FLUOR DANIEL GTI

FINAL
PHASE II ENVIRONMENTAL SITE ASSESSMENT
KEYSPAN ENERGY CORPORATION
GLENWOOD LANDING GAS PLANT SITE
AREAS 1, 2, AND 3
GLENWOOD LANDING, NEW YORK

VOLUME I

Fluor Daniel GTI Project 108127

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1.0 INTRODUCTION

1.1 General

Fluor Daniel GTI, Inc. (Fluor Daniel GTI) has prepared this report which presents the procedures, results and conclusions for the Phase II Environmental Site Assessment (ESA) Program completed at the Glenwood New York, Gas Plant property owned by KeySpan Energy Corporation (KeySpan). The property at one time housed operations which processed natural gas and liquefied propane gas for distribution to residential and commercial properties. The property is located in the Town of Glenwood Landing, Nassau County, New York (**Figure 1, Site Location Map**).

This Phase II ESA was completed in response to KeySpan's request for a scope of work to evaluate potential environmental liabilities associated with the operation of the gas plant at the property or from earlier usages. The Phase II ESA program was designed to address the findings of a Phase I ESA program completed previously at the property by Fluor Daniel GTI (1999). ~~The goal of this Phase II ESA was to identify the presence of chemical compounds in soil and sediment that are within the scope of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as well as petroleum products, in a manner consistent with the guidelines~~ established by ASTM in ~~document E-1903-97 (ASTM, 1997)~~. The scope of work for the Phase II ESA was set forth in a proposal prepared by Fluor Daniel GTI, dated November 4, 1998. The Phase II ESA work steps included the collecting and analysis of surface soil samples, soil borings and test pits, the collection and laboratory analyses of soil samples, and compilation and reporting of the field observations and laboratory analysis results.

1.2 Purpose and Objective

The overall purpose of the Phase II ESA program was to support KeySpan's evaluation of the property During the completion of the Phase I ESA for the property (Fluor Daniel GTI, 1999), recognized environmental conditions (RECs) were identified associated with the operation, storage, handling, or disposal of hazardous substances or petroleum products during facility operations. The scope of the Phase II ESA program was to assess various media (surface and subsurface soil, groundwater; sediments) for the potential presence of chemicals of concern (COCs) in soil and groundwater that may have resulted from

operations at the property or from earlier usages, as guided by the RECs identified in the Phase I ESA.

1.3 Work Scope and Report Content Overview

The Phase II ESA Program included the completion of the following major tasks in support of meeting the stated project objective: 1) collection of samples from various media (surface soils, subsurface soils, sediment, groundwater), 2) laboratory chemical analyses of media samples, and 3) review of data and preparation of Phase II ESA report.

In an effort to assess the Glenwood Gas Plant efficiently, the property was divided into three separate parcels; Area 1, Area 2 and Area 3. Area 1 included an inactive propane field and undeveloped, vacant wooded parcel located along the western side of Shore Road. Area 2 included the northern area of the property including the KeySpan laboratory, east of Shore Road. Area 3 was the portion of the property ~~that included~~ where the compressor building and gas holders.

The following sections describe the location and setting of the site (**Section 2.0**), the investigation methods and scope completed (**Section 3.0**), the results and data summary produced during the Phase II ESA program (**Section 4.0**), a summary of the findings regarding areas containing potential environmental issues (**Section 5.0**), and the various documents reviewed and referenced in this report (**Section 6.0**).

1.4 Limitation of Work Product

Fluor Daniel GTI has collected and reviewed information concerning the environmental conditions at the subject property, and prepared a report in a professional manner using that degree of skill and care exercised for similar projects under similar conditions by reputable and competent environmental consultants. The information contained in this report, including its observations, is based on the information obtained by, and provided to Fluor Daniel GTI during the investigation and upon the services described, which were performed within the time and schedule requirements of KeySpan.

Fluor Daniel GTI makes no representation concerning the legal significance of its observations of the value on the property investigated. Fluor Daniel GTI has no liability to third parties for the

information or opinions contained in this report. This report is not intended to satisfy the requirements of the National Contingency Plan.

2.0 PROPERTY LOCATION AND DESCRIPTION

The following sections describe the property, its physical and environmental setting, and the industrial operations conducted on-site. Descriptions were developed from documentation provided by KeySpan, available reports, and the physical site inspection completed as part of the Phase II ESA.

2.1 Description of Property and Operations

The property is bounded by the east bank of the Hempstead Harbor, off Shore Road, in the Town of Glenwood Landing, Nassau County, New York (**Figure 2**). The property currently houses a natural gas regulating station, an inactive propane gas tank farm and KeySpan's system laboratory. According to the Fluor Daniel GTI Phase I ESA, the property was developed as a manufacturing gas plant in 1949. Before 1949, the site was reportedly undeveloped land.

2.1.1 Area 1

Area 1 consists of two ~~distinguishable different~~ sub-areas. Area 1A (south side) consists of an inactive propane tank farm. A sanitary leaching field exists in the southeast corner of Area 1A. The adjacent parcel (Area 1B) consists of woods and a pond on the western side of the area. Hempstead Harbor resides on the west border of Area 1B, while the tank farm resides on the south border of Area 1B. Area 1B has had widespread filling, including construction/demolition debris and ash deposits reportedly by personnel from the nearby KeySpan power plant.

2.1.2 Area 2

Area 2 extends from East Shore Road to a KeySpan substation property and a gas turbine on the east border. The North Shore Country Club resides to the north. The southern border of Area 2 ends at the east/west substation access road. Area 2 includes a 2-story structure housing a laboratory and offices, a sanitary leaching field, two electrical substations, a maintenance/storage building, approximately 60 piles of construction debris ~~reportedly resulting~~ from gas distribution maintenance operations and a recharge basin that ~~allegedly~~ received boiler wash water.

2.1.3 Area 3

Area 3 includes the Glenwood Gas Plant gas compressor building, a concrete foundation for the former gas holder, scrubber and metering systems for natural gas, an ethylene glycol tank, a

buried waste oil tank and a septic tank, and other appurtenances of the gas operation. Area 3 extends to East Shore Road, and is bordered on the east by a hill leading up to a plateau where the gas turbine backup power plant is located. A natural gas reformulating plant was also located on this plateau in the past. An east/west trending road which supplies access to a KeySpan substation property forms the north boundary of Area 3. Property owned by Mobil Oil Corporation is located to the south of Area 3, and the Glenwood Landing Power Plant is located approximately 1/4 mile south of area 3.

2.2 Topographic and Geologic Setting

The Glenwood Landing Gas Plant site is located along the east side of the Hempstead Harbor. Bedrock geology is of the Cretaceous age and is part of the Matawan Group. The soils underlying the site are considered part of Long Island's Upper Glacial Aquifer. These soils are characterized as glacial till. The till contains soil of variable texture, usually poorly sorted and deposited beneath historic glacial ice, and includes clay, silts and fine to medium sands. These soils are up to 160 feet in thickness. Surface drainage in the area flows generally toward the Hempstead Harbor.

2.3 Recognized Environmental Conditions (RECs)

During the completion of the Phase I ESA at the property, the potential for hazardous substances or petroleum products to have been released at certain areas of the site was identified by Fluor Daniel GTI. Substances that may have been used or may have been present during operation of the property include various oils (hydraulic, lubricating, dielectric, gasoline and fuel), solvents, polychlorinated biphenyls (PCBs), ash, laboratory wastes, and herbicides.

The RECs identified for consideration for further investigation during the Phase 1 ESA included:

Area 1

- Sanitary leach field
- Compressor building
- General fill deposits
- Groundwater
- Debris piles
- Shoreline fill area

- Pond sediment
- Ash disposal piles
- Outfall area sediments

Area 2

- Laboratory septic/leaching field
- 4 KV electrical feeder substation
- 23 KV electrical feeder substation
- Former paint/solvent/fuel storage building
- Former oil/solvent storage area
- Debris piles in western portion of site
- Creosote-treated tie disposal areas
- Debris piles in woods
- Boiler waste pit (recharge basin)
- Laboratory container/waste storage area

Area 3

- Former gas holder foundation
- Storm collection water system
- Scrubber condensate blowdown area
- Ethylene glycol tank
- Waste oil tank
- Gas compressor building
- Oil fogger building
- Yard storage areas
- Former AST located uphill of parcel
- Wastewater/condensate accumulation area
- Transformer area

3.0 PHASE II ENVIRONMENTAL SITE ASSESSMENT METHODOLOGY

3.1 Work Scope Overview

This section describes the Phase II ESA scope of work completed to identify environmental issues that may have resulted from the operation of the property. Specifically, the Phase II ESA was implemented to evaluate the potential presence of chemicals and petroleum residues in soil and groundwater at the RECs identified in the Phase I ESA. The locations of identified RECs and Phase II sampling locations for the site are detailed in **Figure 2**.

3.1.1 Surface Soil Sampling

Surficial samples of soil were collected, retained, and submitted for laboratory analysis at RECs where the potential for surface impacts were identified in the Phase I ESA. Stainless steel spatulas and scoops were used to collect surficial soil samples that ranged from ground surface to a depth of 12 inches. Soil samples for volatile organic compounds (VOCs) were collected as discrete samples at each REC location. For polynuclear aromatic hydrocarbons (PAHs), metals, and polychlorinated biphenyls (PCBs), three samples from the area proximate to the REC location were collected and composited into one sample, which was then placed into appropriate sample containers. Sampling tools were decontaminated between locations using reagent-grade chemicals (methanol and hexane), detergents, and deionized water rinses.

3.1.2 Subsurface Soil Sampling - Test Pits

Subsurface sampling were collected with excavating equipment. Test pits, where feasible, were the preferred method of shallow subsurface exploration (excavated to depths of approximately 5 feet below grade) as they allowed for a thorough visual characterization of the soil conditions.

Test pits were completed with "Bobcat™" excavator-type equipment. This type of equipment was used to excavate test pits because it was less disruptive of site operations at the property than a standard backhoe. The maximum depth attainable using a Bobcat equipped with a backhoe bucket was approximately 5 feet below grade.

Upon collection, soil samples were visually examined for lithologic classification and evidence of wastes or industrial residues. Each sample was screened in the field for the presence of volatile organic compounds using a photo-ionization detector (PID). Sample description and PID readings were recorded on test pit logs (**Appendix A**). Soil samples from each location were retained and submitted for laboratory analysis, based on PID readings and visual observation of

potentially impacted soil. If no PID readings were observed, a soil sample was taken from the suspected range where the contamination in question could exist.

3.1.3 Subsurface Soil Sampling - Soil Borings

Subsurface samples were collected with drilling equipment. Drilled soil borings were the preferred method of deeper subsurface exploration (completed to depths that ranged from 6.5 to 9.5 feet below ground surface).

Drilled soil borings were completed using "Geoprobe™" drilling-type equipment mounted on an all-terrain vehicle (ATV). Geoprobe drilling utilizes the "direct-push" method. This type of drilling equipment was used because it does not require as much overhead clearance as other drilling equipment and because it can be used to access areas with limited space for maneuverability. Large bore type samplers, having a 1 1/4-inch inside diameter, were used to collect soil samples at 2-foot intervals.

Upon collection, soil samples were removed from the core sampler and visually examined for lithologic classification and evidence of wastes or industrial residues. Each soil sample was field screened for the presence of VOCs compounds using a PID. Sample descriptions and PID readings were recorded in soil boring logs (**Appendix A**). Those soil samples that were retained and transferred to sample jars were subsequently delivered to KeySpan laboratory for analysis.

3.1.4 Groundwater Sampling

Groundwater samples were collected from existing monitoring wells, retained, and submitted for laboratory analysis at RECs where the potential for impacted groundwater was identified in the Phase I ESA. A centrifugal pump and disposable bailers were used to collect the groundwater samples. New sampling materials were used for each sampling location. All samples were then placed in the appropriate sample container and transferred to KeySpan's System Laboratory.

3.1.5 Quality Assurance/Quality Control Samples

Quality assurance/quality control (QA/QC) samples collected for the project included four duplicate samples for soil, or approximately 10% of the 43 sampling locations investigated during this Phase II ESA. Each project QA/QC sample was analyzed for its corresponding compound/analyze list, as specified for the original sample. Rinse blanks (Field blanks) were also collected for the groundwater sampling equipment. Rinse blanks were prepared by running deionized water through decontaminated sampling equipment. Laboratory trip blanks were also prepared by the laboratory.

3.1.6 Laboratory Analytical Program

The potential use or presence of substances including solvents and paints, various lubricants, dielectric, fuel oils, PCBs, coal and ash, preservatives for utility poles, laboratory wastes, and herbicides were associated with RECs identified during the Phase I. A compound/analyte list was developed for each of these substances. The target constituents included VOCs, semivolatile organic compounds (SVOCs), PCBs, herbicides, pesticides and metals. The project compound/analyte list is included as **Table 1**.

The RECs identified for further investigation during this project are listed in **Tables 2** along with the Phase II sampling plan for each REC. Laboratory analyses were completed in order to characterize potential environmental impacts at each of the RECs as identified in the tables.

Samples were analyzed by KeySpan's System Laboratory in Glenwood Landing, New York, and EcoTest Laboratories, Inc. located in North Babylon, New York. Both laboratories are certified under New York State Environmental Laboratory Approval Program (ELAP) and are well versed in generating data under the NYSDEC STARS and ASP programs. The laboratory supplied a validatable package for the submitted analyses, including such QA/QC elements as the analysis chromatogram, blank QC sheet, matrix spike/duplicate QC sheet, and calibrations and check standards for each category of compound/analyte run, in addition to the report of results, case narrative, co-elution and inspection sheets. Batch QA/QC analyses were also completed and provided by the laboratory.

3.2 Descriptions of Phase II Assessment Completed at Each REC

An investigation method was selected as appropriate to identify potentially hazardous chemical compounds/analytes at each REC (**Table 2**). Sampling locations are shown on **Figure 2**. A description of the field investigation by site area follows.

3.2.1 Area 1

3.2.1.1 Area 1A

Sanitary Leaching field: One soil boring (SB1A-2) was installed near the sanitary leaching field in the southeast corner of the area. Soil was collected continuously from grade to a depth of 7 feet. Soil samples were analyzed for VOCs, SVOCs, PCBs and metals.

Compressor Building: Soil boring SB1A-3 was installed along the west side of the compressor building. Soil samples were collected continuously to a depth of 7 feet. A soil sample was submitted for analyzed for VOCs, SVOCs, PCBs and metals.

General Fill Deposits: A soil boring SB1A-1 was installed in the general fill deposits near the southwest corner of Area 1A, near the bulkhead wall. lysis of SVOCs, PCBs and Metals. Soil samples were collected continuously to a depth of 7 feet. The sample was analyzed for VOCs, SVOCs, PCBs and metals.

Groundwater: Three groundwater samples (GW1A-1, GW1A-2, GW1A-4) were collected from monitoring wells along the inferred downgradient (west) side of the propane tank farm. A duplicate sample (FDGW-1) was collected from GW1A-4. All samples were later analyzed for VOCs, SVOCs, PCBs and metals.

3.2.1.2 Area 1B

Debris Piles: A test pit (TP1B-3) was dug at the base of one of the debris piles to an overall depth of 3.5 feet below grade. A soil sample was collected from the bottom of the excavation and later analyzed for VOCs, SVOCs, PCBs and metals.

Shoreline Fill Area: A test pit (TP1B-1) was dug near the bulkhead to a overall depth of 3.5 feet below grade. A soil sample was collected from the bottom of the excavation and later analyzed for VOCs, SVOCs, PCBs and metals. A duplicate sample (FDS-2) was also collected and later analyzed for the same parameters.

Pond Sediment: Three discrete pond sediment samples were collected (SD1B-1A, SD1B-1B, SD1B-1C) and composited into one sample (SD1B-1) and later analyzed for SVOCs, PCBs and metals. A separate grab sediment sample to be analyzed for VOCs was collected from location SD1B-1B.

Ash Disposal Areas: Three test pits (TP1B-2A, TP1B-2B, TP1B-2C) were completed on the eastern side of Area 1B to an average depth of 5 feet. Soil samples were collected from the walls and base of each test pit and composited into one soil sample (TP1B-2). The composite soil sample was later analyzed for SVOCs, PCBs and metals. A separate grab soil sample was collected from TP1B-2A and later analyzed for VOCs. A duplicate grab soil sample (FDS-1) was collected from TP1B-2B, and composited from the three test pits.

Stormwater Outfall: A sediment sample was collected in proximity to the outfall of the facility's stormwater discharge pipe, where it discharges to the waters of the Hempstead Harbor. A hand-augered soil boring was used to collect a sediment sample one foot out from the storm drain and bulkhead in Area 1B. The sediment sample was later analyzed for PCBs and metals.

3.2.2 Area 2

Laboratory Septic/Leaching field: Soil boring (SB2-2) was completed near the former septic/leaching field that serviced the laboratory. Soil samples were collected continuously to a depth of 7 feet when groundwater was encountered. A soil sample was collected at the groundwater interface and later analyzed for VOCs, SVOCs, PCBs, pH and metals.

4 kV Feeder Substation: Two surficial soil samples (SS2-2A, SS2-2B) were collected at the base of each transformer and composited into one soil sample (SS2-2). The sample was analyzed for SVOCs, PCBs and metals.

23 kV Feeder Substation: Two surficial soil samples (SS2-3A, SS2-3B) were collected at the base of each transformer and composited into one (SS2-3). The sample was later analyzed for SVOCs, PCBs and metals.

Former Paint/Solvent/Fuel Storage Building Foundation: A single surficial soil sample (SS2-1) was collected near a stained area at the northwest corner of the concrete foundation and later analyzed for VOCs, SVOCs, pesticides, PCBs, herbicides and metals.

Former Oil/Solvent Storage Area: A soil boring (SB2-1) was installed on the north side of the present oil/solvent storage building to a depth of 7 feet below grade. A discrete soil sample was collected and later analyzed for VOCs, SVOCs, pesticides, PCBs, herbicides and metals.

Debris Piles in West Portion of Parcel: Three (3) test pits (TP2-1, TP2-2, TP2-3) were dug at the base of three different debris piles to an average depth of approximately 3 feet below grade. An individual soil sample was collected from each pit and analyzed for VOCs, SVOCs, PCBs and metals. A duplicate soil sample (FDS-3) was collected from TP2-3.

Creosote-treated Tie Disposal Area: A surficial soil sample (SS2-5) was collected at the base of the ravine and analyzed for SVOCs, pesticides, PCBs, herbicides and metals.

Debris Piles in Woods: Two surficial soil samples (SS2-6A, SS2-6B) were collected from the base of two debris piles located near the northeast portion of Area 2 and composited. The

composite sample (SS2-6) was later analyzed for SVOCs, PCBs and metals. A grab surface sample was collected from SS2-6A and analyzed for VOCs.

Boiler Waste Pit: A soil boring (SB2-3) was installed and samples collected continuously to a depth of 6.5 feet. A soil sample was collected and later analyzed for VOCs, SVOCs, PCBs, pH and metals.

Laboratory Container/Waste Storage Area: A surficial soil sample (SS2-4) was collected and analyzed for VOCs, SVOCs, pesticides, PCBs, herbicides and metals.

3.2.3 Area 3

Former Gas Holder Foundation: One geoprobe soil boring (SB3-9) and three hand-augered soil borings (SB3-3, SB3-4, SB3-5) were completed to investigate the former gas holder. Soil from boring SB3-9 was collected near the edge of the concrete foundation pad from grade down to 8 feet below grade. An additional boring was placed nearby (SB3-9A) to further investigate a PID measurement recorded at SB3-9. The three hand auger borings were completed at three stormwater dry wells located in the center of the concrete pad. All soil samples were later analyzed for Petroleum VOCs, SVOCs, PCBs and metals.

Storm Water System: A single sediment sample (SD3-1) was collected from the bottom of a vault that is connected to the facility's stormwater piping system. A hand auger was used to collect the sediment sample. The sediments were later analyzed for VOCs, SVOCs, PCBs and metals.

Scrubber Condensate Blowdown Area: A surficial soil sample (SS3-4) was collected in close proximity to the scrubber unit blowdown area and later analyzed for SVOCs, PCBs and metals. A duplicate sample (FDS-4) was also collected and later analyzed for the same parameters.
Ethylene Glycol Tank: Soil boring (SB3-2) was installed at the south end of the AST to a depth of 8 feet, where the groundwater table was encountered. The resulting sample was analyzed for ethylene glycol.

Waste Oil Tank 008 Area: One groundwater sample (MW3-4) was collected from a monitoring well located adjacent to the waste oil tank present at the west side of the gas compressor building. The groundwater was later analyzed for VOCs, SVOCs, PCBs and metals.

Gas Compressor Building: Two soil borings (SB3-7, SB3-8) were installed on the west side of the gas compressor building from grade to depths of 7 feet and 9.5 feet respectively. The soil

samples were collected at the groundwater interface and later analyzed for VOCs, SVOCs, PCBs and metals.

Oil Fogger Building: A surficial soil sample (SS3-5) was collected from the street side of the building and later analyzed for Petroleum VOCs, SVOCs, PCBs and metals.

Yard Storage Areas: Three surficial soil samples (SS3-1, SS3-2, SS3-3) were collected from the yard area on the east side of the plant where various materials (wire, treated poles, equipment) are stored. All samples were later analyzed for SVOCs, pesticides, PCBs, herbicides and metals.

Former AST Located Uphill from Parcel: Groundwater samples (MW3-1, MW3-2, MW3-3) were collected from three monitoring wells located along the eastern border of Area 3. These wells are presumed to be downgradient of the AST, based on the topography and location of the Hempstead Harbor. Each groundwater sample was later analyzed for Petroleum VOCs, SVOCs, PCBs and metals.

Wastewater/Condensate Accumulation Area: Soil boring (SB3-1) was installed near the northeast corner of Area 3 where facility wastewater and gas condensate were formerly managed, and soil collected from grade to 8 feet below grade and composited. A discrete sample was later analyzed for VOCs, and a composite sample was analyzed for SVOCs, PCBs and metals. Four additional borings (SB3-1R, SB3-1A, SB3-1B and SB3-1C) were completed at 8 feet below grade to further investigate a hydrocarbon-like odor detected at SB3-1. Discrete samples were collected from the bottom of these and analyzed for petroleum VOCs, SVOCs and PCBs.

