0074 B	0.043	0.17	0.0048 B	0.17	0.12	0.011	0.0041 U	0.046	0.0054 B	0.39	0.0054 U	0.13	0.0052 U	0.0050 U	0.047	0.0049 U	0.44	0.0055 U	0.10
Nickel	7.2	8.3	5.2 B	6.0 B	23.6	3.8 B	71.4	86.9	8.0	4.5 B	16.9	4.6 B	45.2	7.3	9.0	7.8	26.9	11.3	4.3	10.7	8.5	40.6
Potassium	494 B	554 B	343 B	302 B	569 B	177 B	743 B	498 B	571 B	187 B	403 B	345 B	517 B	416 ^	395 B	517 ^	521 ^	820 B	291 ^	735 B	833 ^	609 B
Selenium	0.87 U	0.86 U	0.91 U	0.93 UN	0.98 N	0.88 UN	0.94 U	1.2	0.91 UN	0.87 UN	0.95 UN	0.87 UN	0.96 U	0.096 B	0.80 U	0.071 B	0.53 B	1.0 U	0.42 B	0.84 U	0.17 B	0.96
Silver	0.18 U	0.18 U	0.18 U	0.19 U	0.17 U	0.18 U	0.19 U	0.19 U														

SVOC and PCB analytical results reported in micrograms per kilogram (ug/kg), or parts per billion (ppb).  
Metals analytical results reported in milligrams per kilogram (mg/kg), or parts per million (ppm).  
U - Indicates analyte was not detected at or above the reporting limit.  
J - Indicates that the compound was analyzed for and determined to be present in the sample. However, the concentration indicated is an estimated value which is less than the specified minimum detection limit but greater than zero.  
B - Indicates result between instrument detection limit (IDL) and contract required detection limit (CRDL).  
E - Indicates that the concentration is estimated due to matrix interferences.  
N - Spiked sample recovery not within control limits.  
^ - Concentration exceeds the instrument calibration range or is below the reporting limit.  
\* - Instrument quality control not within control limits.  
\* - Batch quality control not within control limits.  
NS - Not Sampled  
n - not analyzed

Table 8  
Summary of Analytical Results From Area 3-8  
KeySpan Energy - Glenwood Landing  
Queens, NY

Analyte	Sample Collection Designation & Collection Date									
	GLA8-01 10/26/01	GLA8-02 10/26/01	GLA8-2B 12/04/01	GLA8-2C 12/04/01	GLA8-2D 12/04/01	GLA8-2E 12/04/01	GLA8-03 10/26/01	GLA8-04A 10/26/01	GLA8-04B 10/26/01	GLA8-05 10/26/01
<b>SVOC 8270 (ug/kg)</b>										
2-Methylnaphthalene	350 U	11 J	11 J	330 U	24 J	9 J	13 J	340 U	340 U	340 U
Acenaphthene	350 U	44 J	11 J	330 U	350 U	9 J	330 U	340 U	340 U	340 U
Acenaphthylene	350 U	13 J	340 U	330 U	12 J	350 U	330 U	340 U	340 U	340 U
Anthracene	6 J	160 J	18 J	330 U	23 J	26 J	12 J	340 U	340 U	340 U
Benzo(a)anthracene	350 U	310 J	80 J	13 J	82 J	110 J	83 J	340 U	340 U	340 U
Benzo(a)pyrene	350 U	260 J	84 J	15 J	77 J	120 J	95 J	340 U	340 U	340 U
Benzo(b)fluoranthene	350 U	200 J	79 J	17 J	59 J	98 J	96 J	340 U	340 U	340 U
Benzo(g,h,i)perylene	350 U	220 J	64 J	17 J	69 J	110 J	75 J	340 U	340 U	340 U
Benzo(k)fluoranthene	350 U	240 J	94 J	15 J	75 J	130 J	97 J	340 U	340 U	340 U
Carbazole	350 U	78 J	340 U	330 U	350 U	11 J	330 U	340 U	340 U	340 U
Chrysene	350 U	310 J	110 J	23 J	96 J	140 J	120 J	340 U	340 U	340 U
Dibenzo(a,h)anthracene	350 U	340 U	23 J	330 U	23 J	44 J	330 U	340 U	340 U	340 U
Dibenzofuran	350 U	37 J	9 J	330 U	350 U	8 J	330 U	340 U	340 U	340 U
Fluoranthene	52 J	450	160 J	18 J	130 J	180 J	120 J	340 U	340 U	21 J
Fluorene	350 U	72 J	340 U	330 U	350 U	350 U	330 U	340 U	340 U	340 U
Indeno(1,2,3-cd)pyrene	350 U	190 J	58 J	14 J	58 J	100 J	66 J	340 U	340 U	340 U
Naphthalene	350 U	340 U	340 U	330 U	25 J	350 U	330 U	340 U	340 U	340 U
Phenanthrene	28 J	590	100 J	12 J	97 J	96 J	58 J	340 U	340 U	340 U
Pyrene	78 J	930	150 J	24 J	170 J	210 J	210 J	340 U	340 U	340 U
<b>CLP Metals (mg/kg)</b>										
Aluminum	3130	3140	4430	4680	3800	4100	2720	1400	1530	2270
Antimony	0.94 U/N	0.82 U/N	0.84 U	0.82 U	0.77 U	0.88 U	0.93 U/N	0.86 U/N	0.86 U/N	0.82 U/N
Arsenic	1.2 B	1.3 B	2.3	3.5	3.1	2.3	1.9 B	0.92 U	0.92 U	2.6
Barium	12.3 B	13.0 B	18.8 B	26.4 B	17.8 B	17.4 B	14.5 B	7.7 B	10.5 B	6.1 B
Beryllium	0.27 B	0.25 B	0.30 B	0.42 B	0.32 B	0.30 B	0.18 B	0.10 B	0.095 B	0.15 B
Cadmium	0.16 U	0.14 U	0.14 U	0.14 U	0.13 U	0.15 U	0.24 B	0.15 U	0.15 U	0.14 U
Calcium	494. B	370. B	1330	1040	438. B	1418	820. B	301. B	370. B	185. B
Chromium	10.8	8.2	9.6	7.5	7.8	11.6	6.5	5.2	4.7	13.0
Cobalt	1.8 B	2.0 B	2.2 B	2.4 B	2.1 B	2.4 B	1.9 B	1.5 B	1.6 B	1.2 B
Copper	5.3	7.3	8.1	10.7	6.0	7.5	7.6	3.7 B	3.7 B	3.9 B
Iron	7210 *	7270 *	6460	6770	6260	7210	5360 *	5150 *	5500 *	4720 *
Lead	10.8	15.5	48.0	32.8	17.8	63.4	28.1	2.0	2.5	7.3
Magnesium	457. B	710. B	896. B	922.	537. B	963.	749. B	501. B	637. B	293. B
Manganese	80.5	81.0	94.8	50.9	93.8	106.	99.3	72.9	79.7	46.4
Mercury	0.019	0.024	0.059	0.034	0.046	0.077	0.088	0.0066 B	0.014	0.026
Nickel	4.8 B	4.1 B	5.2 B	6.2 B	4.8 B	5.8 B	4.1 B	4.7 B	4.5 B	2.4 B
Potassium	209. B	173. B	335. B	283. B	281. B	326. B	262. B	260. B	372. B	130. B
Selenium	0.94 U	0.82 U	0.89 U	0.87 U	0.82 U	0.94 U	0.93 U	0.86 U	0.86 U	0.82 U
Silver	0.20 U	0.18 U	0.18 U	0.18 U	0.17 U	0.19 U	0.20 U	0.19 U	0.19 U	0.18 U
Sodium	35.6 B	20.2 B	37.5 B	48.6 B	26.3 B	49.6 B	20.3 B	15.5 B	17.1 B	19.1 B
Thallium	2.8 U	2.4 U	3.4 U	3.3 U	3.1 U	3.6 U	2.8 U	2.6 U	2.6 U	2.4 U
Vanadium	7.4 B	8.2 B	10.6	10.2	10.1	10.3	8.3 B	5.1 B	5.8 B	6.5 B
Zinc	16.0	18.9	79.9	29.6	33.0	81.2	97.7	14.9	15.2	11.2
<b>PCB 8082 (ug/kg)</b>										
Aroclor-1248	35 U	3.9 J	19 U	18 U	18 U	18 U	9.3 J	34 U	35 U	34 U
Aroclor-1260	35 U	5.3 J	19 U	18 U	18 U	18 U	4.2 J	34 U	35 U	34 U

SVOC and PCB analytical results reported in micrograms per kilogram ( ug/kg), or parts per billion (ppb).