Transformer Area: A surficial soil sample (SS3-6) was collected near the base of a station transformer. The soil sample was later analyzed for VOCs, SVOCs, PCBs and metals.

4.0 INVESTIGATION RESULTS AND DATA SUMMARY

This section includes a description of the findings and observations and a summary of the laboratory data for the investigation of each REC completed by Fluor Daniel GTI during the Phase II ESA at the property. Sampling logs are included in **Appendix A**. Laboratory analytical data is tabulated in **Appendix B**. A summary of findings of the Phase II ESA at each location is included as **Table 3**. The laboratory data reports are included as **Appendix C, Volume II**.

The analytical data was compared to relevant New York State Department of Environmental Conservation (NYSDEC) guidance values for hazardous waste sites (TAGM 4046, 1995) and groundwater standards (TOGS 1.1.1, 1993). The hazardous waste site guidance applies to sites that are to be remediated for unrestricted use (including the most conservative exposure scenarios, such as residential usage). The groundwater standards are intended to protect groundwater under the assumption that it will be used as a potable water supply. Although the risk scenarios assumed in developing these numeric criteria are not consistent with the past, present, or intended future usage of this site, these values were used for comparison to the data because New York State has not adopted or recognized other standards or guidance values which would be appropriate to industrial use scenarios. The comparisons are therefore not intended to be interpreted as requiring the mitigation of the detected compounds. Background concentrations of certain constituents in soils, such as polynuclear aromatic hydrocarbons (PAHs), often exceed these guidance values (Bradley, et al, 1994). Furthermore, with respect to guidance values for metals, the hazardous waste site guidance stipulates that ambient or background concentrations of metals may be considered if those concentrations exceed the guidance values. Concentrations of metals detected in soils on-site were also compared to typical soil values for these analytes, as reported in frequently-cited references (USGS, 1984; EPA, 1983).

4.1 AREA 1

4.1.1 Area 1A

Sanitary Leaching Field: The soil samples collected from soil boring SB1A-2 consisted mostly of medium and coarse sands with groundwater encountered at 6 feet below grade. No PID readings were produced from the screened soil samples and no odors or visual staining were observed. The soil sample collected from a depth of 5 to 7 feet was analyzed for VOCs. A separate soil sample from a depth from 3 to 5 feet was composited and analyzed for SVOCs,

PCBs and metals. Upon analysis, no VOCs or PCBs were present above their respected method detection limit. SVOCs were present, including benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene and indeno(1,2,3-cd)pyrene, with only benzo(a)pyrene exceeding the NYSDEC (1995) guidance values. However, the total SVOC concentration was well below the NYSDEC (1995) cumulative soil guidance value of 500 ppm and was within the range typical of urban northeastern soils (Bradley, et al, 1994). Iron and a zinc were also present in excess of the NYSDEC (1995) guidance values. However, these metals marginally exceed the guidance values, and are within the range of background concentrations typical of eastern USA soils (NYSDEC, 1995; USGS, 1984; EPA, 1983).

Compressor Building Area: The soil lithology at soil boring SB1A-3 consisted of medium and fine sand, with a trace of coarse sand. No PID readings were measured from the soil samples, and groundwater was not encountered. No odors or staining was observed. The soil sample collected at a depth of 5 feet was later analyzed. Laboratory analysis detected no SVOCs or PCBs in the soil sample above the method detection limit. Only iron was in exceedance of the NYSDEC (1995) guidance values. However, iron marginally exceeded the guidance value, and was within the range of background concentrations typical of eastern USA soils (NYSDEC, 1995).

General Fill Deposits: The soil lithology at soil boring SB1A-1 consisted of mostly medium and fine sands. No PID readings or visual observations of chemical impacts were encountered. Water was encountered at a depth 7 feet. Soil samples were collected from 4 to 7 feet for VOCs, and 0 to 4 feet for SVOCs, PCBs and metals. Laboratory analysis found four SVOCs present that exceeded the NYSDEC (1995) guidance values, including benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene and benzo(a)pyrene. However, the total SVOC concentration was well below the NYSDEC (1995) cumulative soil guidance value of 500 ppm, and was within the range typical of urban northeastern soils (Bradley, et al, 1994). Iron was also present in excess of the guidance values. However, iron marginally exceeded the guidance value, and was within the range of background concentrations typical of eastern USA soils (NYSDEC, 1995). No VOCs or PCBs were present above the detection limit.

Groundwater: Depth to groundwater measurements in wells GW1A-1, GW1A-2 and GW1A-4 were from 7.50, 8.25 and 9.25 feet, respectively. A field duplicate groundwater sample (FDGW-1) was collected from GW1A-4. The samples were later analyzed for VOCs, SVOCs, PCBs and metals. VOCs were detected in excess of standards in all three monitoring wells. GW1A-1 contained 1,2 Dichloroethene, trichloroethene, and tetrachloroethene. GW1A-4 contained 1,2 Dichloroethene, trichloroethene, and tetrachloroethene in excess of NYSDEC (1993) standards.

A field duplicate, FDGW-1, confirmed the results of GW1A-4 with acceptable precision. Acetone was present in the equipment blank at approximately the same concentrations as the monitoring well samples, and is therefore considered to be a laboratory artifact. SVOCs were present, but at levels below the NYSDEC standards. GW1A-1 contained 5 metals above the NYSDEC (1993) standards. These were iron, lead, manganese, zinc and sodium. GW1A-2 contained 2 metals above NYSDEC standards; these were iron and zinc. GW1A-4 contained 9 metals above NYSDEC standards, including beryllium, cadmium, chromium, copper, iron, lead, selenium, sodium and zinc. FDGW-1 confirmed the presence of all metals contained in GW1A-4. No PCBs were present in any of the monitoring wells.

4.1.2 Area 1B

Mixed Construction Debris Piles: The soils encountered at test pit TP1B-3 consisted of brown medium sands with a little gravel. No PID readings or stained soil were observed. No odors were present. A sample was collected at a depth of 0 to 3 feet and was later analyzed. Laboratory analysis found levels of metals above the NYSDEC (1995) guidance values, including iron, nickel and zinc. However, these metals either marginally exceed the guidance values, or are within the range of background concentrations typical of eastern USA soils (NYSDEC, 1995; USGS, 1984; EPA, 1983). VOCs and SVOCs were present, but in levels below the NYSDEC guidance values. No PCBs were present above the method detection limit.

Shoreline Fill Area: Soil lithology at test pit TP1B-1 consisted of brown, damp, medium sands with a trace of cobble. No PID readings were observed and groundwater was encountered at a depth of 3.5 feet. The sample from test pit TP1B-1 and a duplicate sample, FDS-2, were later analyzed. Laboratory analysis reported that TP1B-1 contained no VOCs or PCBs above the method detection limit. Laboratory analysis did detect 13 SVOCs, with benzo(a)anthracene, chrysene and benza(a)pyrene being above the NYSDEC (1995) guidance values. However, the total SVOC concentration was well below the NYSDEC (1995) cumulative soil guidance value of 500 ppm, and was within the range typical of urban northeastern soils (Bradley, et al, 1994). The levels of these compounds were lower in the duplicate sample; only benzo(a)pyrene exceeded NYSDEC (1995) guidance values. Three metals were present above the NYSDEC guidance values: these metals were iron, nickel and zinc. However, these metals either marginally exceed the guidance values or are within the range of background concentrations typical of eastern USA soils (NYSDEC, 1995).

Pond Sediment: The pond sediments samples (SD1B-1A, SD1B-1B and SD1B-1C) consisted of black, coarse sands, with a trace of gravel. No PID readings were measured when field screening each sample. The composite sample (SD1B-1) was later analyzed for SVOCs, PCBs

and metals, and a separate sediment grab sample was collected and analyzed for VOCs. Laboratory analysis detected three SVOCs at concentrations below the NYSDEC (1995) guidance values. Copper, iron, nickel and zinc were present in levels above the NYSDEC guidance values. However, these metals either marginally exceed the guidance values or are within the range of background concentrations typical of eastern USA soils (NYSDEC, 1995; USGS, 1984; EPA, 1983). No VOCs or PCBs were present above the detection limit.

Ash Disposal Areas: Soils in test pit TP1B-2A consisted of mainly stratified sands and fine ash layers, with a solid ash layer at 4 feet below grade. Soils in test pit TP1B-2B consisted of brown medium sand from 0-2 feet and ash from 2-5 feet. Soils in test pit TP1B-2C consisted of ash from 1-2 feet and 4 to 5 feet, with brown sand between the ash layers. Various debris (electric cables and piping) was also encountered in test pit TP1B-2C. A white fissile material (suspected to be asbestos) was present in test pits TP1B-2A and TP1B-2C. A sample of this material was collected from test pit TP1B-2C and was analyzed for asbestos. Asbestos was detected (primary amosite, at 16.5%) in the material. A single grab sample was collected from TP1B-2B at a depth of 1 foot and later analyzed for VOCs. Three individual soil samples were collected from each pit and composited to make a representative sample (TP1B-2) to be analyzed for SVOCs, PCBs and metals. No PID readings were encountered when field screening soils were excavated from the each test pit. Laboratory analysis determined that the grab sample did not contain VOCs or PCBs above the method detection limit. Four SVOCs were present in the composite sample, but at levels below the NYSDEC (1995) guidance values. Nine metals including arsenic, chromium, copper, iron, mercury, nickel, selenium, vanadium and zinc were present in the composite sample in excess of the NYSDEC guidance values, and exceeded the concentrations typical of eastern USA soils (NYSDEC, 1995; USGS, 1984; EPA, 1983).

Outfall: The hand augered soil boring (Outfall) was comprised of yellow and white fine sand particles. No PID readings or visual impacts were observed. The sample was later analyzed for PCBs and metals. Laboratory analysis determined that no PCBs were present above the method detection limit. Zinc was the only metal found to be in exceedance of the NYSDEC (1995) guidance value; however its concentration was within the range of typical of eastern USA soils (USGS, 1984; EPA, 1983).

4.2 Area 2

Laboratory Septic/Leachfield: The soils collected from soil boring SB2-2 consisted of primarily brown coarse sands, and groundwater was encountered at 6.5 feet below grade. No PID

readings or visual observations of impacted soils were encountered. The boring was sampled from 5 feet to 7 feet and was later analyzed for VOCs, SVOCs, PCB, and metals. Laboratory analysis detected the existence of nine SVOCs in the soil sample, but at concentrations below the NYSDEC (1995) guidance values. Iron and mercury were present in exceedance of the NYSDEC (1995) guidance values. Iron marginally exceeded the guidance value, and was within the range of background concentrations typical of eastern USA soils (NYSDEC, 1995). Mercury exceeded the concentration typical of eastern USA soils (NYSDEC, 1995; USGS, 1984; EPA, 1983). No VOCs or PCBs were present in the sample above the method detection limit.

4 kV Feeder Substation: The soil lithology at surficial soil samples SS2-2A and SS2-2B was mainly brown medium sands with some gravel. No PID readings were measured. Both soil samples were composited (SS2-2) and were later analyzed. Laboratory analysis detected 12 SVOCs present, with only benzo(a)pyrene found to be above the NYSDEC guidance value. However, the total SVOC concentration was well below the NYSDEC (1995) cumulative soil guidance value of 500 ppm, and was within the range typical of urban northeastern soils (Bradley, et al, 1994). Iron was the only metal found in exceedance of the NYSDEC (1995) guidance value. However, iron marginally exceeded the guidance value, and was within the range of background concentrations typical of eastern USA soils (NYSDEC, 1995). No PCBs were present in the sample above the method detection limit.

23 kV Feeder Substation: The soil lithology at surficial soil samples SS2-3A and SS2-3B was mainly brown medium sands with some gravel. No PID readings were measured. Both soil samples were composited (SS2-3) and were later analyzed. Laboratory analysis detected the existence of only 1 SVOC, bis(2-ethylhexyl)phthalate, which did not exceed the NYSDEC (1995) guidance value. Copper, iron and zinc were detected above the NYSDEC (1995) guidance values. Copper also exceeded the range typical of eastern USA soils (NYSDEC, 1995). Iron and zinc either marginally exceeded the guidance values, or are within the range of background concentrations typical of eastern USA soils (NYSDEC, 1995). PCBs were not found above the method detection limit.

Former Paint/Solvent/Fuel Storage Building Foundation: The soil at SS2-1 consisted of a yellow-brown fine sand with some yellow clay. No PID readings or visual contamination were encountered. The soil sample was later analyzed; laboratory analysis detected no VOCs, PCBs or herbicides above the method detection limit. Three SVOCs, including pyrene, benzylbutylphthalate and bis(2-ethylhexyl)phthalate were present, but were not in exceedance of the NYSDEC (1995) guidance values. Iron and zinc were found to be above the NYSDEC (1995) guidance values. However, these metals marginally exceeded the guidance values, and

were within the range of background concentrations typical of eastern USA soils (NYSDEC, 1995). Two pesticide compounds, p,p-DDT and endrin, were detected below the NYSDEC guidance values.

Former Oil/Solvent Storage Area: The soil collected from SB2-1 at ground surface to 7 feet was comprised of mostly medium sand with some fine sand at 7 feet below grade. A soil sample was collected from 0 to 2 feet, composited and later analyzed. Laboratory analysis detected the presence of 5 SVOCs, but none exceeded the NYSDEC (1995) guidance values. Iron was the only metal present in excess of the NYSDEC (1995) guidance values. However, iron marginally exceeded the guidance values and was within the range of background concentrations typical of eastern USA soils (NYSDEC, 1995). Two pesticide compounds, p,p-DDT and p,p-DDE, were detected below the NYSDEC (1995) guidance values. No VOCs, PCBs or herbicides were present above the method detection limit.

Debris Piles, West side of Area 2: The first 8-inches of TP2-1 consisted of a peat layer with an underlying medium brown sand to 2.5 feet. Test pit TP2-2 had a 4-inch peat layer on surface with brown coarse sand to 1 foot below surface, and light brown medium and fine sand to 3 feet below surface. Test pit TP2-3 had a 3-inch peat layer on the surface with brown medium and fine sand to 2 feet, and light brown medium and fine sand to 3.5 feet. No PID readings or visual chemical staining were recognized. Samples were collected from the pits and later analyzed. Laboratory analysis detected 11 SVOCs at TP2-1, with only benzo(a)anthracene and benzo(a)pyrene in exceedance of the NYSDEC (1995) guidance values. However, the total SVOC concentration was well below the NYSDEC (1995) cumulative soil guidance value of 500 ppm, and was within the range of typical urban northeastern soils (Bradley, et al, 1994). TP2-2 contained 7 SVOCs, with none in exceedence of the NYSDEC guidance values. TP2-3 contained 10 SVOCs, but only benzo(a)pyrene exceeded the NYSDEC (1995) guidance values. However, the total SVOC concentration was well below the NYSDEC (1995) cumulative soil guidance value of 500 ppm, and was within the range typical of urban northeastern soils (Bradley, et al, 1994). At TP2-1 the metals iron, mercury and zinc exceeded the NYSDEC (1995) guidance value, at TP2-2 iron and mercury exceeded the guidance values; at TP2-3, iron and zinc exceeded the guidance values. However, the metals (except for mercury) either marginally exceed the guidance values or were within the range of background concentrations typical of eastern USA soils (NYSDEC, 1995; USGS, 1984; EPA, 1983). Mercury exceeded the concentrations typical of eastern USA soils. No VOCs were detected in any of the samples above the method detection limit.

Creosote-treated Tie Disposal Area: No PID readings, odor or stained soil were observed in the surficial soil sample (SS2-5). The soil sample was collected and later analyzed; laboratory analysis detected one SVOC, bis(2-ethylhexyl)phthalate, but not at a concentration above the NYSDEC guidance values. Iron and mercury were the only metals in excess of the NYSDEC (1995) guidance value. However, these metals either marginally exceed the guidance values, or are within the range of background concentrations typical of eastern USA soils (NYSDEC, 1995; EPA, 1983). No PCBs, pesticides or herbicides were detected above the method detection limit.

Debris Piles in Woods: No PID readings, odors or visual chemical impacts were observed in the two surficial composite soil samples (SS2-6A and SS2-6B). A grab soil sample for VOCs was also collected from SS2-6A. The composite sample was later analyzed for SVOCs, PCBs and metals. Laboratory analysis detected the presence of one VOC (tetrachloroethene) and 7 SVOCs, but none were at concentrations exceeding the NYSDEC (1995) guidance values. Iron, mercury and zinc were found at concentrations above the NYSDEC (1995) guidance values. However, these metals either marginally exceed the guidance values, or are within the range of background concentrations typical of eastern USA soils (NYSDEC, 1995; USGS, 1984; EPA, 1983). No PCBs were detected at concentrations above the method detection limit.

Boiler Waste Pit: The soil lithology at boring SB2-3 was comprised of light brown and red medium sands, with a trace of gravel. No PID readings were measured and groundwater was encountered at 6.5 feet below grade. No visual discoloration or odors were observed. A soil sample was collected from 4 to 6.5 feet below grade and was later analyzed. Laboratory analysis detected 9 SVOCs in the soil sample, all below the NYSDEC (1995) guidance values. A PCB concentration of 81 mg/Kg was detected, which exceeded the NYSDEC (1995) guidance value for subsurface soils. Iron and nickel were also found in exceedence of the NYSDEC (1995) guidance values. However, these metals either marginally exceed the guidance values, or are within the range of background concentrations typical of eastern USA soils (NYSDEC, 1995; USGS, 1984; EPA, 1983). The pH of the soil was determined to be 7.97. No VOCs were found above the method detection limit.

Laboratory Container/Waste Storage Area: There were no PID readings, odors or other evidence of chemical impact present in surficial soil sample SS2-4. The laboratory analysis detected the presence of 3 SVOCs, but none exceeded the NYSDEC (1995) guidance values. Chromium, iron, vanadium and zinc were all in exceedence of the NYSDEC (1995) guidance values for metals. However, these metals either marginally exceed the guidance values, or are within the range of background concentrations typical of eastern USA soils (NYSDEC, 1995; USGS, 1984; EPA, 1983). A pesticide compound (p,p-DDT) was detected below the NYSDEC

(1995) guidance values. No VOCs, PCBs or herbicides were present in the sample above the method detection limit.

4.3 Area 3

Former Gas Holder Foundation: Soils encountered at SB3-3 located in the drywell near the center of the concrete foundation pad of the former gas holder were comprised of combination of brown, black and gray, fine silt. Some twigs were noted mixed in. No PID readings were measured. Soil boring, SB3-4, located in the drywell near the west side of the pad contained black, visually impacted coarse sand. A PID reading of 32.7 parts per million vapor (ppmv) was observed and a hydrocarbon-like odor was noted. Soil boring, SB3-5, located in the drywell near the south edge of the pad contained dark brown, medium sand with some twigs. No PID readings or staining were observed. Soil borings, SB3-9 and SB3-9A, located near the north edge of the pad, was terminated at a depth of 8 feet. PID readings indicated the presence of VOCs in boring SB3-9 from grade to the maximum depth collected, with a high reading of 3098 ppmv in the range of 2 feet to 5 feet below grade. These samples were later analyzed. None of the samples contained VOCs above the method detection limit. No SVOCs were detected at boring SB3-9A. SB3-3 was found to contain 8 SVOCs, and SB3-9 contained 2 SVOCs, none of which exceeded the NYSDEC (1995) guidance values. SB3-4 contained 7 SVOCs; of these compounds benzo(a)anthracene and chrysene exceeded the NYSDEC (1995) guidance values. However, the total SVOC concentration was well below the NYSDEC (1995) cumulative soil guidance value of 500 ppm and was within the range typical of urban northeastern soils (Bradley, et al, 1994). SB3-5 contained 12 SVOCs; of those compounds benzo(a)anthracene, chrysene and benzo(a)pyrene exceeded the NYSDEC (1995) guidance values. However, the total SVOC concentration was well below the NYSDEC (1995) cumulative soil guidance value of 500 ppm and was within the range typical of urban northeastern soils (Bradley, et al, 1994). SB3-3 contained 6 metals, SB3-4 contained 8 metals, and SB3-5 contained 7 metals which exceeded the NYSDEC (1995) guidance values. Of these metals, cadmium, copper, and mercury also exceeded the range of typical eastern USA soils (NYSDEC, 1995; USGS, 1984; EPA, 1983). SB3-9 did not contain any metals in exceedence of the NYSDEC (1995) guidance values. None of the locations contained PCBs over the method detection limit.

Storm Water System: The sediment sample, SD3-1 collected from the base of the storm water drainage system consisted primarily of gravel and sand. No PID readings or visual chemical impacts were encountered. The sample was collected and later analyzed; upon analysis, SD3-1 was found to contain a VOC (tetrachloroethene), well below the NYSDEC (1995) guidance

value. The sample contained 2 SVOCs, fluoranthene and pyrene, which were below the NYSDEC (1995) guidance values. Seven metals were detected in excess of the NYSDEC (1995) guidance values. However, these metals either marginally exceed the guidance values, or are within the range of background concentrations typical of eastern USA soils (NYSDEC, 1995; USGS, 1984; EPA, 1983). No PCBs were detected above the method detection limit.

Scrubber Condensate Blowdown Area: The surficial soil sample SS3-4 consisted of a dry medium sand with no visual staining or odor. A duplicate sample, FDS-4, was also collected. Both samples were later analyzed. After analysis, SS3-4 was found to contain 10 SVOCs, with only benzo(k)fluoranthene being in exceedence of the NYSDEC (1995) guidance values. However, the total SVOC concentration was well below the NYSDEC (1995) cumulative soil guidance value of 500 ppm, and was within the range typical of urban northeastern soils (Bradley, et al, 1994). A field duplicate, FDS-4, confirmed the presence of 6 of the compounds , but did not confirm the exceedence of benzo(a)pyrene due to interference in the duplicate sample. Two forms of PCBs, PCB-1248 and PCB 1260, were detected, but were below the NYSDEC (1995) guidance values for surface soils. Iron, mercury and zinc were above the NYSDEC (1995) guidance values in both the sample and the duplicate. However, these metals either marginally exceed the guidance values, or are within the range of background concentrations typical of eastern USA soils (NYSDEC, 1995; USGS, 1984; EPA, 1983).

Ethylene Glycol Tank: The soil lithology in soil boring SB3-2 was comprised primarily of light brown fine to medium sands, with groundwater encountered at 5 feet below grade. A PID reading for the 2 foot to 5 foot sample of 371 ppmv was measured; however, no chemical odor was noted on the soil, and the reading may have been related to rainy weather conditions. The 2 foot to 5 foot sample was collected and analyzed. Laboratory results found no ethylene glycol above the method detection limits.

Waste Oil Tank 0008 Area: The depth to water at MW3-4 was measured at 6.21 feet. A groundwater sample was collected and analyzed; analysis of the sample detected no VOCs above the method detection limit. One SVOC, bis(2-ethylhexyl)phthalate, was detected, but at a concentration below the NYSDEC (1995) guidance value. No metals were detected above the standards, and no PCBs were detected over the method detection limit.

Gas Compressor Building: Soil lithology in soil boring SB3-7 was comprised of mostly brown, medium sands, with the groundwater table encountered at 6.5 feet. A nominal PID readings of 0.2 ppmv was measured in the soils from the 5 to 7 foot range. This 5 to 7 foot sample was collected and sent to the laboratory to be analyzed. Soils at boring SB3-8 were comprised of

coarse, medium and fine sands with a black organic layer at 7 feet below grade. No elevated PID readings were encountered. The groundwater table was encountered at approximately 8 feet below grade. The 8 foot to 9.5 foot sample was collected for VOCs, while the samples from 5 foot to 9.5 feet were composited and analyzed for SVOCs, PCBs and metals. Upon analysis, SB3-7 contained no VOCs over the method detection limit. SB3-8 contained acetone below the NYSDEC (1995) guidance values. Only iron was present above the NYSDEC (1995) guidance values for both sample locations. However, iron marginally exceeded the guidance value, and was within the range of background concentrations typical of eastern USA soils (NYSDEC, 1995). No SVOCs or PCBs were detected for either sample location above the method detection limit.

Oil Fogger Building: The soil encountered at SS3-5 was a brown, medium to fine sand. No elevated PID readings or odor were detected. Laboratory analysis detected 2 SVOCs below the NYSDEC (1995) guidance values. No metals were detected above the NYSDEC (1995) guidance values, and no petroleum VOCs or PCBs were detected above the method detection limit.

Yard Storage Area: The three surface soil samples, SS3-1, SS3-2, SS3-3 were comprised of brown, medium and fine sands, with no elevated PID readings recorded. All samples were analyzed; laboratory analysis of SS3-1 and SS3-2 detected one SVOC, bis (2-ethylhexyl)phthalate at a concentration well below the NYSDEC (1995) guidance value. SS3-3 also contained bis (2-ethylhexyl)phthalate, along with 8 other SVOCs, all at concentrations well below the NYSDEC (1995) guidance values. SS3-1 and SS3-2 contained PCB-1248. While SS3-2 exhibited a concentration of PCB below the NYSDEC (1995) guidance value, SS3-1 exceeded the NYSDEC guidance value for PCB for surface soils. Soils at SS3-1 contained the metals iron and mercury above the NYSDEC guidance values. Soils at SS3-2 exceeded the NYSDEC guidance value for those same metals along with chromium and zinc. Soils at SS3-3 exceeded the NYSDEC (1995) guidance values for the metals chromium and iron. However, with the exception of mercury, these metals either marginally exceed the guidance values, or are within the range of background concentrations typical of eastern USA soils (NYSDEC, 1995; USGS, 1984; EPA, 1983). Mercury exceeded the concentrations typical of eastern USA soils. No pesticides or herbicides were detected above the method detection limit.

Former AST Located Uphill of Parcel: The depth to water for the three monitoring wells, MW3-1, MW3-2 and MW3-3, were 6.64, 6.00 and 6.25 feet below the top of each well casing respectively. Samples were collected from each and analyzed; analysis of the groundwater detected no VOCs in either MW3-2 or MW3-4. The analysis of MW3-3 did detect a minor

concentration of naphthalene (VOC analysis method only; not detected by the SVOC analysis). The analysis of MW3-2 and MW3-3 detected a nominal concentration of the SVOC bis(2-ethylhexyl)phthalate. None of those SVOCs exceeded the NYSDEC (1993) groundwater standards. No metals were recorded above the NYSDEC groundwater standards. No PCBs were measured above the method detection limit.

Wastewater/Condensate Accumulation Area: Soil was collected continuously from grade to a depth of 8 feet at soil borings SB3-1, SB3-1R, SB3-1A, SB3-1B, and SB3-1C. PID readings indicated the presence of VOCs in boring SB3-1 from grade to the maximum depth collected, with the highest reading of 86.1 ppmv in the range of 2 feet to 5 feet below grade. Discolored soil was observed in the 5 to 8 foot below grade sample at SB3-1; an odor was also present in this region. The 5 to 8 foot below grade sample at SB3-1 was collected for analysis of VOCs, while a composite sample from 2 to 8 foot was sent for analysis of SVOCs, PCBs and metals. PID measurements were not collected at borings SB3-1R, SB3-1A, SB3-1B, or SB3-1C, which were collected by KeySpan personnel. Samples were collected from those borings at 5 to 8 feet below grade and analyzed for VOCs, SVOCs and PCBs. Analysis of the sample from SB3-1R detected no VOCs above the detection limit. Analysis of the soil collected from borings SB3-1, SB3-1A, SB3-1B, and SB3-1C detected levels of benzene, ethyl benzene, xylene, isopropylbenzene, n-propylbenzene, 1,2,4-trimethylbenzene, and naphthalene; however only benzene at SB3-1B exceeded the NYSDEC (1995) guidance values. The total VOC concentration at all points was well below the NYSDEC (1995) cumulative soil guidance value of 100 ppm. No SVOCs were detected above the method detection limit at boring SB3-1A. The presence of several different SVOCs was detected in borings SB3-1, SB3-1R, SB3-1B, and SB3-1C. Only benzo(a)pyrene (at SB3-1 and SB3-1R) and dibenzo(a,h)anthracene (at SB3-1R) exceeded the NYSDEC (1995) guidance values. However, the total SVOC concentration was well below the NYSDEC (1995) cumulative soil guidance value of 500 ppm, and was within the range typical of urban northeastern soils (Bradley, et al, 1994). The metals chromium, iron and zinc were detected in excess of the NYSDEC guidance values. However, these metals marginally exceeded the guidance values and were within the range of background concentrations typical of eastern USA soils (NYSDEC, 1995; USGS, 1984; EPA, 1983). No PCBs were detected above the detection limit.

Transformer Area: The soil at surficial soil sample SS3-6 was comprised of brown, coarse and medium sands. No elevated PID readings were observed. Analysis of the sample detected 17 SVOCs, 7 of which exceeded the NYSDEC (1995) guidance values. However, the total SVOC concentration was well below the NYSDEC (1995) cumulative soil guidance value of 500 ppm and was within the range typical of urban northeastern soils (Bradley, et al, 1994). Certain

metals (cadmium, chromium, copper and iron) also exceeded the NYSDEC guidance values. However, these metals either marginally exceed the guidance values or were within the range of background concentrations typical of eastern USA soils (NYSDEC, 1995; USGS, 1984; EPA, 1983). The soil did not contain any VOCs or PCBs above the method detection limit.

4.4 Project QA/QC Summary

QA/QC samples were collected during the Phase II ESA to evaluate the data quality for the 30 RECs investigated during the project. QA/QC samples included duplicate samples for soil and water matrixes that were analyzed for each project compound/analyte type (VOCs, SVOCs, PCBs and metals). In addition, rinse blanks for groundwater sampling equipment (bailors) and trip blanks were also collected. Separate QA/QC evaluations were performed for both of the laboratories that performed analyses. KeySpan's System Laboratory is ELAP approved and performed analysis for metals and PCBs. EcoTest Laboratories is also ELAP approved and performed analysis for VOCs, SVOCs, pesticides, herbicides, ethylene glycol and metals. Each laboratory completed a sample non-conformance summary relating the performance of each analysis to its specified objective. A review of the non-conformance summary was completed by Fluor Daniel GTI's project personnel to determine if the Phase II data could be considered reliable for the purpose of reporting the presence of hazardous substances or petroleum.

Duplicate samples were used to indicate the precision of field sampling and laboratory analytical procedures. Duplicate precision was evaluated by comparing the relative percent difference (%RPD) between the field sample and duplicate. Four duplicate soil samples were collected; one each from locations TP1B-1, TP1B-2, TP2-3 and SS3-4. One duplicate groundwater sample was also collected from GW1A-4.

With regards to metals, % RPDs between both samples and their duplicates ranged from 0% to 167%. KeySpan's System Laboratory stated that the high levels of iron in the samples caused the control samples to be outside normal control limits. The laboratory also reported that the spike recovery values for silver were also consistently low, indicating there may be a tendency for the silver in these samples to plate out. Due to these lower spike recoveries, increased concentrations of silver could exist in the samples. However, silver is not suspected to be a COC for the Site, and it was not detected in any soil sample. Therefore, it is KeySpan's System Laboratory's opinion that these levels are acceptable, and therefore the data appears to be usable for its intended purpose.

For several samples, the minimum detection limits for PCBs reported was as 2 ppm. This was due to the need to dilute the samples to prevent column contamination. Therefore these particular samples cannot be compared to the DEC guidance value of 1 ppm, but are otherwise acceptable for the Phase II ESA investigation.

No VOCs by EPA Method 8260 were detected in the sample/duplicate sets, and so no precision could be numerically evaluated for these compounds. EcoTest Laboratories stated that several samples were diluted and rerun to yield better detection limits, and that no other QA/QC problems were encountered.

With regards to SVOCs by EPA 8270, % RPDs between both samples and their duplicates ranged from 0% to 128%. EcoTest Laboratories reported that certain samples were started at a higher dilution then rerun at a lower dilution to get better detection limits. Some samples were also rerun because the continuing calibration failed. The laboratory stated that samples were also rerun to get internal standards to fall within QC limits and that some samples were run at a higher dilution to get internal standards within QC limits. This resulted in elevated detection limits for individual compounds in some samples, but overall the data is considered usable for the purpose of the Phase II investigation.

Since no pesticides were determined to exist in the samples for which duplicates were analyzed, duplicate precision could not be evaluated. Recoveries for pp-DDE and pp-DDT in the matrix spike duplicates were reported to be marginally too high. EcoTest believes the magnitude of the exceedence is insufficient to affect the acceptability of the results.

5.0 SUMMARY AND CONCLUSIONS

This section presents a summary of the findings of the Phase II ESA completed by Fluor Daniel GTI at the property, with conclusions regarding the presence of hazardous substances or petroleum associated with the RECs under conditions that indicate disposal or release. These conditions are differentiated from ~~*de minimis* concentrations of these substances; i.e.,~~ levels that would not be anticipated to present a risk of material harm to public health or the environment, or that would not be likely to be the subject of regulatory enforcement action, as referred to in ASTM (1997). The threshold for this judgement was based on a comparison of the data to the NYSDEC (1993, 1995) standards and guidance values discussed previously, and to concentrations of these chemical constituents typical of background soil conditions, as cited in references. For organic compounds in soil, site data was compared to background levels of PAHs in northeastern urban soils (Dragun, 1994). For metals, site data was compared to background concentrations as reported in several references (NYSDEC, 1995; USGS, 1984; EPA, 1983). The presence of hazardous substances or petroleum detected at the RECs discussed below exceeded these threshold levels.

5.1 Area 1

5.1.1 Area 1A

Groundwater: Three monitoring wells (GW1A-1, GW1A-2 and GW1A-4) were sampled to investigate the groundwater conditions around the tank field. Laboratory analysis indicated that VOCs were present at these wells; the highest concentration detected was 383 ug/L. The compound detected at the highest concentration was tetrachloroethene. Certain metals (cadmium, chromium, iron, lead, manganese) were also present in excess of NYSDEC (1993) standards or site background.

5.1.2 Area 1B

Ash Disposal Pile: Three test pit areas (TP1B-2A, TP1B-2B, TP1B-2C) were completed, which encountered disposed ash and debris. Several metals (arsenic, vanadium, mercury, nickel, selenium, and zinc) exceeded the NYSDEC (1995) guidance values, as well as levels detected in other soils on-site. Asbestos was also present within the test pits.

5.2 Area 2

Laboratory Septic/Leachfield: A soil boring, SB2-2, was installed to investigate the septic/leachfield associated with the laboratory on-site. Laboratory analysis determined that mercury exceeded the NYSDEC (1995) guidance value.

23 kV Feeder Substation: Surficial soil sample SS2-3, was collected from the base of two transformers. Copper and zinc exceeded the NYSDEC (1995) guidance values; due to the restricted access to this area, the presence of these analytes are not anticipated to present a risk of material harm to public health or the environment. If the use of this area changes to a higher exposure scenario, the presence of these analytes would need to be evaluated in the context of the revised usage scenario.

Boiler Waste Pit: Soil boring, SB2-3, was installed in an area where boiler rinsate waste water was known to be disposed of. Laboratory analysis determined that the PCB concentration in the soil sample exceeded the NYSDEC (1995) guidance value for subsurface soil.

Debris Piles; *West Side of Area 2*: Three test pit areas (TP2-1, TP2-2, TP2-3) were completed to investigate the numerous debris piles located in Area 2. Mercury exceeded the NYSDEC (1995) guidance values in two of the test pits, and also exceeded levels detected in other soils on-site.

5.3 Area 3

Wastewater/Condensate Accumulation Area: Soil borings SB3-1, SB3-1R, SB3-1A, SB3-1B, and SB3-1C were installed near the northeast corner of Area 3, where the facility's wastewater and gas condensate were formerly managed. Soil discoloration was noted at approximately 5 to 8 feet below grade. Upon analysis, VOCs and SVOCs were detected that exceeded the NYSDEC (1995) guidance values.

Former Gas Holder Foundation: Soil borings SB3-4 and SB3-5, were installed in the drywells of the former gas holder foundation. Sediment deposits were collected and analyzed. Upon analysis, certain metals (cadmium, copper, iron, mercury, zinc) exceeded the NYSDEC (1995) guidance values, as well as levels detected in other soils on-site. Because of the confined nature of the sample location (drywell bottom), the presence of these analytes is not anticipated to present a risk of material harm to public health or the environment. If the use of this area

changes to a higher exposure scenario, the presence of these analytes would need to be evaluated in the context of the revised usage scenario.

Yard Storage Area: Surface soil samples (SS3-1, SS3-2) detected PCBs; one of the samples exceeded the NYSDEC guidance value for surface soil. Mercury was also detected in those samples in excess of the NYSDEC guidance values.

6.0 REFERENCES

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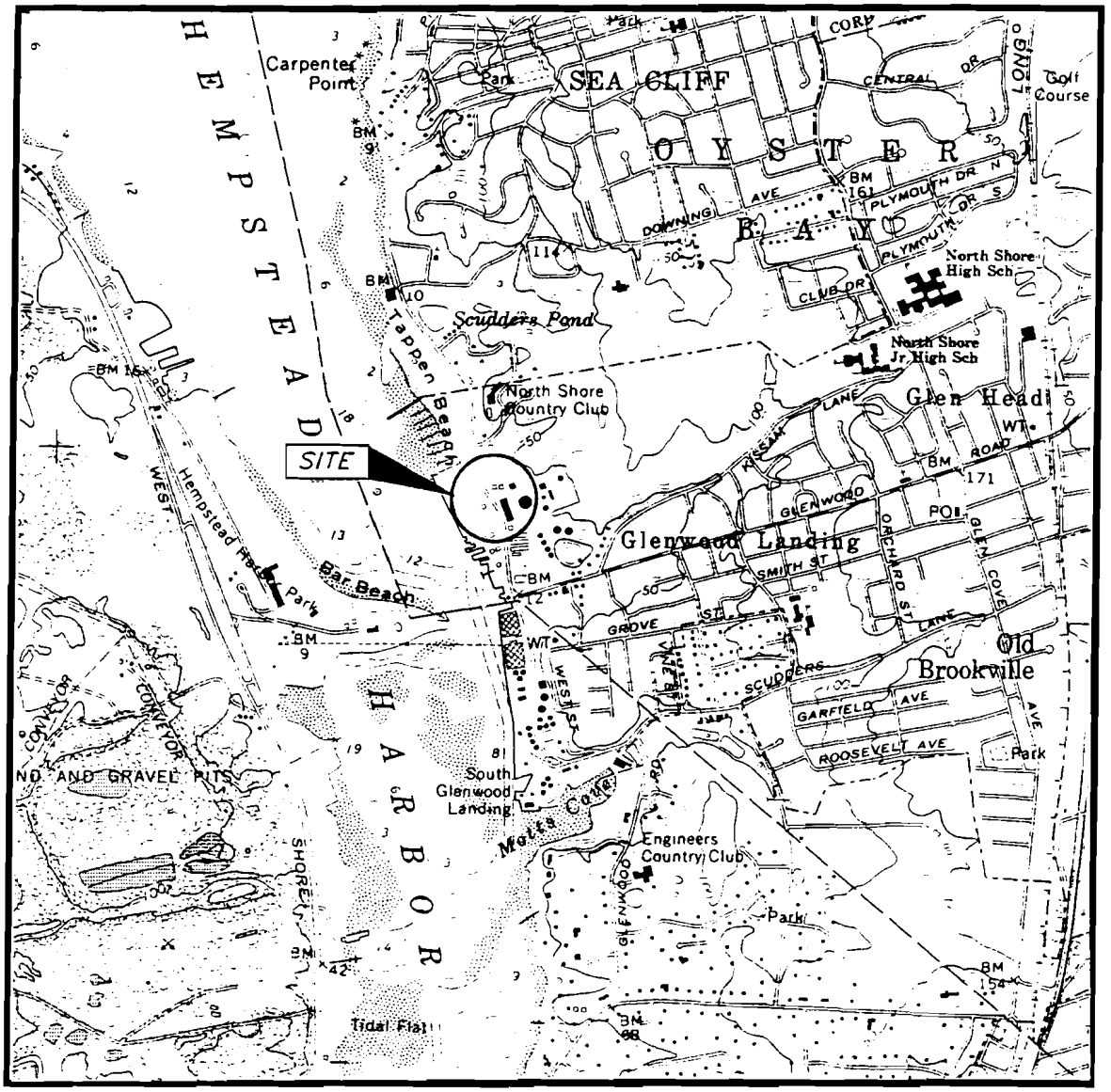
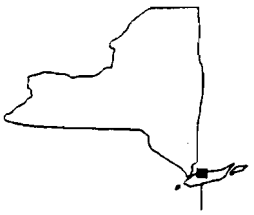
FIGURES



SOURCE: U.S.G.S. TOPOGRAPHIC QUADRANGLE
SEA CLIFF, N.Y.
7.5 MINUTE SERIES
1968/PHOTOREVISED 1979



QUADRANGLE LOCATION

SCALE 1:24,000

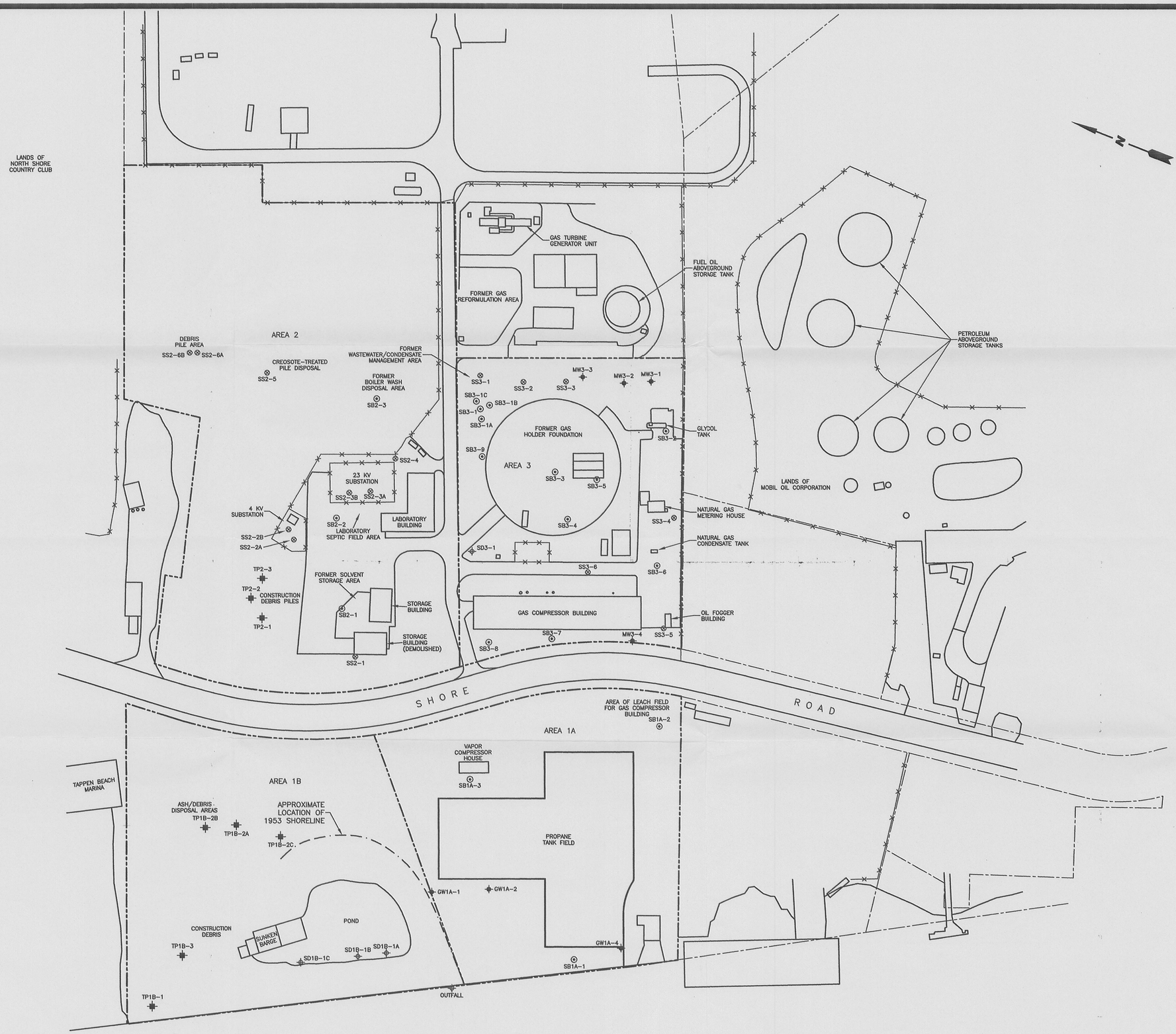
0 2,000 4,000

SCALE FEET

N

IT CORPORATION
A Member of The IT Group
101-1 COLIN DRIVE
HOLBROOK, N.Y. 11741
(516) 472-4000