Metals analytical results reported in milligrams per kilogram (mg/kg), or parts per million (ppm).

U - Indicates analyte was not detected at or above the reporting limit.

J - Indicates that the compound was analyzed for and determined to be present in the sample. However, the concentration indicated is an estimated value which is less than the specified minimum detection limit but greater than zero.

B - Indicates result between Instrument detection limit (IDL) and contract required detection limit (CRDL).

E - Indicates that the concentration is estimated due to matrix interferences.

N - Spiked sample recovery not within control limits.

a - Concentration exceeds the instrument calibration range or is below the reporting limit.

^ - Instrument quality control not within control limits.

\* - Batch quality control not within control limits.

NS- Not Sampled

ne- not analyzed

Table 9  
Summary of Analytical Results From Drip Pits  
KeySpan Energy - Glenwood Landing  
Queens, NY

Analyte	Sample Collection Designation & Collection Date															
	GLDPE-01	GLDPE-02	GLDPE-03	GLDPE-04	GLDPN-01	GLDPN-02	GLDPN-03	GLDPN-04	GLDPS-01	GLDPS-02	GLDPS-03	GLDPS-04	GLDPW-01	GLDPW-02	GLDPW-03	GLDPW-04
	10/26/01	10/26/01	10/26/01	10/26/01	10/26/01	10/26/01	10/26/01	10/26/01	10/26/01	10/26/01	10/26/01	10/26/01	10/26/01	10/26/01	10/26/01	10/26/01
SVOC 8270 (ug/kg)																
2-Methylnaphthalene	380 U	340 U	350 U	390 U	41 J	340 U	360 U	330 U	340 U	6 J	350 U	11 J	350 U	360 U	350 U	340 U
Acenaphthene	380 U	340 U	350 U	390 U	8 J	340 U	360 U	330 U	340 U	350 U	350 U	380 U	350 U	360 U	350 U	340 U
Acenaphthylene	380 U	340 U	350 U	390 U	150 J	340 U	360 U	330 U	340 U	350 U	350 U	87 J	350 U	360 U	350 U	340 U
Anthracene	380 U	340 U	23 J	390 U	58 J	340 U	360 U	330 U	11 J	5 J	350 U	39 J	350 U	7 J	350 U	340 U
Benzo(a)anthracene	380 U	340 U	45 J	390 U	140 J	340 U	360 U	330 U	36 J	350 U	350 U	120 J	350 U	360 U	350 U	340 U
Benzo(a)pyrene	380 U	340 U	350 U	390 U	160 J	340 U	360 U	330 U	340 U	350 U	350 U	150 J	350 U	360 U	350 U	340 U
Benzo(b)fluoranthene	380 U	340 U	350 U	390 U	87 J	340 U	360 U	330 U	340 U	350 U	350 U	98 J	350 U	360 U	350 U	340 U
Benzo(g,h,i)perylene	380 U	340 U	350 U	390 U	320 J	340 U	360 U	330 U	340 U	350 U	350 U	170 J	350 U	360 U	350 U	340 U
Benzo(k)fluoranthene	380 U	340 U	350 U	390 U	130 J	340 U	360 U	330 U	340 U	350 U	350 U	130 J	350 U	360 U	350 U	340 U
Benzoic acid	1800 U	1700 U	1700 U	1900 U	1700 U	1600 U	1800 U	1600 U	21 J	25 J	1700 U	28 J	1700 U	29 J	1700 U	1700 U
Chrysene	380 U	340 U	56 J	390 U	170 J	340 U	360 U	330 U	52 J	350 U	350 U	140 J	350 U	360 U	350 U	340 U
Fluoranthene	380 U	340 U	68 J	390 U	100 J	26 J	360 U	330 U	47 J	19 J	350 U	120 J	350 U	25 J	350 U	12 J
Fluorene	380 U	340 U	350 U	390 U	390 U	340 U	360 U	330 U	340 U	350 U	350 U	10 J	350 U	360 U	350 U	340 U
Indeno(1,2,3-cd)pyrene	380 U	340 U	24 J	390 U	150 J	340 U	360 U	330 U	340 U	350 U	350 U	120 J	350 U	360 U	350 U	340 U
Isophorone	380 U	340 U	350 U	390 U	350 U	260 J	360 U	330 U	340 U	350 U	350 U	380 U	350 U	360 U	350 U	340 U
Naphthalene	380 U	340 U	350 U	390 U	31 J	340 U	360 U	330 U	340 U	29 J	350 U	11 J	350 U	360 U	350 U	340 U