DESIGNED:	SITE LOCATION	
RH		
DETAILED:	CLIENT: KEYSPAN ENERGY CORPORATION	DRAWING DATE: 1/26/99
TS		
CHECKED:	LOCATION: GLENWOOD GAS PLANT GLENWOOD, NEW YORK	FIGURE: 1
RH		



NO.	DATE	BY	REVISION

LEGEND

- MONITORING WELL
- SOIL BORING
- SEDIMENT SAMPLE
- SURFACE SOIL SAMPLE
- TEST PIT
- FENCE
- SITE BOUNDARY
- ADJACENT PROPERTY BOUNDARY

BASE MAP SOURCE:
DRAWINGS AND AERIAL PHOTOGRAPHS BY LONG ISLAND LIGHTING COMPANY

80 0 80 160
SCALE FEET

SIGNATURE	DATE
REVIEW ENGR:	
PROJECT ENGR:	
PROJECT MGR:	
CLIENT:	

FLUOR DANIEL GTI
13 BRITISH AMERICAN BLVD.
ALBANY, NY 12110 (518) 783-1996

KEYSPAN ENERGY CORPORATION

GLENWOOD GAS PLANT
GLENWOOD LANDING, NEW YORK

RECOGNIZED ENVIRONMENTAL CONDITION (REC) SAMPLING LOCATIONS

DESIGNED BY:	DETAILED BY:	CHECKED BY:
RAH	DEO	

DRAWING DATE:	ACAD FILE:
12/28/98	8127-REC
PROJECT NO.:	CONTRACT:
108127	
FIGURE:	REVISION:
2	-

TABLES

Table 1 Potential Substances of Concern and Project Analyte List		
Potential Substances of Concern	**Analyte Class**	**Project Analytical Method**
Kerosene; Gasoline; #2 Fuel Oil	Pet. VOCs; Pet. PAHs (SVOCs - B/N)	EPA Method 8021; 8270 (B/N)
Lube Oil	Pet. PAHs (SVOCs -B/N)	EPA Method 8270 (B/N)
Dielectric Oil (non-PCB)	Pet. PAHs (SVOCs -B/N)	EPA Method 8270 (B/N)
Dielectric Oil (PCB-containing)	Pet. PAHs (SVOCs -B/N) PCBs	EPA Method 8270 (B/N) EPA Method 8080
Coal combustion by-products	Metals	Target Analyte List metals
Solvents	Volatile organic compounds	EPA Method 8260
Gas Condensate	PCBs	EPA Method 8080
Gas Meter Components	Mercury	Target Analyte List metals
Lab wastes	Volatile organic compounds Petroleum PAHs; phenols; phthalates (SVOCs -B/N/A) PCBs Metals	EPA Method 8260 EPA Method 8270 (B/N/A) EPA Method 8080 Target Analyte List metals
Treated poles	Petroleum PAHs; creosote (SVOCs -B/N/A) Metals	EPA Method 8270 (B/N/A) Target Analyte List
Weed killers; turf formulations	Pesticides Herbicides Metals	EPA Method 8080 EPA Method 8015 Target Analyte List
Boiler blowdown wastes	Petroleum PAHs (SVOCs -B/N) Metals pH	EPA Method 8270 (B/N) Target Analyte List Standard Methods

Table 2 REC Sampling Plan Area 1A, Glenwood Landing, New York			
Description of REC	**Sampling Location Label**	**Sample Quantity/Matrix**	**Compound/Analyte List**
Sanitary Leaching Field in Southeast Corner	SB1A-2	1/soil	VOCs, SVOCs (B/N/A); PCBs; Metals
Compressor Building Area	SB1A-3	1/soil	SVOCs (B/N); PCBs; Metals
General Fill Deposits	SB1A-1	1/ soil	VOCs, SVOCs (B/N/A); PCBs, Metals
Groundwater	GW1A-1; GW1A-2; GW1A-4	3/groundwater	VOCs, SVOCs (B/N/A); PCBs; Metals

Table 2 REC Sampling Plan Area 1B, Glenwood Landing, New York			
Description of REC	**Sampling Location Label**	**Sample Quantity/Matrix**	**Compound/Analyte List**
Mixed Construction Debris Piles	TP1B-3	1/soil	VOCs, SVOCs (B/N/A); PCBs, Metals
Shoreline Fill Area	TP1B-1	1/soil	VOCs, SVOCs (B/N/A); PCBs, Metals
Pond Sediment	SD1B-1a - SD1B-1c	1/composite sediment	VOCs (grab); SVOCs (B/N/A); PCBs, Metals
Ash Disposal Areas	TP1B-2a - TP1B-2c	1/composite soil	VOCs (grab); SVOCs (B/N/A); PCBs, Metals

Table 2 REC Sampling Plan Area 2, Glenwood Landing, New York			
Description of REC	**Sampling Location Label**	**Sample Quantity/Matrix**	**Compound/Analyte List**
Laboratory Septic/Leachfield	SB2-2	1/soil	VOCs; SVOCs (B/N/A); PCBs, pH, Metals
4 kV Feeder Substation	SS2-2a; SS2-2b	1/composite soil	SVOCs (B/N); PCBs; Metals
23 kV Feeder Substation	SS2-3a; SS2-3b	1/composite soil	SVOCs (B/N); PCBs; Metals
Former Paint/Solvent/Fuel Storage Building Foundation	SS2-1	1/soil	VOCs, SVOCs (B/N/A); pestcides/PCBs; herbicides; Metals
Former Oil/solvent storage area	SB2-1	1/soil	VOCs, SVOCs (B/N/A); pesticides/PCBs; herbicides; Metals
60 Debris Piles, West Portion of Parcel	TP2-1 - TP2-3	3/soil	VOCs; SVOCs (B/N/A); PCBs; Metals
Creosote-treated tie disposal area	SS2-5	1/soil	SVOCs (B/N/A); pesticides/PCBs; herbicides; Metals
Debris Piles in Woods	SS2-6	1/soil	VOCs; SVOCs (B/N/A); PCBs; Metals
Boiler Waste Pit	SB2-3	1/soil	VOCs; SVOCs (B/N/A); PCBs, pH; Metals
Lab Container/Waste Storage Area	SS2-4	1/soil	VOCs, SVOCs (B/N/A); pesticides/PCBs; herbicides; Metals

Table 2 REC Sampling Plan Area 3, Glenwood Landing, New York			
Description of REC	**Sampling Location Label**	**Sample Quantity/Matrix**	**Compound/Analyte List**
Former Gas Holding Tank	SB3-3; SB3-4; SB3-5; SB3-9	4/soil	Pet. VOCs; SVOCs (B/N); PCBs; Metals
Former Waste Water Management / Gas Drip Pump Hosue Area	SB3-6	1/soil	Pet. VOCs; SVOCs (B/N); PCBs; Metals
Storm Water System	SD3-1	1/sediment	VOCs; SVOCs (B/N/A); PCBs; Metals
Scrubber Condensate Blowdown Area	SS3-4	1/soil	SVOCs (B/N); PCBs; Metals
Ethylene Glycol Tank	SB3-2	1/soil	Ethylene Glycol
Waste Oil Tank 008 Area	MW3-4	1/groundwater	VOCs, SVOCs (B/N); PCBs; Metals
Gas Compressor Building	SB3-7; SB3-8	2/soil	VOCs, SVOCs (B/N); PCBs; Metals
Oil Fogger Building	SS3-5	1/soil	Pet. VOCs; SVOCs (B/N); PCBs, Metals
Yard Storage Areas	SS3-1 - SS3-3	3/soil	SVOCs (B/N/A); pesticide/PCBs; herbicides; Metals
Former AST Located Uphill of Parcel	MW3-1 - MW3-3	3/groundwater	Pet. VOCs; SVOCs (B/N); PCBs; Metals
Wastewater/Condensate Accumulation Area	SB3-1	1/soil	VOCs, SVOCs (B/N); PCBs; Metals

Table 3 REC Assessment Summary Area 1 Glenwood Gas Plant, Glenwood Landing, NY			
Description of REC	**Sampling Locations**	**Sample Matrix**	**Sampling Result Summary**
Sanitary Leaching Field in Southeast Corner	SB1A-2	soil	VOCs: **ND**; Total SVOCs: **1.04 ppm**; PCBs: **ND**; **iron: 5447 ppm**, **zinc: 29.6 ppm**
Compressor Building	SB1A-3	soil	Total SVOCs: **.071 ppm**; PCBs: **ND** **iron: 4055 ppm**
General Fill Deposits	SB1A-1	soil	VOCs: **ND**; Total SVOCs: **.307ppm**; PCBs: **ND** **iron: 3632 ppm, mercury: 0.27 ppm**
Groundwater	GW1A-1 GW1A-2 GW1A-4	water	VOCs: **163 ppb**; Total SVOCs: **6 ppb**; PCBs: **ND**; **iron: 22.2 ppm, lead: 0.204 ppm, manganese: 1.25 ppm, zinc: 0.323 ppm, sodium: 20 ppm** VOCs: **30 ppb**;Total SVOCs: **3 ppb**; PCBs:**ND** **iron: .361 ppm, zinc: 0.84 ppm** VOCs: **383ppb**;Total SVOCs: **4ppb**; PCBs:**ND** **cadmium: 0.013 ppm, chromium: 2.03 ppm, copper: 0.339 ppm, iron: 147 ppm, lead: 0.206 ppm, selenium: 0.011 ppm, zinc: 0.51 ppm, beryllium: 0.003 ppm, sodium: 22 ppm**
Debris Piles	TP1B-3	soil	VOCs: **ND**; Total SVOCs: **1.06 ppm**;PCBs: **ND** **iron: 6125ppm, nickel:44ppm, zinc:40.8ppm**
Shoreline Fill Area	TP1B-1	soil	VOCs: **ND**;Total SVOCs: **4.58 ppm**; PCBs:**ND** **iron: 6496 ppm, nickel: 20.9 ppm, zinc: 64 ppm**
Pond Sediments	SD1B-1	soil	VOCs: **ND**; Total SVOCs: **.144 ppm**; PCBs:**ND** **copper: 38.6 ppm, iron: 3320 ppm, nickel: 44 ppm, zinc: 40.8 ppm**
Ash Disposal Piles	TP1B-2	soil	VOCs: **ND**; Total SVOCs: **1.910 ppm**; PCBs:**ND**; **arsenic: 20.7 ppm, chromium: 37.9 ppm, copper: 289 ppm, iron: 11500 ppm, mercury: 10.9 ppm, nickel: 2700 ppm, selenium: 4.7 ppm, vanadium: 13600 ppm, zinc: 108 ppm**
Outfall Sediments	OUTFALL	soil	PCBs: **ND, zinc: 95.6 ppm**

Key:

VOC = volatile organic compounds PAH = polynuclear aromatic hydrocarbons
PCB = polychlorinated biphenyls ppm = part per million ppb = part per billion
Metals = Target Analyte List (TAL) metals: Only concentrations above NYSDEC standards/guidance reported here.
ND = Analyte not detected above practical quantitation limit
SS = surface soil SB = soil boring TP = test pit

#161reps\keyspan\table3.599

Table 3
REC Assessment Summary - Area 2
Glenwood Gas Plant, Glenwood Landing, NY

Description of REC	Sampling Locations	Sample Matrix	Sampling Result Summary
Laboratory Septic/Leaching Field	SB2-2	soil	VOCs: **ND**; Total SVOCs: **.05 ppm**; PCBs: **ND** pH: **7.6**; **iron: 4380 ppm, mercury: 5.35 ppm**
4 kV Electrical Feeder Substation	SS2-2	soil	Total SVOCs: **1.447 ppm**; PCBs: **ND** **iron: 5760 ppm**
23 kV Electrical Feeder Substation	SS2-3	soil	Total SVOCs: **.036 ppm**; PCBs: **ND** **cadmium: 1.07 ppm, copper: 194 ppm, iron: 4717 ppm, zinc: 302 ppm**
Former Paint/Solvent/ Fuel Storage Building	SS2-1	soil	VOCs: **ND**; Total SVOCs: **.171ppm**; PCBs: **ND** Pesticides: **.013 ppm**; Herbicides: **ND**; **iron: 8257 ppm, zinc: 47.4 ppm**
Former Oil/Solvent Storage Area	SB2-1	soil	VOCs: **ND**; Total SVOCs: **.210 ppm**; PCBs:**ND** Pesticides: **.010 ppm**; Herbicides: **ND**; **iron: 3947 ppm**
Debris Piles in West Portion of Site	TP2-1 TP2-2 TP2-3	soil	VOCs:**ND**;Total SVOCs: **2.082 ppm**;PCBs:**ND** **iron: 7440 ppm, mercury: 17.3 ppm, zinc: 35.4 ppm** VOCs: **ND**; Total SVOCs: **422 ppb**; PCBs: **ND** **iron: 5460 ppm, mercury: 0.35ppm** VOCs: **ND**; Total SVOCs: **975 ppb**; PCBs:**ND** **iron: 5563 ppm, zinc: 31.6 ppm**
Creosote-treated Tie Disposal Area	SS2-5	soil	Total SVOCs: **.033 ppm**; PCBs: **ND** Pesticides: **ND**; Herbicides: **ND**; **iron: 6050 ppm, mercury: 0.27 ppm**
Debris Piles in Woods	SS2-6	soil	VOCs: **ND**;Total SVOCs: **.295 ppm**; PCBs: **ND**; **Iron: 8110 ppm, mercury: 0.31 ppm, zinc: 104 ppm**
Boiler Waste Pit	SB2-3	soil	VOCs:**ND**;TotalSVOCs:**2.59ppm**;PCBs:**81ppm** pH: **7.97**; **iron: 4933 ppm, nickel: 18.9 ppm**
Lab Container/Waste Storage Area	SS2-4	soil	Pet. VOCs: **ND**; Total SVOCs: **.280 ppm**; PCBs: **ND**Pesticides: **.010 ppm**; Herbicides:**ND**; **chromium: 21.4 ppm, iron: 8947ppm, nickel: 191 ppm, vanadium: 681 ppm, zinc:115 ppm**

Key:

VOC = volatile organic compounds PAH = polynuclear aromatic hydrocarbons
PCB = polychlorinated biphenyls ppm = part per million ppb = part per billion
Metals = Target Analyte List (TAL) metals: Only concentrations above NYSDEC standards/guidance reported here.
ND = Analyte not detected above practical quantitation limit
SS = surface soil SB = soil boring TP = test pit

Table 3
REC Assessment Summary - Area 3
Glenwood Gas Plant, Glenwood Landing, NY

Description of REC	Sampling Locations	Sample Matrix	Sampling Result Summary
Former Gas Holder Foundation	SB3-3	soil	VOCs: **ND**; Total SVOCs: **4.890 ppm**; PCBs: **ND**; **cadmium: 2.46 ppm, chromium: 26.3 ppm, copper: 70 ppm, iron: 23400 ppm, nickel: 16.2 ppm, zinc: 150 ppm**
	SB3-4		VOCs: **ND**; Total SVOCs: **16.880 ppm**; PCBs: **ND**; **arsenic:20.1 ppm, cadmium: 7.59 ppm, chromium: 46 ppm, copper: 212 ppm, iron: 25500 ppm, mercury: 1.12 ppm, nickel: 44.5 ppm, selenium: 2.11 ppm, zinc: 657 ppm**
	SB3-5		VOCs: **ND**;Total SVOCs: **4.103 ppm**; PCBs: **ND**; **cadmium: 23 ppm, chromium: 37 ppm, copper: 356 ppm, iron: 15000 ppm, mercury: 3.03 ppm, nickel: 31.7 ppm, zinc: 1520 ppm**
	SB3-9 SB3-9A		Pet.VOCs:**ND**; TotalSVOCs:**.103ppm**; PCBs:**ND** Pet. VOCs: **ND**; Total SVOCs: **ND**; PCBs: **ND**
Storm Collection Water System	SD3-1	soil	VOCs: **ND**; Total SVOCs: **.164 ppm**; PCBs: **ND**; **cadmium: 1.35 ppm, chromium: 28.5 ppm, copper: 47.5 ppm, iron: 15600 ppm, mercury: 0.6 ppm, nickel: 16.4 ppm, zinc: 57.5 ppm**
Scrubber Condensate Blowdown Area	SS3-4	soil	Total SVOCs: **1.535 ppm**; PCBs: **0.8 ppm**; **iron: 4686 ppm, mercury: 0.52 ppm, zinc: 141 ppm**
Ethylene Glycol Tank	SB3-2	soil	Ethylene Glycol: **ND**
Waste Oil Tank 0008	MW3-4	water	VOCs: **ND**; Total SVOCs: **ND**; PCBs: **ND**; **iron: 58.1 ppm, lead: 0.035 ppm, manganese: 1.31 ppm**
Gas Compressor Building	SB3-7 SB3-8	soil	VOCs: **ND**; Total SVOCs: **ND**; PCBs: **ND** **iron: 5174 ppm** VOCs: **24 ppb**; Total SVOCs: **ND**; PCBs: **ND** **iron: 5661 ppm**

Key:

VOC = volatile organic compounds PAH = polynuclear aromatic hydrocarbons
PCB = polychlorinated biphenyls ppm = part per million ppb = part per billion
Metals = Target Analyte List (TAL) metals: Only concentrations above NYSDEC standards/guidance reported here.
ND = Analyte not detected above practical quantitation limit
SS = surface soil SB = soil boring TP = test pit

Table 3 REC Assessment Summary - Area 3 (continued) Glenwood Gas Plant, Glenwood Landing, NY			
Description of REC	**Sampling Locations**	**Sample Matrix**	**Sampling Result Summary**
Oil Fogger Building	SS3-5	soil	Pet. VOCs: **ND**; Total SVOCs: **25.940 ppm**; PCBs: **ND**; **iron: 5488 ppm, mercury: 1 ppm, zinc: 100 ppm**
Yard Storage Areas	SS3-1	soil	Total SVOCs: **.037 ppm**; PCBs: **1.5 ppm** Pesticides: **ND**; Herbicides: **ND**; **iron: 5949 ppm, mercury: 0.94 ppm**
	SS3-2		Total SVOCs: **.065 ppm**; PCBs: **0.3 ppm** Pesticides: **ND**; Herbicides: **ND**; **chromium: 18.7 ppm, iron: 10615 ppm, mercury: 1.04 ppm, zinc: 35 ppm**
	SS3-3		Total SVOCs: **.371 ppm**; PCBs: **ND** Pesticides: **ND**; Herbicides: **ND**; **chromium: 11.1 ppm, iron: 5654 ppm**
Former AST Located Uphill of Parcel	MW3-1	water	Pet. VOCs: **ND**; Total SVOCs: **1 ppb**; PCBs: **ND**; **iron: 2.06 ppm,**
	MW3-2		Pet. VOCs: **ND**; Total SVOCs: **1 ppb**; PCBs: **ND**; **iron: 1.78 ppm**
	MW3-3		Pet. VOCs: **3 ppb**; Total SVOCs: **1 ppb**; PCBs: **ND**; **iron: 1.06**
Wastewater/Condensate Accumulation Area	SB3-1	soil	VOCs: **.140 ppm**; Total SVOCs: **1.615 ppm**; PCBs: **ND**; **chromium: 25 ppm, iron: 6140 ppm, zinc: 59.4 ppm**
	SB3-1R		Pet. VOCs: **ND**; Total SVOCs: **2.554 ppm**; PCBs: **ND**
	SB3-1A		Pet. VOCs: **.044 ppm**; Total SVOCs: **ND**; PCBs: **ND**
	SB3-1B		Pet. VOCs: **.740 ppm**;Total SVOCs:**.110 ppm**; PCBs: **ND**
	SB3-1C		Pet. VOCs: **.054 ppm**; Total SVOCs: **ND**; PCBs: **ND**
Transformer Area	SS3-6	soil	VOCs: **ND**; Total SVOCs: **165.200 ppm**; PCBs: **ND**; **cadmium: 1.6 ppm, chromium 11.5 ppm, copper: 76.8 ppm, iron: 6690 ppm, zinc: 1150 ppm**

Key:

VOC = volatile organic compounds PAH = polynuclear aromatic hydrocarbons
PCB = polychlorinated biphenyls ppm = part per million ppb = part per billion
Metals = Target Analyte List (TAL) metals: Only concentrations above NYSDEC standards/guidance reported here.
ND = Analyte not detected above practical quantitation limit
SS = surface soil SB = soil boring TP = test pit

APPENDIX A

SAMPLING LOGS

TEST PIT LOGS
GLENWOOD LANDING GAS PLANT
GLENWOOD LANDING, NEW YORK 11579

TEST PIT	DEPTH (Ft. b.g.)	PID RESULT (PPM)	SOIL LITHOLOGY
TP1B-1	0' - 1'	0	Brown Medium Damp SAND
	2' - 4'	0	Dark Brown Moist SAND, little gravel.
			Water at 3.5' below grade.
TP1B-2A	0" - 9"	0	White-brown Dry Medium SAND.
	9" - 1'	0	Black Fine ASH.
	2' - 4'	0	Mixed layers of Brown Medium SAND and Black ASH.
	4'+	0	Black Fine ASH, little Brown Sand.
TP1B-2B	0' - 1'	0.0	Brown Medium SAND, Little gravel, Little Cobble.
	1' - 2'	0	Light Brown Medium to Fine SAND.
	2'+	0	Black Fine ASH.
TP1B-2C	0" - 1'	0	Brown Medium SAND.
	1' - 2'	0	Black Medium-Fine ASH
			Some broken electrical cables present, trace asbestos.
	2' - 4'	0.0	Brown Medium SAND, trace gravel.
	4'+	0.0	Black Fine ASH.
TP1B-3	0' - 1.5'	0	Brown Dry Medium SAND.
	1.5' - 3.5'	0	Dark Brown Moist SAND, little gravel, trace coarse sand.
TP2-1	0" - 8"	0	Organic layer with roots. (peat)
	8" - 2.5'	0	Brown Medium SAND, some gravel, trace coarse sand.
TP2-2	0" - 4"	0	Organic layer with roots. (peat)
	4" - 1'	0	Brown Coarse to Medium SAND, some gravel.
	1' - 3'	0	Light Brown Medium to Fine SAND, trace gravel.
TP2-3	0" - 3"	0	Organic layer with roots. (peat)
	3" - 2'	0	Brown Medium to fine SAND, little gravel.
	2' - 3.5'	0.0	Light Brown Medium to Fine SAND, little gravel.

Drilling Log

FLUOR DANIEL GTI

Soil Boring SB1A-1

Project Glenwood Gas Plant Owner KEYSPAN
Location Shore Road, Glenwood, N.Y. Proj. No. 108127
Surface Elev. ____ Total Hole Depth 7 ft. Diameter 2 in.
Top of Casing ____ Water Level Initial 7 ft. Static ____
Screen: Dia ____ Length ____ Type/Size ____
Casing: Dia ____ Length ____ Type ____
Fill Material ____ Rig/Core ____
Drill Co. Impact Method Geoprobe
Driller Charlie Log By Erik Gustafson Date 12/8/98 Permit # ____
Checked By ____ License No. ____

See Site Map For Boring Location

COMMENTS:

Took a grab sample (SB1A-1) from 4 - 7 ft. Took a composite sample (SB1A-1) from 0 - 4 ft.

Depth (ft.)	PID (ppm)	Sample ID	Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2						
0	0.0				SW	(0-2') Brown to light brown, dry, fine to medium SAND, trace of gravel.
2	0.0	SB1A-1 (comp)			SW	(2'-4') Same as above.
4	0.0	SB1A-1 (grab)			SW	(4'-7') Brown, medium to coarse SAND, trace of gravel. Saturated at 7 feet.
6						End of Exploration at 7 feet.
8						
10						
12						
14						
16						

Drilling Log

FLUOR DANIEL GTI

Soil Boring SB1A-2

Project Glenwood Gas Plant Owner KEYSPAN
Location Shore Road, Glenwood, N.Y. Proj. No. 108127
Surface Elev. ____ Total Hole Depth 7 ft. Diameter 2 in.
Top of Casing ____ Water Level Initial 6 ft. Static ____
Screen: Dia ____ Length ____ Type/Size ____
Casing: Dia ____ Length ____ Type ____
Fill Material ____ Rig/Core ____
Drill Co. Impact Method Geoprobe
Driller Charlie Log By Erik Gustafson Date 12/8/98 Permit # ____
Checked By ____ License No. ____

See Site Map For Boring Location

COMMENTS:

Took a composite sample (SB1a-2) from 3 - 5 ft. Took a grab sample (SB1A-2) from 5 - 7 ft.

Depth (ft.)	PID (ppm)	Sample ID	Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2						
0					BS	
	0.0				SW	(0-2') Brown, dry, medium SAND, roots.
2						
					SW	(2'-5') Brown, dry, medium SAND, little gravel, little cobbles.
4	0.0	SB1A-2 (comp)				
					GW	(5'-5.3') 4 inch cobble layer.
6	0.0	SB1A-2 (grab)			SP	(5.3'-7') Gray to black, coarse SAND, some gravel, little cobbles. Saturated at 6 feet.
8						End of Exploration at 7 feet.
10						
12						
14						
16						

Drilling Log

FLUOR DANIEL GTI

Soil Boring SB1A-3

Project *Glenwood Gas Plant* Owner *KEYSPAN*
Location *Shore Road, Glenwood, N.Y.* Proj. No. *108127*
Surface Elev. _____ Total Hole Depth *7 ft.* Diameter *2 in.*
Top of Casing _____ Water Level Initial _____ Static _____
Screen: Dia _____ Length _____ Type/Size _____
Casing: Dia _____ Length _____ Type _____
Fill Material _____ Rig/Core _____
Drill Co. *Impact* Method *Geoprobe*
Driller *Charlie* Log By *Erik Gustafson* Date *12/8/98* Permit # _____
Checked By _____ License No. _____

See Site Map For Boring Location

COMMENTS:

Took a composite and a grab sample (SB1A-3) from 0 - 5 ft.

Depth (ft.)	PID (ppm)	Sample ID	Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2						
0	0.0				SW	(0-2') Brown to light brown, dry, medium SAND, little coarse sand, trace of gravel.
2						
4	0.0	SB1A-3			SW	(2'-5') Brown, dry, fine to medium sand, trace of coarse sand. Discolored soil at 5 feet.
6	0.0				SW	(5'-7') Brown, medium SAND, trace of gravel.
8						End of Exploration at 7 feet.
10						
12						
14						
16						

Drilling Log

FLUOR DANIEL GTI

Soil Boring SB2-1

Project Glenwood Gas Plant Owner KEYSPAN
Location Shore Road, Glenwood, N.Y. Proj. No. 108127
Surface Elev. ____ Total Hole Depth 7 ft. Diameter 2 in.
Top of Casing ____ Water Level Initial 6.5 ft. Static ____
Screen: Dia ____ Length ____ Type/Size ____
Casing: Dia ____ Length ____ Type ____
Fill Material ____ Rig/Core ____
Drill Co. Impact Method Geoprobe
Driller Charlie Log By Erik Gustafson Date 12/8/98 Permit # ____
Checked By ____ License No. ____

See Site Map For Boring Location

COMMENTS:

Took a composite sample (SB2-1) from 0 - 2 ft. Hand augered soil boring.

Depth (ft.)	PID (ppm)	Sample ID	Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2						
0						
2	0.0	SB2-1			SW	(0-2') Dark brown, dry, coarse SAND, trace of medium sand, trace of gravel.
4	0.0				SW	(2'-5') Brown, medium SAND, trace of fine sand.
6	0.0				SW ▽	(5'-7') Brown, moist, medium to fine SAND. Saturated at 6.5 feet.
8						End of Exploration at 7 feet.
10						
12						
14						
16						

Drilling Log

FLUOR DANIEL GTI

Soil Boring SB2-2

Project Glenwood Gas Plant Owner KEYSPAN
Location Shore Road, Glenwood, N.Y. Proj. No. 108127
Surface Elev. ____ Total Hole Depth 7 ft. Diameter 2 in.
Top of Casing ____ Water Level Initial 7 ft. Static ____
Screen: Dia ____ Length ____ Type/Size ____
Casing: Dia ____ Length ____ Type ____
Fill Material ____ Rig/Core ____
Drill Co. Impact Method Geoprobe
Driller Charlie Log By Erik Gustafson Date 12/8/98 Permit # ____
Checked By ____ License No. ____

See Site Map For Boring Location

COMMENTS:

Took a composite sample (SB2-2) from 5 - 7 ft.

Depth (ft.)	PID (ppm)	Sample ID	Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2						
0						
2	0.0				SP	(0-2') Brown, dry, coarse SAND, some gravel, little cobbles.
4	0.0				SP	(2'-5') Same as above.
6	0.0	SB2-2			SP	(5'-7') Brown, dry, medium to fine SAND, little gravel. Saturated at 7 feet.
8						End of Exploration at 7 feet.
10						
12						
14						
16						

Drilling Log

FLUOR DANIEL GTI

Soil Boring SB2-3

Project Glenwood Gas Plant Owner KEYSPAN
Location Shore Road, Glenwood, N.Y. Proj. No. 108127
Surface Elev. ____ Total Hole Depth 6.5 ft. Diameter 2 in.
Top of Casing ____ Water Level Initial 6.5 ft. Static ____
Screen: Dia ____ Length ____ Type/Size ____
Casing: Dia ____ Length ____ Type ____
Fill Material ____ Rig/Core ____
Drill Co. Impact Method Geoprobe
Driller Charlie Log By Erik Gustafson Date 12/8/98 Permit # ____
Checked By ____ License No. ____

See Site Map For Boring Location

COMMENTS:

Took a composite sample (SB2-3) from 4 - 6.5 ft. Hand augered boring.

Depth (ft.)	PID (ppm)	Sample ID	Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2						
0					Pt	
	0.0				SW	(0-2') 2 inch organic layer (peat), then light brown, dry, medium SAND, some gravel, trace of red sand.
2	0.0				GW	(2'-4') Light brown to red, dry, medium SAND, trace of gravel. (4 inch red cobble layer at 3.5 feet).
4					SW	
					SW	
					SW	(5'-6.5') Red and brown, damp, fine to medium SAND, trace of gravel.
6	0.0	SB2-2				End of Exploration at 6.5 feet.
8						
10						
12						
14						
16						

Drilling Log

FLUOR DANIEL GTI

Soil Boring SB3-1

Project Glenwood Gas Plant Owner KEYSPAN
Location Shore Road, Glenwood, N.Y. Proj. No. 108127
Surface Elev. ____ Total Hole Depth 8 ft. Diameter 2 in.
Top of Casing ____ Water Level Initial 7 ft. Static ____
Screen: Dia ____ Length ____ Type/Size ____
Casing: Dia ____ Length ____ Type ____
Fill Material ____ Rig/Core ____
Drill Co. Impact Method Geoprobe
Driller Charlie Log By Erik Gustafson Date 12/8/98 Permit # ____
Checked By ____ License No. ____

See Site Map For Boring Location

COMMENTS:

Took a composite sample (SB3-1) from 2 - 5 ft. and from 5 - 8 ft. Took a grab sample (SB3-1) from 6.5 ft.

Depth (ft.)	PID (ppm)	Sample ID	Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
0					BS	(0-3") Blue Stone.
2	30.2				SW	(3"-2') Brown, medium to fine SAND, little cobbel, trace of coarse sand.
4	86.1	SB3-1 (comp)			SW	(2'-5') Brown, coarse to medium SAND, little cobble, trace of fine sand.
6	76.1	SB3-1 (grab)			SW	(5'-8') Gray to black, saturated, fine SAND, trace of medium sand. Discolored soil (odor).
8						End of Exploration at 8 feet.
10						
12						
14						
16						

Drilling Log

FLUOR DANIEL GTI

Soil Boring SB3-2

Project Glenwood Gas Plant Owner KEYSPAN
Location Shore Road, Glenwood, N.Y. Proj. No. 108127
Surface Elev. ____ Total Hole Depth 8 ft. Diameter 2 in.
Top of Casing ____ Water Level Initial 5 ft. Static ____
Screen: Dia ____ Length ____ Type/Size ____
Casing: Dia ____ Length ____ Type ____
Fill Material ____ Rig/Core ____
Drill Co. Impact Method Geoprobe
Driller Charlie Log By Erik Gustafson Date 12/8/98 Permit # ____
Checked By ____ License No. ____

See Site Map For Boring Location

COMMENTS:

Took a composite sample (SB3-2) from 2 - 5 ft.

Depth (ft.)	PID (ppm)	Sample ID	Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2						
0					Asp	(0-5") Asphalt/road base.
	201				SW	(5"-2') Light brown, fine to medium SAND.
2						
	371	SB3-2			SW	(2'-5') Light brown to white, fine SAND, trace of clay.
4						
						▽
6						
	4.7				SW	(5'-8') Light brown, fine SAND, trace of clay. Saturated.
8						End of Exploration at 8 feet.
10						
12						
14						
16						

Drilling Log

FLUOR DANIEL GTI

Soil Boring SB3-6

Project *Glenwood Gas Plant* Owner *KEYSPAN*

Location *Shore Road, Glenwood, N.Y.* Proj. No. *108127*

Surface Elev. _____ Total Hole Depth *8 ft.* Diameter *2 in.*

Top of Casing _____ Water Level Initial *6 ft.* Static _____

Screen: Dia _____ Length _____ Type/Size _____

Casing: Dia _____ Length _____ Type _____

Fill Material _____ Rig/Core _____

Drill Co. *Impact* Method *Geoprobe*

Driller *Charlie* Log By *Erik Gustafson* Date *12/8/98* Permit # _____

Checked By _____ License No. _____

See Site Map For Boring Location

COMMENTS:

Took a composite sample (SB3-2) from 3 - 8 ft. Took a grab sample (SB3-2) from 6 - 8 ft.

Depth (ft.)	PID (ppm)	Sample ID / Blow Count / % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2					
0				Asp	(0-9") Asphalt/road base.
	0			SW	(9"-3') Light brown, fine to medium SAND.
2				SW	
	1.8			CL	(3'-6') Yellow to white, wet, fine SAND. Iron staining at 5 feet. (4'-4'-2") 2 inch clay layer.
4				SW	
		SB3-2 (comp)			
6	13.3			SW	(6'-8') Brown, saturated, fine to medium SAND, trace of clay.
		SB3-2 (grab)			
8					End of Exploration at 8 feet.
10					
12					
14					
16					

Drilling Log

FLUOR DANIEL GTI

Soil Boring SB3-7

Project *Glenwood Gas Plant* Owner *KEYSPAN*
Location *Shore Road, Glenwood, N.Y.* Proj. No. *108127*
Surface Elev. _____ Total Hole Depth *8 ft.* Diameter *2 in.*
Top of Casing _____ Water Level Initial *6.5 ft.* Static _____
Screen: Dia _____ Length _____ Type/Size _____
Casing: Dia _____ Length _____ Type _____
Fill Material _____ Rig/Core _____
Drill Co. *Impact* Method *Geoprobe*
Driller *Charlie* Log By *Erik Gustafson* Date *12/8/98* Permit # _____
Checked By _____ License No. _____

See Site Map For Boring Location

COMMENTS:

Took a composite sample (SB3-7) from 5 - 7 ft.

Depth (ft.)	PID (ppm)	Sample ID	Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2						
0	0.0				SW	(0-2') Light brown/dark brown (organic), dry, fine sand, trace of gravel.
2						
4	0.0	SB3-2			SW	(2'-5') Brown, dry, medium SAND, trace of gravel.
6	0.2				SW	(5'-6.5') Brown, moist, fine to medium SAND. (6.5'-7') Gray, saturated, fine to medium SAND.
8						End of Exploration at 7 feet.
10						
12						
14						
16						

Drilling Log

FLUOR DANIEL GTI

Soil Boring SB3-8

Project *Glenwood Gas Plant* Owner *KEYSPAN*
Location *Shore Road, Glenwood, N.Y.* Proj. No. *108127*
Surface Elev. ____ Total Hole Depth *9.5 ft.* Diameter *2 in.*
Top of Casing ____ Water Level Initial *8 ft.* Static ____
Screen: Dia ____ Length ____ Type/Size ____
Casing: Dia ____ Length ____ Type ____
Fill Material ____ Rig/Core ____
Drill Co. *Impact* Method *Geoprobe*
Driller *Charlie* Log By *Erik Gustafson* Date *12/8/98* Permit # ____
Checked By ____ License No. ____

See Site Map For Boring Location

COMMENTS:

Took a composite sample (SB3-8) from 5 - 9.5 ft. Tok a grab sample (SB3-8) from 8 - 9.5 ft.

Depth (ft.)	PID (ppm)	Sample ID	Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2						
0						
2	0.0				SW	(0-2') Brown, dry, medium to coarse SAND, trace of fine sand, trace of cobble.
4	0.0				SW	(2'-5') Brown, dry, fine to medium SAND, trace of coarse sand, trace of gravel.
6	0.0				SW	(5'-8') Brown, damp, medium to coarse SAND, black organic layer at 7 feet.
8		SB3-8 (comp)				
	0.0	SB3-8 (grab)			SW	(8'-9.5') Gray-brown, saturated, fine sand. Organic layer at 8 feet.
10						End of Exploration at 9.5 feet.
12						
14						
16						

Drilling Log

FLUOR DANIEL GTI

Soil Boring SB3-9

Project Glenwood Gas Plant Owner KEYSPAN
Location Shore Road, Glenwood, N.Y. Proj. No. 108127
Surface Elev. ____ Total Hole Depth 8 ft. Diameter 2 in.
Top of Casing ____ Water Level Initial 7 ft. Static ____
Screen: Dia ____ Length ____ Type/Size ____
Casing: Dia ____ Length ____ Type ____
Fill Material ____ Rig/Core ____
Drill Co. Impact Method Geoprobe
Driller Charlie Log By Erik Gustafson Date 12/8/98 Permit # ____
Checked By ____ License No. ____

See Site Map For Boring Location

COMMENTS:

Took a composite sample (SB3-9) from 2 - 5 ft.

Depth (ft.)	PID (ppm)	Sample ID	Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2						
0					BI	(0-6") Bluestone.
	0.0				SP	(6"-2') Dark brown, fine to medium SAND, some coarse gravel, trace of coarse sand.
2					SW	
4	309	SB3-9			CL	(2'-5') Light brown, medium SAND, trace of coarse sand, trace of fine sand. (4'-4'-2") Gray clay layer.
					SW	
6	184				SW	(5'-8') Light brown, coarse SAND, little medium to fine sand, trace of cobbles. Saturated at 7 feet.
8						End of Exploration at 8 feet.
10						
12						
14						
16						

APPENDIX B

ANALYTICAL RESULTS SUMMARY

APPENDIX B

TABLE 1A
KEYSPAN GLENWOOD LANDING, NY 11547
SUMMARY OF SOIL ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS - AREA 1

		AREA 1							
COMPOUND	SOIL GUIDANC VALUE	SB1A-1 12/8/98	SB1A-2 12/8/98	TP1B-1 12/9/98	FDS-2 12/9/98	TP1B-2 12/9/98	FDS-1 12/10/98	TP1B-3 12/9/98	SD1B-1 12/10/98
Chloromethane	**	<2	<2	<2	<2	<11	<8	<2	<13
Bromomethane	**	<2	<2	<2	<2	<11	<8	<2	<13
Vinyl Chloride	200	<2	<2	<2	<2	<11	<8	<2	<13
Chloroethane	1900	<2	<2	<2	<2	<11	<8	<2	<13
Methylene Chloride	100	<2	<2	<2	<2	<11	<8	<2	<13
Acetone	200	<20	<23	<22	<22	<110	<85	<22	<130
Carbon disulfide	2700	<2	<2	<2	<2	<11	<8	<2	<13
1,1 Dichloroethene	400	<2	<2	<2	<2	<11	<8	<2	<13
1,1 Dichloroethane	200	<2	<2	<2	<2	<11	<8	<2	<13
1,2 Dichloroethene	300	<4	<5	<4	<4	<22	<17	<4	<26
Chloroform	300	<2	<2	<2	<2	<11	<8	<2	<13
1,2 Dichloroethane	100	<2	<2	<2	<2	<11	<8	<2	<13
2-Butanone	300	<20	<23	<22	<22	<110	<85	<22	<130
1,1,1 Trichloroethane	800	<2	<2	<2	<2	<11	<8	<2	<13
Carbon Tetrachloride	600	<2	<2	<2	<2	<11	<8	<2	<13
Bromodichloromethane	**	<2	<2	<2	<2	<11	<8	<2	<13
1,2 Dichloropropane	**	<2	<2	<2	<2	<11	<8	<2	<13
c-1,3 Dichloropropene	**	<2	<2	<2	<2	<11	<8	<2	<13
Trichloroethene	700	<2	<2	<2	<2	<11	27	<2	<13
Chlorodibromomethane	**	<2	<2	<2	<2	<11	<8	<2	<13
Benzene	60	<2	<2	<2	<2	<11	<8	<2	<13
t-1,3 Dichloropropene	**	<2	<2	<2	<2	<11	<8	<2	<13
Bromoform	**	<2	<2	<2	<2	<11	<8	<2	<13
4-Methyl-2-Pentanone	1000	<20	<23	<22	<22	<110	<85	<22	<130
2-Hexanone	**	<20	<23	<22	<22	<110	<85	<22	<130
Tetrachloroethene	1400	<2	<2	<2	<2	<11	<8	<2	<13
Toluene	1500	<2	<2	<2	<2	<11	<8	<2	<13
1,1,2,2 Tetrachloroethene	600	<2	<2	<2	<2	<11	<8	<2	<13
Chlorobenzene	1700	<2	<2	<2	<2	<11	<8	<2	<13
Ethyl Benzene	5500	<2	<2	<2	<2	<11	<8	<2	<13
Styrene	**	<2	<2	<2	<2	<11	<8	<2	<13
o Xylene	**	<2	<2	<2	<2	<11	<8	<2	<13
m + p Xylene	**	<4	<5	<4	<4	<22	<17	<4	<26
Xylene	1200	<6	<7	<7	<7	<33	<25	<7	<39

All results reported in ug/Kg.
Analysis Method: EPA 8260
Soil cleanup guidance values from NYSDEC, TAGM 4046, April 1995
** No guidance value published in this reference
Bold = exceeds guidance value

APPENDIX B

TABLE 1B
KEYSPAN GLENWOOD LANDING, NY 11547
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS - AREA 1