Phenanthrene	380 U	340 U	50 J	390 U	250 J	340 U	360 U	330 U	32 J	16 J	350 U	62 J	350 U	16 J	350 U	340 U
Pyrene	380 U	340 U	160 J	390 U	370	42 J	360 U	330 U	100 J	45 J	350 U	380	350 U	61 J	350 U	24 J
CLP Metals (mg/kg)																
Aluminum	1020	1810	1700	748	2190	1400	2150	1370	2460	2810	2620	1960	2330	3520	2470	1610
Antimony	0.97 UN	0.88 UN	0.98 UN	1.0 UN	0.94 UN	0.93 UN	0.98 UN	0.86 UN	0.86 UN	0.99 UN	0.88 UN	0.92 UN	0.84 UN	0.92 UN	0.92 UN	0.94 UN
Arsenic	1.0 U	0.94 U	1.1 B	1.1 U	2.6	0.99 U	1.4 B	0.91 U	1.8 B	1.3 B	1.4 B	1.6 B	0.92 B	20.2	1.2 B	1.0 U
Barium	3.9 B	9.2 B	8.4 B	2.3 B	12.4 B	7.2 B	12.5 B	14.7 B	11.6 B	14.9 B	11.8 B	8.3 B	10.6 B	16.9 B	13.8 B	8.9 B
Beryllium	0.10 U	0.11 B	0.11 U	0.11 U	0.13 B	0.13 B	0.14 B	0.11 B	0.16 B	0.18 B	0.18 B	0.16 B	0.16 B	0.24 B	0.16 B	0.11 B
Cadmium	0.17 U	0.15 U	0.17 U	0.18 U	0.31 B	0.16 U	0.17 U	0.15 U	0.22 B	0.16 U	0.15 U	0.18 B	0.15 U	0.31 B	0.16 U	0.16 U
Calcium	927. B	345. B	1470	135. B	5850	511. B	3820	171. B	2510	1100	284. B	582. B	239. B	828. B	244. B	167. B
Chromium	3.1	4.1	18.6	2.0 B	105.	7.1	10.2	3.7	32.4	17.9	5.7	110.	4.4	45.4	7.5	4.5
Cobalt	0.46 B	2.0 B	1.6 B	0.27 U	1.6 B	1.4 B	1.4 B	0.82 B	1.6 B	3.0 B	2.3 B	1.3 B	1.4 B	2.4 B	3.2 B	1.7 B
Copper	2.0 B	4.4 B	5.2 B	2.0 B	8.7	3.2 B	4.3 B	2.2 B	6.9	5.9	4.5 B	6.7	17.4	9.0	4.0 B	2.9 B
Iron	1060 *	5040 *	3460 *	1100 *	10700 *	3970 *	4170 *	2820 *	5600 *	6440 *	7300 *	7930 *	4980 *	10600 *	6490	4140
Lead	2.8	5.1	12.4	2.0	54.0	6.6	14.1	2.2	15.9	18.9	4.7	28.9	6.7	35.9	8.7	3.9
Magnesium	36.4 B	440. B	393. B	20.2 B	3000	298. B	1050 B	210. B	505. B	483. B	381. B	392. B	284. B	685. B	578. B	281. B
Manganese	10.4	52.9	54.9	7.2	128.	71.6	71.4	110.	84.6	133.	81.6	66.9	78.9	124.	125.	111.
Mercury	0.0059 B	0.0061 B	0.011	0.0040 B	0.025	0.0087	0.016	0.0038 B	0.018	0.010	0.0036 U	0.017	0.0072	0.027	0.023	0.0066
Nickel	0.90 B	4.0 B	2.4 B	0.39 B	4.8 B	2.0 B	2.3 B	2.2 B	3.6 B	4.2 B	4.0 B	3.4 B	3.3 B	5.1 B	6.5 B	2.3 B
Potassium	137. B	246. B	205. B	105. B	230. B	143. B	204. B	116. B	224. B	325. B	409. B	186. B	221. B	270. B	232. B	179. B
Selenium	0.97 U	0.88 U	0.98 U	1.0 U	0.94 U	0.93 U	0.98 U	0.86 U	0.86 U	0.99 U	0.88 U	0.92 U	0.84 U	0.92 U	0.92 U	0.94 U
Silver	0.21 U	0.19 U	0.21 U	0.23 U	0.20 U	0.20 U	0.21 U	0.19 U	0.19 U	0.22 U	0.19 U	0.20 U	0.18 U	0.20 U	0.20 U	0.20 U
Sodium	13.8 B	12.7 B	17.4 B	11.1 B	30.2 B	12.2 B	24.7 B	11.8 B	21.2 B	20.5 B	12.3 B	11.0 B	15.0 B	21.1 B	19.3 B	13.6 B
Thallium	2.9 U	2.6 U	2.9 U	3.1 U	2.8 U	2.8 U	2.9 U	2.6 U	2.6 U	2.9 U	2.6 U	2.7 U	2.5 U	2.7 U	2.7 U	2.8 U
Vanadium	5.8 B	6.1 B	7.6 B	6.0 B	7.6 B	4.6 B	7.2 B	3.1 B	7.4 B	8.3 B	8.4 B	8.7 B	6.8 B	18.0	7.5 B	5.9 B
Zinc	6.5	8.1	15.8	4.2 B	40.8	12.4	13.3	5.4 B	24.6	26.2	12.0	31.3	10.4	51.4	11.7	11.3
PCB 8082 (ug/kg)																
Aroclor-1248	3.7 J	35. U	1100	39. U	390	74.	17. J	34. U	6.4 J	35. U	35. U	8.2 J	34. U	1.6 J	34. U	35. U
Aroclor-1254	38. U	35. U	350 U	39. U	70. U	56.	37. U	34. U	35. U	35. U	35. U	38. U	34. U	38. U	34. U	32 J
Aroclor-1260	38. U	35. U	120 J	39. U	110	34.	4.7 J	34. U	35. U	33 J	35. U	6.6 J	34. U	38. U	34. U	20 J