COMPOUND	GROUNDWATER STANDARD	AREA 1				
		GW1A-1 12/9/98	GW1A-2 12/9/98	GW1A-4 12/9/98	FDGW-1 12/9/98	EB 12/9/98
Chloromethane	**	<1	<1	<1	3	3
Bromomethane	5	<1	<1	<1	<1	<1
Vinyl Chloride	2	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1
Acetone	50*	20	30	17	30	31
Carbon Disulfide	**	<1	<1	<1	<1	<1
1,1 Dichloroethene	5	<1	<1	<1	<1	<1
1,1 Dichloroethane	5	3	<1	4	4	<1
1,2 Dichloroethene	5	**15**	<1	**31**	**29**	<2
Chloroform	7	<1	<1	2	2	<1
1,2 Dichloroethane	5	<1	<1	<1	<1	<1
2-Butanone	**	<10	<10	<10	<10	<10
1,1,1 Trichloroethane	5	3	<1	2	2	<1
Carbon Tetrachloride	5	<1	<1	<1	<1	<1
Bromodichloromethane	50*	<1	<1	<1	<1	<1
1,2 Dichloromethane	**	<1	<1	<1	<1	<1
c-1,3 Dichloropropene	5	<1	<1	<1	<1	<1
Trichloroethene	5	**18**	<1	**27**	**29**	<1
Chlorodibromomethane	**	<1	<1	<1	<1	<1
1,1,2 Trichloroethane	5	<1	<1	<1	<1	<1
Benzene	0.7	<1	<1	<1	<1	<1
t-1,3 Dichloropropene	5	<1	<1	<1	<1	<1
Bromoform	50*	<1	<1	<1	<1	<1
4-Methyl-2-Pentanone	**	<10	<10	<10	<10	<10
2-Hexanone	50*	<10	<10	<10	<10	<10
Tetrachloroethene	5	**110**	<1	**300**	**300**	<1
Toluene	5	<1	<1	<1	<1	<1
1,1,2,2 Tetrachloroethene	5	<1	<1	<1	<1	<1
Chlorobenzene	5	<1	<1	<1	<1	<1
Ethyl Benzene	5	<1	<1	<1	<1	<1
Styrene	5	<1	<1	<1	<1	<1
o Xylene	5	<1	<1	<1	<1	<1
m + p Xylene	5	<2	<2	<2	<2	<2
Xylene	5	<3	<3	<3	<3	<3

All results reported in ug/L.
Analysis Method: EPA 8260
Groundwater standards taken from NYSDEC, TOGS 1.1.1, October 1993
* Guidance value
** No guidance value published in this reference
Bold = exceeds guidance value

APPENDIX B

TABLE 1C
KEYSPAN GLENWOOD LANDING, NY 11547
SUMMARY OF SOIL ANALYTICAL RESULTS
SEMI-VOLATILE ORGANIC COMPOUNDS - AREA 1

		AREA 1								
COMPOUND	SOIL GUIDANCE VALUE	SB1A-1 12/8/98	SB1A-2 12/8/98	SB1A-3 12/8/98	TP1B-1 12/9/98	FDS-2 12/9/98	TP1B-2 12/9/98	FDS-1 12/10/98	TP1B-3 12/9/98	SD1B-1 12/10/98
Bis (2-Chloroethyl) ether	**	<31	<33	<31	<33	<33	<350	<400	<33	<39
1,3 Dichlorobenzene	310	<31	<33	<31	<33	<33	<350	<400	<33	<39
1,4 Dichlorobenzene	1700	<31	77	<31	<33	<33	<350	<400	<33	<39
Carbazole	**	<31	<33	<31	<33	<33	<350	<400	<33	<39
1,2 Dichlorobenzene	**	<31	<33	<31	<33	<33	<350	<400	<33	<39
Bis (2-chloroisopropyl) ether	**	<31	<33	<31	<33	<33	<350	<400	<33	<39
N-Nitrosodi-n-propylamine	**	<31	<33	<31	<33	<33	<350	<400	<33	<39
Hexachloroethane	410	<31	<33	<31	<33	<33	<350	<400	<33	<39
Nitrobenzene	200	<31	<33	<31	<33	<33	<350	<400	<33	<39
Isophorone	4400	<31	<33	<31	<33	<33	<350	<400	<33	<39
Bis (2-chloroethoxy) methane	**	<31	<33	<31	<33	<33	<350	<400	<33	<39
1,2,4Trichlorobenzene	670	<31	<33	<31	<33	<33	<350	<400	<33	<39
Napthalene	13000	<31	<33	<31	50	47	530	<400	<33	<39
4-Chloroaniline	220	<31	<33	<31	<33	<33	<350	<400	<33	<39
Hexachlorobutadiene	**	<31	<33	<31	<33	<33	<350	<400	<33	<39
2-Methylnapthalene	36400	<31	38	<31	<33	<33	940	<400	36	<39
Hexachlorocyclopentadiene	**	<310	<330	<310	<330	<330	<3500	<4000	<330	<390
2-Chloronaphthalene	**	<31	<33	<31	<33	<33	<350	<400	<33	<39
2-Nitroaniline	430	<31	<33	<31	<33	<33	<350	<400	<33	<39
Dimethyl Phthalate	2000	<31	<33	<31	<33	<33	<350	<400	<33	<39
Acenaphthylene	41000	<31	<33	<31	<33	<33	<350	<400	<33	<39
2,6-Dinitrotoluene	1000	<31	<33	<31	<33	<33	<350	<400	<33	<39
3-Nitroaniline	500	<31	<33	<31	<33	<33	<350	<400	<33	<39
Acenaphthene	50000	<31	<33	<31	<33	<33	<350	<400	<33	<39
Dibenzofuran	6200	<31	<33	<31	<33	<33	<350	<400	<33	<39
2,4-Dinitrotoluone	1000	<31	<33	<31	<33	<33	<350	<400	<33	<39
Diethyl Phthalate	7100	<31	<33	<31	<33	<33	<350	<400	<33	<39
4-Chlorophenyl phenyl ether	**	<31	<33	<31	<33	<33	<350	<400	<33	<39
Fluorene	50000	<31	<33	<31	<33	<33	<350	<400	<33	<39
4-Nitroaniline	**	<31	<33	<31	<33	<33	<350	<400	<33	<39
N-Nitrosodiphenylamine	**	<31	<33	<31	<33	<33	<350	<400	<33	<39
4-Bromophenyl Phenyl ether	**	<31	<33	<31	<33	<33	<350	<400	<33	<39
Hexachlorobenzene	410	<31	<33	<31	<33	<33	<350	<400	<33	<39
Phenanthrene	50000	<31	54	<31	470	170	440	430	130	<39
Anthracene	50000	<31	<33	<31	120	38	<350	<400	34	<39
Di-n-Butyl Phthalate	8100	<31	<33	<31	<33	<33	<350	<400	<33	43
Fluoranthene	50000	71	220	<31	950	230	<350	630	240	43
Pyrene	50000	68	200	33	1100	240	290*	860	300	<39
BenzylButylPhthalate	50000	<31	<33	38	<33	<33	<350	<400	<33	<39
3,3-Dichlorobenzidine	**	<310	<330	<310	<330	<330	<3500	<4000	<330	<390
Benzo (a) anthracene	224	45	110	<31	630	120	<350	330*	130	<39
Chrysene	400	55	120	<31	650	130	230*	510	140	<39
Bis (2-ethylhexyl)phthalate	50000	33	37	<31	40	36	<350	<400	50	58
Di-n-octyl Phthalate	50000	<31	<33	<31	<33	<33	<350	<4000&	<330	<39
Benzo (b) fluoranthene	1100	40.5^	150***	<31	700^^	110^^^	<350	<4000&	<330	<39
Benzo (k) fluoranthene	1100	40.5^	150***	<31	700^^	110^^^	<350	<4000&	<330	<39
Benzo (a) pyrene	61	35	98	<31	230	120	<350	<4000&	<330	<39
Indeno (1,2,3-cd) pyrene	3200	<31	44	<31	120	50	<350	<4000&	<330	<39
Dibenzo(a,h)anthracene	14	<31	<33	<31	220	<33	<350	<4000&	<330	<39
Benzo (ghi)perylene	50000	<31	42	<31	<33	54	<350	<4000&	<330	<39
Phenol	30	<31	<33	na	<33	<33	<350	<400	<33	<39
2-Chlorophenol	800	<31	<33	na	<33	<33	<350	<400	<33	<39
2-Methylphenol	100	<31	<33	na	<33	<33	<350	<400	<33	<39
4-methylphenol	900	<31	<33	na	<33	<33	<350	<400	<33	<39
2-nitrophenol	330	<31	<33	na	<33	<33	<350	<400	<33	<39
2,4-Dimethylphenol	**	<31	<33	na	<33	<33	<350	<400	<33	<39
2,4-dichlorophenol	400	<31	<33	na	<33	<33	<350	<400	<33	<39
4-Chloro-3-methylphenol	240	<31	<33	na	<33	<33	<350	<400	<33	<39
2,4,6-Trichlorophenol	**	<31	<33	na	<33	<33	<350	<400	<33	<39
2,4,5-Trichlorophenol	**	<31	<33	na	<33	<33	<350	<400	<33	<39
2,4-Dinitrophenol	200	<310	<330	na	<330	<330	<3500	<4000	<330	<390
4-Nitrophenol	100	<310	<330	na	<330	<330	<3500	<4000	<330	<390
2-Methyl-4,6-dinitrophenol	**	<310	<330	na	<330	<330	<3500	<4000	<330	<390
Pentachlorophenol	1000	<310	<330	na	<330	<330	<3500	<4000	<330	<390
Total	500000	307	1040	71	4580	1235	1910	2430	1060	144

All results reported in ug/L.
Analysis Method: EPA 8270
Soil cleanup guidance values from NYSDEC, TAGM 4046, April 1995
** No guidance value published in this reference
*** Total = 210 ug/Kg, unable to separate isomers.
^ Total = 81 ug/Kg, unable to separate isomers.
^^ Total = 1400 ug/Kg, unable to separate isomers.
^^^ Total = 220 ug?kg, unable to separate isomers.
&: Elivated detection limit due to interference in sample.
na = not available; parameter not analyzed
Bold = exceeds guidance value.

APPENDIX B

TABLE 1D
KEYSPAN GLENWOOD LANDING, NY 11547
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
SEMI-VOLATILE ORGANIC COMPOUNDS

COMPOUND	GROUNDWATER STANDARD	AREA 1			
		GW1A-1 12/9/98	GW1A-2 12/9/98	GW1A-4 12/9/98	FDGW-1 12/9/98
Bis (2-Chloroethyl) ether	1	<1	<1	<1	<1
1,3 Dichlorobenzene	5	<1	<1	<1	<1
1,4 Dichlorobenzene	5	<1	<1	<1	<1
Carbazole	**	<1	<1	<1	<1
1,2 Dichlorobenzene	5	<1	<1	<1	<1
Bis (2-chloroisopropyl) ether	**	<1	<1	<1	<1
N-Nitrosodi-n-propylamine	**	<1	<1	<1	<1
Hexachloroethane	5	<1	<1	<1	<1
Nitrobenzene	5	<1	<1	<1	<1
Isophorone	50*	<1	<1	<1	<1
Bis (2-chloroethoxy) methane	5	<1	<1	<1	<1
1,2,4Trichlorobenzene	5	<1	<1	<1	<1
Napthalene	10*	<1	<1	<1	<1
4-Chloroaniline	**	<1	<1	<1	<1
Hexachlorobutadiene	5	<1	<1	<1	<1
2-Methylnapthalene	**	<1	<1	<1	<1
Hexachlorocyclopentadiene	5	<10	<10	<10	<10
2-Chloronaphthalene	10	<1	<1	<1	<1
2-Nitroaniline	10	<1	<1	<1	<1
Dimethyl Phthalate	**	<1	<1	<1	<1
Acenaphthylene	20	<1	<1	<1	<1
2,6-Dinitrotoluene	5	<1	<1	<1	<1
3-Nitroaniline	**	<1	<1	<1	<1
Acenaphthene	20	<1	<1	<1	<1
Dibenzofuran	**	<1	<1	<1	<1
2,4-Dinitrotoluone	**	<1	<1	<1	<1
Diethyl Phthalate	**	<1	<1	<1	<1
4-Chlorophenyl phenyl ether	**	<1	<1	<1	<1
Fluorene	50	<1	<1	<1	<1
4-Nitroaniline	**	<1	<1	<1	<1
N-Nitrosodiphenylamine	**	<1	<1	<1	<1
4-Bromophenyl Phenyl ether	**	<1	<1	<1	<1
Hexachlorobenzene	0.35	<1	<1	<1	<1
Phenanthrene	50	<1	<1	<1	<1
Anthracene	50	<1	<1	<1	<1
Di-n-Butyl Phthalate	50	<1	<1	1	1
Fluoranthene	50	<1	<1	<1	1
Pyrene	50	<1	<1	<1	1
BenzylButylPhthalate	**	<1	<1	<1	<1
3,3-Dichlorobenzidine	**	<10	<10	<10	<10
Benzo (a) anthracene	0.002	<1	<1	<1	<1
Chrysene	0.002	<1	<1	<1	1
Bis (2-ethylhexyl)phthalate	50	6	3	3	4
Di-n-octyl Phthalate	**	<1	<1	<1	<1
Benzo (b) fluoranthene	0.002	<1	<1	<1	1*#
Benzo (k) fluoranthene	0.002	<1	<1	<1	1*#
Benzo (a) pyrene	**	<1	<1	<1	1
Indeno (1,2,3-cd) pyrene	0	<1	<1	<1	<1
Dibenzo(a,h)anthracene	**	<1	<1	<1	<1
Benzo (ghi)perylene	**	<1	<1	<1	<1
Phenol	1	<1	<1	<1	<1
2-Chlorophenol	1	<1	<1	<1	<1
2-Methylphenol	1	<1	<1	<1	<1
4-methylphenol	1	<1	<1	<1	<1
2-nitrophenol	1	<1	<1	<1	<1
2,4-Dimethylphenol	1	<1	<1	<1	<1
2,4-dichlorophenol	1	<1	<1	<1	<1
4-Chloro-3-methylphenol	1	<1	<1	<1	<1
2,4,6-Trichlorophenol	11	<1	<1	<1	<1
2,4,5-Trichlorophenol	1	<1	<1	<1	<1
2,4-Dinitrophenol	1	<10	<10	<10	<10
4-Nitrophenol	1	<10	<10	<10	<10
2-Methyl-4,6-dinitrophenol	1	<10	<10	<10	<10
Pentachlorophenol	1	<10	<10	<10	<10

All results reported in ug/L.
Analysis Method: EPA 8270
Groundwater standards taken from NYSDEC, TOGS 1.1.1, October 1993
* Guidance value
**: No reported value in TOGS; NYSDEC can apply a "general organic guidance value" of 50 ug/L.
# Total = 2ug/Kg, unable to separate isomers.
na = not available; parameter not analyzed
Bold = exceeds guidance value

APPENDIX B

TABLE 1E
KEYSPAN GLENWOOD LANDING, NY 11547
SUMMARY OF SOIL ANALYTICAL RESULTS
METALS - AREA 1

		AREA 1									
COMPOUND	SOIL GUIDANCE VALUE	SB1A-1 12/8/98	SB1A-2 12/8/98	SB1A-3 12/8/98	TP1B-1 12/9/98	FDS-2 12/9/98	TP1B-2 12/9/98	FDS-1 12/10/98	TP1B-3 12/9/98	SD1B-1 12/10/98	OUTFALL 12/10/98
Arsenic	7.5	<0.50	<0.55	<0.50	1.01	0.66	**20.7**	**52.7**	0.51	<0.34	<0.38
Barium	300	10	21.7	11.9	13.42	10.4	96.4	246	16.2	3.49	1.44
Cadmium	1	0.251	0.368	0.197	0.421	0.234	<0.12	<0.14	0.45	0.15	<0.13
Chromium	10	4.01	7.81	3.74	8.92	7.19	**37.9**	**115**	7.41	3.6	1.65
Copper	25	7.07	9.87	4.3	18.7	18.8	**289**	**1050**	10.98	**38.6**	3.37
Iron	2000	**3632**	**5447**	**4055**	**6496**	**4835**	**11500**	**29340**	**6125**	**3320**	1170
Lead	400	10.9	38.7	1.09	72	66.6	77	221	21	12.1	2.85
Manganese	**	88.9	77	103	157	132	93.2	271	268	40.2	16.4
Mercury	0.1	**0.27**	<0.22	<0.22	<0.24	**0.26**	**10.9**	**1.29**	<0.27	<0.27	<0.26
Nickel	13	4.57	7.44	5.35	**20.9**	**19.9**	**2700**	**6700**	**44**	**47**	1.63
Selenium	2	0.201	0.606	0.488	<0.22	<0.21	**4.7**	**10.9**	<0.23	0.59	<0.25
Silver	**	<0.29	<0.33	<0.30	<0.33	<0.31	<0.36	<0.40	<0.34	<0.34	<0.38
Vanadium	150	9.22	9.23	5.32	24	23	**13600**	**38500**	111	34.5	3.05
Zinc	20	14.29	**26.9**	7.19	**64**	**55.9**	**108**	**440**	**40.8**	**33.7**	**95.6**
Antimony	**	<1	<1	<1	<1	1.2	2.4	7.2	<1	<1.5	<1
Beryllium	0.16	0.11	0.16	0.05	0.11	0.11	0.48	0.55	0.11	<0.13	<0.13
Calcium	**	250	250	83	200	200	1800	3800	250	370	120
Cobalt	30	1.4	2.6	0.88	2.4	1.8	23	24	6	1.5	<1.5
Cyanide	***	<2	<2	<2	<2	<2	<2	<3	<2	<3	<3
Magnesium	**	420	730	190	440	460	4000	2800	470	420	1400
Thallium	**	<0.6	<0.6	<0.6	<0.6	<1	14	19	<1.1	<1.5	<1.5
Aluminum	**	2100	3600	970	270	290	1500	2600	280	770	260
Potassium	**	240	4500	110	270	260	360	480	290	210	230
Sodium	**	37	55	16	520	550	260	350	510	1500	290

All results reported in mg/Kg.
Analysis Method: EPA 6010 / 7041 / 7071 / 9012
Soil cleanup guidance values from NYSDEC, TAGM 4046, April 1995
** No guidance value published in this reference
Bold = exceeds guidance value

APPENDIX B

TABLE 1F
GLENWOOD GAS PLANT
GLENWOOD LANDING, NY 11547
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
DISSOLVED METALS

COMPOUND	Groundwater Standard	AREA 1			
		GW1A-1 12/9/98	GW1A-2 12/9/98	GW1A-4 12/9/98	FDGW-1 12/9/98
Arsenic	0.025	<0.005	<0.005	<0.005	0.006
Barium	1	0.143	0.015	0.087	0.096
Cadmium	0.01	0.002	<0.001	**0.013**	0.009
Chromium	0.05	0.024	0.002	**2.03**	**1.21**
Copper	0.2	0.061	<0.025	**0.339**	**0.232**
Iron	0.3	**22.2**	**0.361**	**147**	**98**
Lead	0.025	**0.204**	0.008	**0.206**	**0.194**
Manganese	0.3	**1.25**	0.038	0.242	**0.416**
Mercury	0.002	<0.5	<0.5	<0.5	<0.5
Nickel	**	0.027	<0.002	0.015	NA
Selenium	0.01	<0.002	<0.002	**0.011**	0.006
Silver	50	<0.003	<0.003	0.038	0.022
Vanadium	**	0.042	<0.001	0.14	0.121
Zinc	0.3	**0.323**	**0.84**	**0.51**	**0.51**
Antimony	0.003	<0.005	<0.005	<0.005	<0.005
Beryllium	0.003	0.001	<0.001	**0.003**	0.002
Calcium	**	31	20	54	52
Cobalt	0.11	0.01	<0.001	<0.01	<0.01
Cyanide	**	NA	NA	NA	NA
Magnesium	35	12	7.6	12	13
Thallium	4	<0.005	<0.005	<0.005	<0.005
Aluminum	**	24	0.17	51	42
Potassium	**	6.4	1.4	3.7	4.5
Sodium	20	**20**	3	**22**	**21**

All results reported in mg/Kg.
Analysis Method: EPA 200.7 / 6010
Groundwater standards taken from NYSDEC, TOGS 1.1.1, October 1993
**: No reported value in TOGS
na = not available; parameter not analyzed
Bold = exceeds guidance value

APPENDIX B

TABLE 1G
KEYSPAN GLENWOOD LANDING, NY 11547
SUMMARY OF SOIL ANALYTICAL RESULTS
PCB

		AREA 1									
COMPOUND	SOIL GUIDANCE VALUE	SB1A-1 12/8/98	SB1A-2 12/8/98	SB1A-3 12/8/98	TP1B-1 12/9/98	FDS-2 12/9/98	TP1B-2 12/9/98	FDS-1 12/10/98	TP1B-3 12/9/98	SD1B-1 12/10/98	OUTFALL 12/10/98
PCB-1016	1/10	<0.2	<2.0	<0.2	<2.0	<0.2	<2.0	<2	<2.0	<2.0	<2.0
PCB-1221	1/10	<0.2	<2.0	<0.2	<2.0	<0.2	<2.0	<2	<2.0	<2.0	<2.0
PCB-1232	1/10	<0.2	<2.0	<0.2	<2.0	<0.2	<2.0	<2	<2.0	<2.0	<2.0
PCB-1242	1/10	<0.2	<2.0	<0.2	<2.0	<0.2	<2.0	<2	<2.0	<2.0	<2.0
PCB-1248	1/10	<0.2	<2.0	<0.2	<2.0	<0.2	<2.0	<2	<2.0	<2.0	<2.0
PCB-1254	1/10	<0.2	<2.0	<0.2	<2.0	<0.2	<2.0	<2	<2.0	<2.0	<2.0
PCB-1260	1/10	<0.2	<2.0	<0.2	<2.0	<0.2	<2.0	<2	<2.0	<2.0	<2.0

All results reported in mg/Kg.
Analysis Method: EPA 8082
Soil cleanup guidance values from NYSDEC, TAGM 4046, April 1995
** No guidance value published in this reference
Bold = exceeds guidance value

APPENDIX B

TABLE 1H
KEYSPAN GLENWOOD LANDING, NY 11547
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
PCBs