SVOC and PCB analytical results reported in micrograms per kilogram ( ug/kg), or parts per billion (ppb).  
Metals analytical results reported in milligrams per kilogram (mg/kg), or parts per million (ppm).  
U - indicates analyte was not detected at or above the reporting limit.  
J - indicates that the compound was analyzed for and determined to be present in the sample. However, the concentration indicated is an estimated value which is less than the specified minimum detection limit but greater than zero.  
B - indicates result between instrument detection limit (IDL) and contract required detection limit (CROL).  
E - indicates that the concentration is estimated due to matrix interferences.  
N - Spiked sample recovery not within control limits.  
a - Concentration exceeds the instrument calibration range or is below the reporting limit.  
^ - Instrument quality control not within control limits.  
\* - Batch quality control not within control limits.  
NS- Not Sampled  
na- not analyzed

## **APPENDIX D**

### **EXCAVATION WORK PLAN**

## **APPENDIX D**

### **EXCAVATION WORK PLAN**

#### **D-1 Notification**

At least 15 days prior to the start of any planned non-emergency activity that could encounter remaining contamination, the site owner or their representative will notify the NYSDEC and provide a Work Plan.

The Work Plan shall include the following:

- A detailed description of the work to be performed, including the location and areal extent, plans for site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control;
- A summary of environmental conditions anticipated in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work;
- A summary of the applicable components of this EWP;
- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120;
- A copy of the contractor's Health and Safety Plan (HASP), Community Air Monitoring Plan (CAMP) and other plans as specified in the EWP;
- Identification of disposal facilities for potential waste streams;
- Identification of sources of any anticipated backfill;
- Storm Water Pollution Prevention Plan (for projects that disturb more than 1 acre of the Site; and
- Odor and Dust Control Plan.

#### **D-2 Excavation**

At a minimum, the following requirements apply to excavations within the areas of residual soil contamination at the Site. Methods for compliance with these requirements shall be addressed in the Work Plan (see Section D-1):

1. A qualified environmental professional or person under their supervision will oversee all invasive work and the excavation and load-out of all excavated material for the areas of residual soil contamination.
2. Excavated materials shall either be pre-characterized or be transported to a designated staging area such that they may be tested and properly managed.
3. Excavated materials must be staged on polyethylene sheeting to prevent contact with undisturbed soil.
4. Excavation shall be performed in a manner that will prevent spills and the potential for potentially contaminated soil to be mixed with uncontaminated material.

### **D-3 Material Storage**

At a minimum, the following requirements apply to the storage of materials excavated from within the areas of residual soil contamination at the Site. Methods for compliance with these requirements shall be addressed in the Work Plan (see Section D-1):

1. Storage and handling of contaminated soil must comply with all applicable NYSDEC regulations.
2. Excavated material shall be placed in temporary storage or directly loaded for off-site disposal.
3. Inactive stockpiles shall be covered with appropriate tarps. Stockpiles shall be inspected periodically and damaged tarp covers shall be replaced.
4. Roll-off or equivalent units used to store contaminated material shall be covered.

### **D-4 Waste Transportation and Disposal**

The following requirements apply to the transportation and disposal of material excavated from within the areas of residual soil contamination deemed to be unusable at the Site. Methods for compliance with these requirements shall be addressed in the Work Plan (see Section D-1):

1. Sampling, classification, manifesting, labeling, transporting and disposing of waste shall be performed in accordance with applicable federal, state, and local laws and regulations.
2. Materials removed from the site shall be transported directly to the disposal facility.

3. All transport of materials will be performed by licensed haulers in accordance with appropriate local, state and federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.
4. Loaded vehicles leaving the site shall be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).
5. Sampling frequency, analysis methods, and analytical laboratory should be in accordance with NYSDEC requirements prior to removal of any material from the site.
6. Vehicles shall be decontaminated prior to leaving the site.

#### **D-5 Backfill**

The following requirements apply to the fill material used to restore the Site after excavation has been completed. Methods for compliance with these requirements shall be addressed in the Work Plan (see Section D-1):

1. Fill shall be in accordance with the following criteria: areas to the west of Shore Road shall be backfilled with material that meets 6 NYCRR Part 375 restricted residential use criteria and areas to the east of Shore Road shall be backfilled with material that meets 6 NYCRR Part 375 industrial use criteria.
2. Fill material used to restore the site shall be similar in physical properties to the material removed. Fill used for building foundations or other construction is exempt from this requirement.

#### **D-6 Fluids Management**

All liquids to be removed from the site, including excavation dewatering and groundwater monitoring well purge and development waters, will be handled, transported and disposed in accordance with applicable local, state and federal regulations. Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the site, but will be managed off-site.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream or river) will be performed in accordance with SPDES permit requirements.

## **D-7 Cover System Restoration**

After the completion of soil removal and any other invasive activities the cover system will be restored in a manner that complies with the as-built drawings for the site (see Appendix B). If the type of cover system changes from that which exists prior to the excavation (i.e., a soil cover is replaced by asphalt), this would constitute a modification of the cover element of the remedy and the upper surface of the 'Remaining Contamination.' A figure showing the modified surface will be included in the subsequent Periodic Review Report and in any updates to the Site Management Plan.

## **D-8 Contingency Plan**

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition.

Sampling will be performed on product, sediment and surrounding soil, etc., as necessary, to determine the nature of the material and proper disposal method. Chemical analysis will be performed for full a full list of analytes (TAL metals; TCL volatiles and semivolatiles, TCL pesticides and PCBs), unless the site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the periodic reports prepared pursuant to Section 4.0 of the SMP.

## **D-9 Community Air Monitoring Plan**

Based on the scope of the soil excavation, the contractor performing the excavation work shall be responsible for preparing a Community Air Monitoring Plan (CAMP) as part of the Work Plan (see Section D-1). Guidance can be obtained in Appendix 1A of DER-10, Generic Community Air Monitoring Plan.