		AREA 1		
COMPOUND	GROUNDWATER STANDARD	GW1A-1 12/9/98	GW1A-2 12/9/98	GW1A-4 12/9/98
PCB-1016	0.1	<0.65	<0.065	<0.65
PCB-1221	0.1	<0.65	<0.065	<0.65
PCB-1232	0.1	<0.65	<0.065	<0.65
PCB-1242	0.1	<0.65	<0.065	<0.65
PCB-1248	0.1	<0.65	<0.065	<0.65
PCB-1254	0.1	<0.65	<0.065	<0.65
PCB-1260	0.1	<0.65	<0.065	<0.65

All results reported in ug/L.
Analysis Method: EPA 608
Groundwater standards taken from NYSDEC, TOGS 1.1.1, October 1993
Bold = exceeds guidance value

APPENDIX B

TABLE 2A
KEYSPAN GLENDWOOD LANDING, NY 15647
SUMMARY OF SOIL ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS - AREA 2

		AREA 2									
COMPOUND	SOIL GUIDANC VALUE	TP2-1 12/9/98	TP2-2 12/9/98	TP2-3 12/9/98	FDS-3 12/9/98	SB2-1 12/8/98	SB2-2 12/8/98	SB2-3 12/10/98	SS2-1 12/10/98	SS2-4 12/10/98	SS2-6 12/15/98
Chloromethane	**	<5	<2	<2	<2	<1	<2	<2	<2	<2	<2
Bromomethane	**	<5	<2	<2	<2	<1	<2	<2	<2	<2	<2
Vinyl Chloride	200	<5	<2	<2	<2	<1	<2	<2	<2	<2	<2
Chloroethane	1900	<5	<2	<2	<2	<1	<2	<2	<2	<2	<2
Methylene Chloride	100	<5	<2	<2	<2	<1	<2	<2	<2	<2	<2
Acetone	200	<53	<21	<21	<21	<10	<20	<22	<23	<21	<24
Carbon disulfide	2700	<5	<2	<2	<2	<1	<2	<2	<2	<2	<2
1,1 Dichloroethene	400	<5	<2	<2	<2	<1	<2	<2	<2	<2	<2
1,1 Dichloroethane	200	<5	<2	<2	<2	<1	<2	<2	<2	<2	<2
1,2 Dichloroethene	300	<11	<4	<4	<4	<2	<4	<4	<5	<4	<5
Chloroform	300	<5	<2	<2	<2	<1	<2	<2	<2	<2	<2
1,2 Dichloroethane	100	<5	<2	<2	<2	<1	<2	<2	<2	<2	<2
2-Butanone	300	<53	<21	<21	<21	<10	<20	<22	<23	<21	<24
1,1,1 Trichloroethane	800	<5	<2	<2	<2	<1	<2	<2	<2	<2	<2
Carbon Tetrachloride	600	<5	<2	<2	<2	<1	<2	<2	<2	<2	<2
Bromodichloromethane	**	<5	<2	<2	<2	<1	<2	<2	<2	<2	<2
1,2 Dichloropropane	**	<5	<2	<2	<2	<1	<2	<2	<2	<2	<2
c-1,3 Dichloropropene	**	<5	<2	<2	<2	<1	<2	<2	<2	<2	<2
Trichloroethene	700	<5	<2	<2	<2	<1	<2	<2	<2	<2	<2
Chlorodibromomethane	**	<5	<2	<2	<2	<1	<2	<2	<2	<2	<2
Benzene	60	<5	<2	<2	<2	<1	<2	<2	<2	<2	<2
t-1,3 Dichloropropene	**	<5	<2	<2	<2	<1	<2	<2	<2	<2	<2
Bromoform	**	<5	<2	<2	<2	<1	<2	<2	<2	<2	<2
4-Methyl-2-Pentanone	1000	<53	<21	<21	<21	<10	<20	<22	<23	<21	<24
2-Hexanone	**	<53	<21	<21	<21	<10	<20	<22	<23	<21	<24
Tetrachloroethene	1400	<5	<2	<2	<2	<1	<2	<2	<2	<2	**6**
Toluene	1500	<5	<2	<2	<2	<1	<2	<2	<2	<2	<2
1,1,2,2 Tetrachloroethene	600	<5	<2	<2	<2	<1	<2	<2	<2	<2	<2
Chlorobenzene	1700	<5	<2	<2	<2	<1	<2	<2	<2	<2	<2
Ethyl Benzene	5500	<5	<2	<2	<2	<1	<2	<2	<2	<2	<2
Styrene	**	<5	<2	<2	<2	<1	<2	<2	<2	<2	<2
o Xylene	**	<5	<2	<2	<2	<1	<2	<2	<2	<2	<2
m + p Xylene	**	<11	<4	<4	<4	<2	<4	<4	<2	<4	<5
Xylene	1200	<16	<6	<6	<6	<3	<6	<7	<7	<6	<7

All results reported in ug/Kg.
Analysis Method: EPA 8260
Soil cleanup guidance values from NYSDEC, TAGM 4046, April 1995
** No guidance value published in this reference
Bold = exceeds guidance value

APPENDIX B

TABLE 2B
KEYSPAN GLENWOOD LANDING, NY 11547
SUMMARY OF SOIL ANALYTICAL RESULTS
SEMI-VOLATILE ORGANIC COMPOUNDS - AREA 2

		AREA 2												
COMPOUND	SOIL GUIDANCE VALUE	TP2-1 12/9/98	TP2-2 12/9/98	TP2-3 12/9/98	FDS-3 12/9/98	SB2-1 12/8/98	SB2-2 12/8/98	SB2-3 12/10/98	SS2-1 12/10/98	SS2-2 12/10/98	SS2-3 12/10/98	SS2-4 12/10/98	SS2-5 12/15/98	SS2-6 12/15/98
Bis (2-Chloroethyl) ether	**	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
1,3 Dichlorobenzene	310	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
1,4 Dichlorobenzene	1700	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
Carbazole	**	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
1,2 Dichlorobenzene	1700	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
Bis (2-chloroisopropyl) ether	**	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
N-Nitrosodi-n-propylamine	**	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
Hexachloroethane	410	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
Nitrobenzene	200	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
Isophorone	4400	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
Bis (2-chloroethoxy) methane	**	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
1,2,4Trichlorobenzene	670	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
Napthalene	13000	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
4-Chloroaniline	220	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
Hexachlorobutadiene	**	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
2-Methylnapthalene	36400	<33	<32	<32	<32	49	<33	610	<33	<32	<32	<32	<32	<34
Hexachlorocyclopentadiene	**	<330	<320	<320	<320	<310	<330	<320	<330	<320	<320	<320	<320	<340
2-Chloronaphthalene	**	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
2-Nitroaniline	430	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
Dimethyl Phthalate	2000	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
Acenaphthylene	41000	45	<32	<32	<32	<31	<33	940	<33	<32	<32	<32	<32	<34
2,6-Dinitrotoluene	1000	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
3-Nitroaniline	500	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
Acenaphthene	50000	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
Dibenzofuran	6200	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
2,4-Dinitrotoluene	1000	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
Diethyl Phthalate	7100	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
4-Chlorophenyl phenyl ether	**	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
Fluorene	50000	<33	<32	<32	<32	<31	<33	41	<33	<32	<32	<32	<32	<34
4-Nitroaniline	**	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
N-Nitrosodiphenylamine	**	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
4-Bromophenyl Phenyl ether	**	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
Hexachlorobenzene	410	<33	<32	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
Phenanthrene	50000	210	41	120	62	35	<33	<32	<33	150	<32	130	<32	37
Anthracene	50000	58	<32	32	<32	<31	<33	120	<33	<32	<32	<32	<32	<34
Di-n-Butyl Phthalate	8100	39	38	<32	<32	<31	<33	<32	<33	<32	<32	<32	<32	<34
Fluoranthene	50000	450	70	200	190	<31	<33	<32	34	260	<32	150	<32	69
Pyrene	50000	580	110	240	300	33	<33	290*	37	310	<32	240*	<32	72
BenzylButylPhthalate	50000	<330	<32	<32	<32	38	<33	<320	<33	57	<32	<320	<32	76
3,3-Dichlorobenzidine	**	<3300	<320	<320	<320	<310	<330	<3200	<330	<320	<320	<3200	<320	<340
Benzo (a) anthracene	224	340	46	110	130	<31	<33	<320	<33	140	<32	<320	<32	<34
Chrysene	400	360	46	120	130	<31	<33	<320	<33	170	<32	<320	<32	41
Bis (2-ethylhexyl)phthalate	50000	<330	69	43	54	55	50	<320	100	84	36	<320	33	<34
Di-n-octyl Phthalate	50000	<330	<320	<32	<32	<310	<33	<320	<33	<32	<32	<320	<32	<34
Benzo (b) fluoranthene	1100	300$	<320	115#	120$$	<310	<33	95##	<33	160&	<32	<320	<32	34***
Benzo (k) fluoranthene	1100	300$	<320	115#	120$$	<310	<33	95##	<33	160&	<32	<320	<32	34***
Benzo (a) pyrene	61	320*	<320	110	<320	<310	<33	<320	<33	160	<32	<320	<32	<34
Indeno (1,2,3-cd) pyrene	3200	<330	<320	<32	<320	<310	<33	240*	<33	58	<32	<320	<32	<34
Dibenzo(a,h)anthracene	14	<330	<320	<32	<320	<310	<33	<320	<33	<32	<32	<320	<32	<34
Benzo (ghi)perylene	50000	<330	<320	<32	<320	<310	<33	880	<33	58	<32	<320	<32	<34
Phenol	30	<33	<32	<32	<32	<31	<33	<32	<33	na	na	<32	<32	<34
2-Chlorophenol	800	<33	<32	<32	<32	<31	<33	<32	<33	na	na	<32	<32	<34
2-Methylphenol	100	<33	<32	<32	<32	<31	<33	<32	<33	na	na	<32	<32	<34
4-methylphenol	900	<33	<32	<32	<32	<31	<33	<32	<33	na	na	<32	<32	<34
2-nitrophenol	330	<33	<32	<32	<32	<31	<33	<32	<33	na	na	<32	<32	<34
2,4-Dimethylphenol	**	<33	<32	<32	<32	<31	<33	<32	<33	na	na	<32	<32	<34
2,4-dichlorophenol	400	<33	<32	<32	<32	<31	<33	<32	<33	na	na	<32	<32	<34
4-Chloro-3-methylphenol	240	<33	<32	<32	<32	<31	<33	<32	<33	na	na	<32	<32	<34
2,4,6-Trichlorophenol	**	<33	<32	<32	<32	<31	<33	<32	<33	na	na	<32	<32	<34
2,4,5-Trichlorophenol	**	<33	<32	<32	<32	<31	<33	<32	<33	na	na	<32	<32	<34
2,4-Dinitrophenol	200	<330	<320	<320	<320	<310	<330	<320	<330	na	na	<320	<320	<340
4-Nitrophenol	100	<330	<320	<320	<320	<310	<330	<320	<330	na	na	<320	<320	<340
2-Methyl-4,6-dinitrophenol	**	<330	<320	<320	<320	<310	<330	<320	<330	na	na	<320	<320	<340
Pentachlorophenol	1000	<330	<320	<320	<320	<310	<330	<320	<330	na	na	<320	<320	<340
Total	500000	2082	422	975	866	210	50	2591	171	1447	36	280	33	295

All results reported in ug/Kg.
Analysis Method: EPA 8270
Soil cleanup guidance values from NYSDEC, TAGM 4046, April 1995
** No guidance value published in this reference
*** Total (b+k) = 68 ug/Kg, unable to separate isomers.
# Total = 230 ug/Kg, unable to separate isomers.
Total = 190 ug/Kg, unable to separate isomers.
$ Total = 600 ug/Kg, unable to separate isomers.
$$ Total = 240 ug/Kg, unable to separate isomers.
&: Total = 320 ug/Kg, unable to separate isomers.
na = not available; parameter not analyzed
Bold = exceeds guidance values

APPENDIX B

TABLE 2C
KEYSPAN GLENWOOD LANDING, NY 11547
SUMMARY OF SOIL ANALYTICAL RESULTS
METALS - AREA 2

		AREA 2												
COMPOUND	SOIL GUIDANC VALUE	TP2-1 12/9/98	TP2-2 12/9/98	TP2-3 12/9/98	FDS-3 12/9/98	SB2-1 12/8/98	SB2-2 12/8/98	SB2-3 12/10/98	SS2-1 12/10/98	SS2-2 12/10/98	SS2-3 12/10/98	SS2-4 12/10/98	SS2-5 12/15/98	SS2-6 12/15/98
Arsenic	7.5	1.47	<0.32	0.3	<0.32	1.94	<0.30	0.31	3.02	<0.32	<0.31	2.85	<0.31	2.96
Barium	300	22.4	14.7	16.3	21.5	13.7	5.3	16.13	15.6	18.6	30.2	30.5	12.1	32.3
Cadmium	1	0.58	0.51	0.421	0.52	0.243	0.51	0.32	0.739	0.36	1.07	0.87	0.39	1
Chromium	10	7.72	4.53	6.89	7.81	5.19	3.8	6.72	9.5	5.35	5.51	21.4	5.18	9
Copper	25	9.99	12	7.46	12.6	6.28	13.2	19.3	11	8.02	194	43.2	6.46	18.1
Iron	2000	7440	5460	5563	7060	3947	4380	4933	8257	5760	4717	8947	6050	8110
Lead	400	22.4	12.1	21.9	19.7	11.7	1.98	11.1	24.3	7.41	440	92	4.63	39.9
Manganese	**	137	107	113	131	99.2	66.2	21.5	135	157	124	106	129	177
Mercury	0.1	17.3	0.35	<0.24	<0.24	<0.21	5.35	<0.24	<0.23	<0.23	<0.21	<0.23	0.27	0.31
Nickel	13	10.6	4.14	5.13	8.68	5.45	1.43	18.9	6.27	5.61	10	191	5.24	7.08
Selenium	2	0.32	<0.21	<0.21	0.67	<0.21	<0.21	<0.22	<0.21	<0.21	<0.21	0.8	0.21	0.22
Silver	**	<0.29	<0.32	<0.31	<0.32	<0.31	<0.30	<0.32	<0.32	<0.32	<0.31	<0.31	<0.31	<0.35
Vanadium	150	35.8	8.81	10.5	18.3	6.9	6.44	141	21.9	9.58	30.4	681	11.4	16.9
Zinc	20	35.4	18.3	31.6	34.2	9.14	12.7	6.06	47.4	16	302	115	13.6	104
Antimony	**	<1	<1	<1	<1	<1	<1	<1	<1	1.7	23	7.5	<1	<1
Beryllium	0.16	0.21	0.11	0.11	0.11	0.1	0.05	0.11	0.11	0.11	0.1	0.11	0.21	0.24
Calcium	**	1300	970	280	1700	110	97	130	450	1100	190	440	360	4500
Cobalt	30	3	2.3	1.9	2.4	1.3	0.41	<0.11	2.1	2.6	2.1	3.3	3	3
Cyanide	***	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Magnesium	**	980	820	1600	1100	230	180	1900	570	1000	480	520	790	2100
Thallium	**	<1	<1	1.5	<1	<1	<0.6	<1	<1	<1	<1	<1	<0.4	0.9
Aluminum	**	3800	2300	2300	2600	970	620	540	2000	2800	1400	1700	370	5400
Potassium	**	400	4	320	350	160	150	110	360	450	350	220	500	530
Sodium	**	<55	56	60	<55	31	15	<55	<55	<55	<55	<55	40	74

All results reported in mg/Kg.
Analysis Method: EPA 6010 / 7041 / 7071 / 9012
Soil cleanup guidance values from NYSDEC, TAGM 4046, April 1995
** No guidance value published in this reference
Bold = exceeds guidance value

APPENDIX B

TABLE 2D
KEYSPAN GLENWOOD LANDING, NY 11547
SUMMARY OF SOIL ANALYTICAL RESULTS
PCB

		AREA 2												
COMPOUND	SOIL GUIDANC VALUE	TP2-1 12/9/98	TP2-2 12/9/98	TP2-3 12/9/98	FDS-3 12/9/98	SB2-1 12/8/98	SB2-2 12/8/98	SB2-3 12/10/98	SS2-1 12/10/98	SS2-2 12/10/98	SS2-3 12/10/98	SS2-4 12/10/98	SS2-5 12/15/98	SS2-6 12/15/98
PCB-1016	1/10	<2.0	<2.0	<2.0	<2.0	<0.2	<0.2	<0.2	<0.2	<0.2	<2.0	<2.0	<0.2	<2.0
PCB-1221	1/10	<2.0	<2.0	<2.0	<2.0	<0.2	<0.2	<0.2	<0.2	<0.2	<2.0	<2.0	<0.2	<2.0
PCB-1232	1/10	<2.0	<2.0	<2.0	<2.0	<0.2	<0.2	<0.2	<0.2	<0.2	<2.0	<2.0	<0.2	<2.0
PCB-1242	1/10	<2.0	<2.0	<2.0	<2.0	<0.2	<0.2	<0.2	<0.2	<0.2	<2.0	<2.0	<0.2	<2.0
PCB-1248	1/10	<2.0	<2.0	<2.0	<2.0	<0.2	<0.2	**81**	<0.2	<0.2	<2.0	<2.0	<0.2	<2.0
PCB-1254	1/10	<2.0	<2.0	<2.0	<2.0	<0.2	<0.2	<0.2	<0.2	<0.2	<2.0	<2.0	<0.2	<2.0
PCB-1260	1/10	<2.0	<2.0	<2.0	<2.0	<0.2	<0.2	<0.2	<0.2	<0.2	<2.0	<2.0	<0.2	<2.0

All results reported in mg/Kg.
Analysis Method: EPA 8082
Soil cleanup guidance values from NYSDEC, TAGM 4046, April 1995
Bold = exceeds guidance value

APPENDIX B

TABLE 2E
KEYSPAN GLENWOOD LANDING, NY 11547
SUMMARY OF SOIL ANALYTICAL RESULTS
PESTICIDES

		AREA 2			
COMPOUND	**SOIL GUIDANCE VALUE**	SS2-1 12/10/98	SS2-4 12/10/98	SS2-5 12/15/98	SB2-1 12/8/98
Lindane	**	<2	<2	<2	<2
Heptachlor	100	<2	<2	<2	<2
Aldrin	41	<2	<2	<2	<2
Heptachlor Epoxide	20	<2	<2	<2	<2
p,p-DDE	2100	<2	<2	<2	3
Dieldrin	44	<2	<2	<2	<2
Endrin	100	5	<2	<2	<2
p,p-DDD	2900	<2	<2	<2	<2
p,p-DDT	2100	8	10	<4	7
Chlordane	540	<9	<8	<9	<8
Toxaphene	**	<43	<42	<43	<41
Endrin Aldehyde	**	<13	<13	<13	<12
a BHC	110	<2	<2	<2	<2
b BHC	200	<2	<2	<2	<2
d BHC	300	<2	<2	<2	<2
Endosulfan 1	900	<4	<4	<4	<4
Endosulfan 2	900	<4	<4	<4	<4
Endosulfan Sulfate	1000	<13	<13	<13	<12

All results reported in ug/Kg.
Analysis Method: EPA 8081
Soil cleanup guidance values from NYSDEC, TAGM 4046, April 1995
** No guidance value published in this reference
Bold = exceeds guidance value

APPENDIX B

TABLE 2F
KEYSPAN GLENWOOD LANDING, NY 11547
SUMMARY OF SOIL ANALYTICAL RESULTS
HERBICIDES

		AREA 2			
COMPOUND	SOIL GUIDANCE VALUE	SB2-1 12/9/98	SS2-1 12/10/98	SS2-4 12/10/98	SS2-5 12/15/98
2,4-D	500	<10	<11	<11	<11
2,4,5-TP	1900	<5	<6	<5	<5

All results reported in ug/Kg.
Analysis Method: EPA 8151
Soil cleanup guidance values from NYSDEC, TAGM 4046, April 1995
** No guidance value published in this reference
Bold = exceeds guidance value

APPENDIX B

TABLE 3A
KEYSPAN GLENWOOD LANDING, NY 11547
SUMMARY OF SOIL ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS - AREA 3

COMPOUND	SOIL GUIDANC VALUE	SS3-5 12/10/98	SB3-4 12/10/98	SB3-7 12/8/98	SB3-8 12/8/98	SD3-1 12/10/98
Chloromethane	**	<2	<22	<1	<2	<2
Bromomethane	**	<2	<22	<1	<2	<2
Vinyl Chloride	200	<2	<22	<1	<2	<2
Chloroethane	1900	<2	<22	<1	<2	<2
Methylene Chloride	100	<2	<22	<1	<2	<2
Acetone	200	<21	<220	<11	24	<24
Carbon disulfide	2700	<2	<22	<1	<2	<2
1,1 Dichloroethene	400	<2	<22	<1	<2	<2
1,1 Dichloroethane	200	<2	<22	<1	<2	<2
1,2 Dichloroethene	300	<2	<43	<2	<5	<5
Chloroform	300	<2	<22	<1	<2	<2
1,2 Dichloroethane	100	<2	<22	<1	<2	<2
2-Butanone	300	<21	<220	<11	<24	<24
1,1,1 Trichloroethane	800	<2	<22	<1	<2	<2
Carbon Tetrachloride	600	<2	<22	<1	<2	<2
Bromodichloropropene	**	<2	<22	<1	<2	<2
1,2 Dichloropropane	**	<2	<22	<1	<2	<2
c-1,3 Dichloropropene	**	<2	<22	<1	<2	<2
Trichloroethene	700	<2	<22	<1	<2	<2
Chlorodibromomethane	**	<2	<22	<1	<2	<2
Benzene	60	<2	<22	<1	<2	<2
t-1,3 Dichloropropene	**	<2	<22	<1	<2	<2
Bromoform	**	<2	<22	<1	<2	<2
4-Methyl-2-Pentanone	1000	<21	<220	<11	<24	<24
2-Hexanone	**	<21	<220	<11	<24	<24
Tetrachloroethene	1400	<2	<22	<1	<2	6
Toluene	1500	<2	<22	<1	<2	<2
1,1,2,2 Tetrachloroethene	600	<2	<22	<1	<2	<2
Chlorobenzene	1700	<2	<22	<1	<2	<2
Ethyl Benzene	5500	<2	<22	<1	<2	<2
Styrene	**	<2	<22	<1	<2	<2
o Xylene	**	<2	<22	<1	<2	<2
m + p Xylene	**	<4	<43	<2	<5	<5
Xylene	1200	<6	<65	<3	<7	<7