## **APPENDIX E**

### **INSTITUTIONAL AND ENGINEERING CONTROL INSPECTION FORM**

# INSTITUTIONAL AND ENGINEERING CONTROL EVALUATION FORM

## **I. Site Background Information**

### **A. Site Name and Location:**

Site name as it appears on the Environmental Easement: \_\_\_\_\_

Name of the current property owner(s): \_\_\_\_\_

Site Street Address: \_\_\_\_\_

Municipality (-ies): \_\_\_\_\_ County (-ies): \_\_\_\_\_

Blocks: \_\_\_\_\_

Lots: \_\_\_\_\_

Source information obtained from: \_\_\_\_\_

### **B. Person responsible for preparing Institutional and Engineering Control Evaluation Form:**

Person's Name: \_\_\_\_\_

Person's Title: \_\_\_\_\_

Company Name: \_\_\_\_\_

Relationship to the Site (check as appropriate): Owner \_\_\_\_\_ Operator \_\_\_\_\_

Lessee \_\_\_\_\_ Person Who Conducted the Cleanup \_\_\_\_\_

Other (describe) \_\_\_\_\_

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_

Telephone Number: (\_\_\_\_) \_\_\_\_-\_\_\_\_

Fax Number: (\_\_\_\_) \_\_\_\_-\_\_\_\_

E-mail Address: \_\_\_\_\_

### C. Case Specific Information (Complete all that apply)

- Site Name: \_\_\_\_\_
- Site Registry Number: \_\_\_\_\_
- Date of final Remediation Report and/or Certificate of Completion: \_\_\_\_\_
- Name and program of assigned Project Manager at issuance of Environmental Easement:  
\_\_\_\_\_

#### D. Existing Site Conditions

- Describe the physical characteristics of the site (features, topography, drainage, vegetation, access, etc.). If necessary, attach additional sheets.

[illegible]

- Describe the current site operations/use. If necessary, attach additional sheets.

---

---

---

---

---

---

- Describe visual integrity/condition engineering control. If necessary, attach additional sheets.

## II. Protectiveness Evaluation

**A. Environmental Easement and Engineering Control Information (Complete below)**

- Provide the following information for the recorded Environmental Easement:

Book Number: \_\_\_\_\_

Page Number: \_\_\_\_\_

Date the date the Environmental Easement was filed in the office of the county recording officer: \_\_\_\_\_

- Have any amendments and/or additional filings been recorded that may modify or supersede the Environmental Easement?

Yes \_\_\_\_ No \_\_\_\_

If “Yes”, provide an explanation. If necessary, attach additional sheets.

---

---

---

---

---

## **B. Evaluation of Institutional and Engineering Controls**

### **1. Zoning or Land Use Changes (Complete below)**

- a. Land use at the time the Environmental Easement was filed (check all that apply):

Non-Residential \_\_\_\_ Residential \_\_\_\_ Agricultural \_\_\_\_ Other \_\_\_\_

- b. Current land use (check all that apply):

Non-Residential \_\_\_\_ Residential \_\_\_\_ Agricultural \_\_\_\_ Other \_\_\_\_

- c. Has there been an actual or pending zoning or land-use change?

Yes \_\_\_\_ No \_\_\_\_

### **2. Inspections (Complete below)**

Have periodic inspections of the site identified any excavation or other disturbance activities that have taken place within the restricted areas?

Yes \_\_\_\_ No \_\_\_\_

Date(s) of Disturbance: \_\_\_\_\_

Duration of Disturbance: Years \_\_\_\_ Months \_\_\_\_ Days \_\_\_\_

Date the NYSDEC was notified: \_\_\_\_\_

Date Work Plan Approved: \_\_\_\_\_

Description of the disturbance and methods to address the disturbance. If necessary, attach additional sheets.

---

---

---

Name of Contact Person Relative to the Disturbance:

---

Title: \_\_\_\_\_

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Email Address: \_\_\_\_\_

**3. Changes to Laws and Regulations (Complete below)**

- a. Are there any subsequently promulgated or modified environmental laws or regulations, which apply to the site?

Yes \_\_\_\_ No \_\_\_\_

- b. If "Yes", has the evaluation also determined that the Environmental Easement and engineering control, as applicable, meets the requirements of the new laws and regulations?

Yes \_\_\_\_ No \_\_\_\_

- c. The Environmental Easement and engineering control, as applicable that did not meet the requirements of the new laws and regulations has been addressed in the following manner to bring them into compliance. If necessary, attach additional sheets.

---

---

---