All results reported in ug/Kg.
Analysis Method: EPA 8260
Soil cleanup guidance values from NYSDEC, TAGM 4046, April 1995
** No guidance value published in this reference
Bold = exceeds guidance value

APPENDIX B

TABLE 3B
KEYSPAN GLENWOOD LANDING, NY 11547
SUMMARY OF SOIL ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS - AREA 3

COMPOUND	OIL GUIDANC VALUE	SS3-6 12/10/98	SB3-1 12/8/98	SB3-3 12/10/98	SB3-1R	SB3-1A	SB3-1B	SB3-1C	SB3-5 12/9/98	SB3-6 12/8/98	SB3-9 12/8/98	SB3-9A
ter.ButylMethylEther	**	<2	<2	<3	<295	<340	<440	<340	<3	<2	<2	<360
Benzene	60	<2	<2	<3	<20	44	130	54	<3	<2	<2	<25
Toluene	700	<2	4	<3	<20	<25	140	<25	<3	<2	<2	<25
Ethyl Benzene	5500	<2	8	<3	<20	<25	230	<25	<3	<2	<2	<25
m+p Xylene	**	<4	14	<7	na	na	na	na	<7	<5	<4	na
o Xylene	**	<2	11	<3	na	na	na	na	<3	<2	<2	na
Xylene	1200	<6	25	<10	<60	<65	240	<65	<10	<7	<6	<70
Isopropylbenzene	**	<2	16	<3	na	na	na	na	<3	<2	<2	na
n-Propylbenzene	**	<2	7	<3	na	na	na	na	<3	<2	<2	na
1,3,5-Trimethylbenzene	**	<2	<2	<3	na	na	na	na	<3	<2	<2	na
1,2,4-Trimethylbenzene	**	<2	23	<3	na	na	na	na	<3	<2	<2	na
sec-Butylbenzene	**	<2	2	<3	na	na	na	na	<3	<2	<2	na
p-Isopropylbenzene	**	<2	<2	<3	na	na	na	na	<3	<2	<2	na
n-Butylbenzene	**	<2	<2	<3	na	na	na	na	<3	<2	<2	na
Naphthalene	**	<2	30	<3	na	na	na	na	<3	<2	<2	na
tert-Butylbenzene	**	<2	<2	<3	na	na	na	na	<3	<2	<2	na

All results reported in ug/Kg.
Analysis Method: EPA 8021
Soil cleanup guidance values from NYSDEC, TAGM 4046, April 1995
** No guidance value published in this reference
na = not available, parameter not analyzed
Bold = exceeds guidance value

APPENDIX B

TABLE 3C
KEYSPAN GLENWOOD LANDING, NY 11547
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS - AREA 3

COMPOUND	GROUNDWATER STANDARD	AREA 3			
		MW3-1 12/8/98	MW3-2 12/8/98	MW3-3 12/8/98	MW3-4 12/8/98
ter.ButylMethylEther	50	<1	<1	<1	<1
Benzene	0.7	<1	<1	<1	<1
Toluene	5	<1	<1	<1	<1
Ethyl Benzene	5	<1	<1	<1	<1
m+p Xylene	5	<2	<2	<2	<2
o Xylene	5	<1	<1	<1	<1
Xylene	5	<3	<3	<3	<3
Isopropylbenzene	5	<1	<1	<1	<1
n-Propylbenzene	5	<1	<1	<1	<1
1,3,5-Trimethylbenzene	5	<1	<1	<1	<1
1,2,4-Trimethylbenzene	5	<1	<1	<1	<1
sec-Butylbenzene	5	<1	<1	<1	<1
p-Isopropylbenzene	5	<1	<1	<1	<1
n-Butylbenzene	5	<1	<1	<1	<1
Naphthalene	10	<1	<1	3	<1
tert-Butylbenzene	**	<1	<1	<1	<1

All results reported in ug/L.
Analysis Method: EPA 8021
Groundwater standards taken from NYSDEC, TOGS 1.1.1, October 1993
* Guidance value
**: No reported value in TOGS; NYSDEC can apply a "general organic guidance value" of 50 ug/L.
Bold = exceeds guidance value

APPENDIX B

TABLE 3D
KEYSPAN GLENWOOD LANDING, NY 11547
SUMMARY OF SOIL ANALYTICAL RESULTS
SEMI-VOLATILE ORGANIC COMPOUNDS - AREA 3

COMPOUND	SOIL GUIDANCE VALUE	SS3-1 12/10/98	SS3-2 12/10/98	SS3-3 12/10/98	SS3-4 12/10/98	FDS-4 12/10/98	SS3-5 12/10/98	SS3-6 12/10/98	SB3-1 12/8/98	SB3-1R 12/10/98	SB3-1A 12/10/98	SB3-1B 12/10/98	SB3-1C 12/10/98
Bis (2-Chloroethyl) ether	**	<32	<34	<32	<32	<320	<320	<330	<35	na	na	na	na
1,3 Dichlorobenzene	310	<32	<34	<32	<32	<320	<320	<330	<35	na	na	na	na
1,4 Dichlorobenzene	1700	<32	<34	<32	<32	<320	<320	<330	<35	na	na	na	na
Carbazole	**	<32	<34	<32	<32	<320	260*	5100	<35	na	na	na	na
1,2 Dichlorobenzene	1700	<32	<34	<32	<32	<320	<320	<330	<35	na	na	na	na
Bis (2-chloroisopropyl) ether	**	<32	<34	<32	<32	<320	<320	<330	<35	na	na	na	na
N-Nitrosodi-n-propylamine	**	<32	<34	<32	<32	<320	<320	<330	<35	na	na	na	na
Hexachloroethane	410	<32	<34	<32	<32	<320	<320	<330	<35	na	na	na	na
Nitrobenzene	200	<32	<34	<32	<32	<320	<320	<330	<35	na	na	na	na
Isophorone	4400	<32	<34	<32	<32	<320	<320	<330	<35	na	na	na	na
Bis (2-chloroethoxy) methane	**	<32	<34	<32	<32	<320	<320	<330	<35	na	na	na	na
1,2,4Trichlorobenzene	670	<32	<34	<32	<32	<320	<320	<330	<35	na	na	na	na
Napthalene	13000	<32	<34	<32	<32	<320	<320	4800	<35	<40	<40	<40	<40
4-Chloroaniline	220	<32	<34	<32	<32	<320	<320	<330	<35	na	na	na	na
Hexachlorobutadiene	**	<32	<34	<32	<32	<320	<320	<330	<35	na	na	na	na
2-Methylnapthalene	36400	<32	<34	<32	<32	<320	<320	1300	<35	na	na	na	na
Hexachlorocyclopentadiene	**	<320	<340	<320	<320	<3200	<3200	<3300	<350	na	na	na	na
2-Chloronaphthalene	**	<32	<34	<32	<32	<320	<320	<330	<35	na	na	na	na
2-Nitroaniline	430	<32	<34	<32	<32	<320	<320	<330	<35	na	na	na	na
Dimethyl Phthalate	2000	<32	<34	<32	<32	<320	<320	<330	<35	na	na	na	na
Acenaphthylene	41000	<32	<34	<32	<32	<320	<320	<330	61	62	<40	<40	<40
2,6-Dinitrotoluene	1000	<32	<34	<32	<32	<320	<320	<330	<35	na	na	na	na
3-Nitroaniline	500	<32	<34	<32	<32	<320	<320	<330	<35	na	na	na	na
Acenaphthene	50000	<32	<34	<32	<32	<320	240*	4800	67	62	<40	<40	<40
Dibenzofuran	6200	<32	<34	<32	<32	<320	<320	3600	<35	na	na	na	na
2,4-Dinitrotoluene	1000	<32	<34	<32	<32	<320	<320	<330	<35	na	na	na	na
Diethyl Phthalate	7100	<32	<34	<32	<32	<320	<320	<330	<35	na	na	na	na
4-Chlorophenyl phenyl ether	**	<32	<34	<32	<32	<320	<320	<330	<35	na	na	na	na
Fluorene	50000	<32	<34	<32	<32	<320	200*	5100	100	120	<40	<40	<40
4-Nitroaniline	**	<32	<34	<32	<32	<320	<320	<330	<35	na	na	na	na
N-Nitrosodiphenylamine	**	<32	<34	<32	<32	<320	<320	<330	<35	na	na	na	na
4-Bromophenyl Phenyl ether	**	<32	<34	<32	<32	<320	<320	<330	<35	na	na	na	na
Hexachlorobenzene	410	<32	<34	<32	<32	<320	<320	<330	<35	na	na	na	na
Phenanthrene	50000	<32	<34	47	190	190*	3000	26000	290	220		<40	<40
Anthracene	50000	<32	<34	<32	46	<320	800	7400	99	<40	<40	<40	<40
Di-n-Butyl Phthalate	8100	<32	<34	<32	39	<320	<320	<330	38	na	na	na	na
Fluoranthene	50000	<32	<34	91	360	530	5600	27000	280	300	<40	<40	69
Pyrene	50000	<32	<34	80	550	640	5600	28000	680	200	<40	<40	<40
BenzylButylPhthalate	50000	<32	<34	<32	<320	<320	<320	<330	<350	na	na	na	na
3,3-Dichlorobenzidine	**	<320	<340	<320	<3200	<3200	<3200	<3300	<3500	na	na	na	na
Benzo (a) anthracene	224	<32	<34	38	270*	290*	2900	14000	180*	<40	<40	<40	<40
Chrysene	400	<32	<34	44	350	390	3100	15000	220*	130	<40	<40	<40
Bis (2-ethylhexyl)phthalate	50000	37	65	38	<320	220*	180*	<330	<350	na	na	na	na
Di-n-octyl Phthalate	50000	<32	<34	<32	<320	<3200	<320	<330	<350	na	na	na	na
Benzo (b) fluoranthene	1100	<32	<34	34.5^	280^^	<3200	2700^^^	14500##	<350	170	<40	<40	<40
Benzo (k) fluoranthene	1100	<32	<34	34.5^	280^^	<3200	2700^^^	14500##	<350	<40	<40	<40	<40
Benzo (a) pyrene	61	<32	<34	33	220*	<3200	2800	14000	<350	190	<40	110	<40
Indeno (1,2,3-cd) pyrene	3200	<32	<34	<32	<320	<3200	890	3800	<350	400	<40	<40	<40
Dibenzo(a,h)anthracene	14	<32	<34	<32	<320	<3200	320	2000	<350	470	<40	<40	<40
Benzo (ghi)perylene	50000	<32	<34	<32	<320	<3200	930	3300	<350	230	<40	<40	<40
Phenol	30	<32	<34	<32	na	na	na	na	na	na	na	na	na
2-Chlorophenol	800	<32	<34	<32	na	na	na	na	na	na	na	na	na
2-Methylphenol	100	<32	<34	<32	na	na	na	na	na	na	na	na	na
4-methylphenol	900	<32	<34	<32	na	na	na	na	na	na	na	na	na
2-nitrophenol	330	<32	<34	<32	na	na	na	na	na	na	na	na	na
2,4-Dimethylphenol	**	<32	<34	<32	na	na	na	na	na	na	na	na	na
2,4-dichlorophenol	400	<32	<34	<32	na	na	na	na	na	na	na	na	na
4-Chloro-3-methylphenol	240	<32	<34	<32	na	na	na	na	na	na	na	na	na
2,4,6-Trichlorophenol	**	<32	<34	<32	na	na	na	na	na	na	na	na	na
2,4,5-Trichlorophenol	**	<32	<34	<32	na	na	na	na	na	na	na	na	na
2,4-Dinitrophenol	200	<320	<340	<320	na	na	na	na	na	na	na	na	na
4-Nitrophenol	100	<320	<340	<320	na	na	na	na	na	na	na	na	na
2-Methyl-4,6-dinitrophenol	**	<320	<340	<320	na	na	na	na	na	na	na	na	na
Pentachlorophenol	1000	<320	<340	<320	na	na	na	na	na	na	na	na	na
Total	500000	37	65	371	1535	1560	25940	165200	1615	na	na	na	na

All results reported in ug/Kg.
Analysis Method: EPA 8270
Soil cleanup guidance values from NYSDEC, TAGM 4046, April 1995
** No guidance value published in this reference
^ Total = 69 ug/Kg, unable to separate isomers.
^^ Total = 560 ug/Kg, unable to separate isomers.
^^^ Total = 5400 ug/Kg, unable to seperate isomers.
# Total = 940 ug/Kg, unable to separate isomers.
Total = 29000 ug/Kg, unable to separate isomers.
&: Elivated detection limits due to interference in sample
na = not available; parameter not analyzed
Bold = exceeds guidance value

APPENDIX B

TABLE 3D
KEYSPAN GLENWOOD LANDING, NY 11547
SUMMARY OF SOIL ANALYTICAL RESULTS
SEMI-VOLATILE ORGANIC COMPOUNDS - AREA 3

COMPOUND	SOIL GUIDANCE VALUE	SB3-3 12/10/98	SB3-4 12/10/98	SB3-5 12/9/98	SB3-6 12/8/98	SB3-7 12/8/98	SB3-8 12/8/98	SB3-9 12/8/98	SB3-9A 12/10/98	SD3-1 12/10/98
Bis (2-Chloroethyl) ether	**	<54	<480	<56	<34	<34	<34	<31	na	<74
1,3 Dichlorobenzene	310	<54	<480	<56	<34	<34	<34	<31	na	<74
1,4 Dichlorobenzene	1700	<54	<480	<56	<34	<34	<34	<31	na	<74
Carbazole	**	<54	<480	76	<34	<34	<34	<31	na	<74
1,2 Dichlorobenzene	1700	<54	<480	<56	<34	<34	<34	<31	na	<74
Bis (2-chloroisopropyl) ether	**	<54	<480	<56	<34	<34	<34	<31	na	<74
N-Nitrosodi-n-propylamine	**	<54	<480	<56	<34	<34	<34	<31	na	<74
Hexachloroethane	410	<54	<480	<56	<34	<34	<34	<31	na	<74
Nitrobenzene	200	<54	<480	<56	<34	<34	<34	<31	na	<74
Isophorone	4400	<54	<480	<56	<34	<34	<34	<31	na	<74
Bis (2-chloroethoxy) methane	**	<54	<480	<56	<34	<34	<34	<31	na	<74
1,2,4Trichlorobenzene	670	<54	<480	<56	<34	<34	<34	<31	na	<74
Napthalene	13000	<54	<480	<56	<34	<34	<34	<31	<40	<74
4-Chloroaniline	220	<54	<480	<56	<34	<34	<34	<31	na	<74
Hexachlorobutadiene	**	<54	<480	<56	<34	<34	<34	<31	na	<74
2-Methylnapthalene	36400	<54	<480	<56	<34	<34	<34	<31	na	<74
Hexachlorocyclopentadiene	**	<540	<4800	<560	<340	<340	<340	<310	na	<740
2-Chloronaphthalene	**	230	<480	<56	<34	<34	<34	<31	na	<74
2-Nitroaniline	430	<54	<480	<56	<34	<34	<34	<31	na	<74
Dimethyl Phthalate	2000	<54	<480	<56	<34	<34	<34	<31	na	<74
Acenaphthylene	41000	<54	<480	<56	<34	<34	<34	<31	<40	<74
2,6-Dinitrotoluene	1000	<54	<480	<56	<34	<34	<34	<31	na	<74
3-Nitroaniline	500	<54	<480	<56	<34	<34	<34	<31	na	<74
Acenaphthene	50000	<54	<480	<56	<34	<34	<34	<31	<40	<74
Dibenzofuran	6200	<54	<480	<56	<34	<34	<34	<31	na	<74
2,4-Dinitrotoluene	1000	<54	<480	<56	<34	<34	<34	<31	na	<74
Diethyl Phthalate	7100	<54	<480	<56	<34	<34	<34	<31	na	<74
4-Chlorophenyl phenyl ether	**	<54	<480	<56	<34	<34	<34	<31	na	<74
Fluorene	50000	<54	<480	<56	<34	<34	<34	<31	<40	<74
4-Nitroaniline	**	<54	<480	<56	<34	<34	<34	<31	na	<74
N-Nitrosodiphenylamine	**	<54	<480	<56	<34	<34	<34	<31	na	<74
4-Bromophenyl Phenyl ether	**	<54	<480	<56	<34	<34	<34	<31	na	<74
Hexachlorobenzene	410	<54	<480	<56	<34	<34	<34	<31	na	<74
Phenanthrene	50000	210	2200	590	<34	<34	<34	<31	<40	<74
Anthracene	50000	<54	<480	77	<34	<34	<34	<31	<40	<74
Di-n-Butyl Phthalate	8100	80	<480	140	41	<34	<34	72	na	<74
Fluoranthene	50000	310	1800	880	<34	<34	<34	<31	<40	74
Pyrene	50000	360	2400	940	<34	<34	<34	<31	<40	90
BenzylButylPhthalate	50000	<54	4400	<560	<34	<34	<34	<31	na	<74
3,3-Dichlorobenzidine	**	<5400	<4800	<5600	<340	<340	<340	<310	na	<740
Benzo (a) anthracene	224	110	680	370^	<34	<34	<34	<31	<40	<74
Chrysene	400	190	1000	590^	<34	<34	<34	<31	<40	<74
Bis (2-ethylhexyl)phthalate	50000	3400	4400	1400	<34	<34	<34	31	na	<74
Di-n-octyl Phthalate	50000	<540	<4800	<560	<34	<34	<34	<31	na	<740&
Benzo (b) fluoranthene	1100	<540	<4800	470#	<34	<34	<34	<31	<40	<740&
Benzo (k) fluoranthene	1100	<540	<4800	470#	<34	<34	<34	<31	<40	<740&
Benzo (a) pyrene	61	<540	<4800	430^	<34	<34	<34	<31	<40	<740&
Indeno (1,2,3-cd) pyrene	3200	<540	<4800	<560	<34	<34	<34	<31	<40	<740&
Dibenzo(a,h)anthracene	14	<540	<4800	<560	<34	<34	<34	<31	<40	<740&
Benzo (ghi)perylene	50000	<540	<4800	<560	<34	<34	<34	<31	<40	<740&
Phenol	30	na	na	na	na	na	na	na	na	<74
2-Chlorophenol	800	na	na	na	na	na	na	na	na	<74
2-Methylphenol	100	na	na	na	na	na	na	na	na	<74
4-methylphenol	900	na	na	na	na	na	na	na	na	<74
2-nitrophenol	330	na	na	na	na	na	na	na	na	<74
2,4-Dimethylphenol	**	na	na	na	na	na	na	na	na	<74
2,4-dichlorophenol	400	na	na	na	na	na	na	na	na	<74
4-Chloro-3-methylphenol	240	na	na	na	na	na	na	na	na	<74
2,4,6-Trichlorophenol	**	na	na	na	na	na	na	na	na	<74
2,4,5-Trichlorophenol	**	na	na	na	na	na	na	na	na	<74
2,4-Dinitrophenol	200	na	na	na	na	na	na	na	na	<740
4-Nitrophenol	100	na	na	na	na	na	na	na	na	<740
2-Methyl-4,6-dinitrophenol	**	na	na	na	na	na	na	na	na	<740
Pentachlorophenol	1000	na	na	na	na	na	na	na	na	<740
Total	500000	4890	16880	4103	41	0	0	103	na	164

All results reported in ug/Kg.
Analysis Method: EPA 8270
Soil cleanup guidance values from NYSDEC, TAGM 4046, April 1995
** No guidance value published in this reference
^ Total = 69 ug/Kg, unable to separate isomers.
^^ Total = 560 ug/Kg, unable to separate isomers.
^^^ Total = 5400 ug/Kg, unable to seperate isomers.
# Total = 940 ug/Kg, unable to separate isomers.
Total = 29000 ug/Kg, unable to separate isomers.
&: Elivated detection limits due to interference in sample
na = not available; parameter not analyzed
Bold = exceeds guidance value

APPENDIX B

TABLE 3E
KEYSPAN GLENWOOD LANDING, NY 11547
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
SEMI-VOLATILE ORGANIC COMPOUNDS

COMPOUND	GROUNDWATER STANDARD	AREA 3				
		MW3-1 12/8/98	MW3-2 12/8/98	MW3-3 12/8/98	MW3-4 12/8/98	EB 12/8/98
Bis (2-Chloroethyl) ether	1	<1	<1	<1	<1	<1
1,3 Dichlorobenzene	5	<1	<1	<1	<1	<1
1,4 Dichlorobenzene	5	<1	<1	<1	<1	<1
Carbazole	**	<1	<1	<1	<1	<1
1,2 Dichlorobenzene	5	<1	<1	<1	<1	<1
Bis (2-chloroisopropyl) ether	**	<1	<1	<1	<1	<1
N-Nitrosodi-n-propylamine	**	<1	<1	<1	<1	<1
Hexachloroethane	5	<1	<1	<1	<1	<1
Nitrobenzene	5	<1	<1	<1	<1	<1
Isophorone	50*	<1	<1	<1	<1	<1
Bis (2-chloroethoxy) methane	5	<1	<1	<1	<1	<1
1,2,4Trichlorobenzene	5	<1	<1	<1	<1	<1
Napthalene	10*	<1	<1	<1	<1	<1
4-Chloroaniline	**	<1	<1	<1	<1	<1
Hexachlorobutadiene	5	<1	<1	<1	<1	<1
2-Methylnapthalene	**	<1	<1	<1	<1	<1
Hexachlorocyclopentadiene	5	<10	<10	<10	<10	<10
2-Chloronaphthalene	10	<1	<1	<1	<1	<1
2-Nitroaniline	10	<1	<1	<1	<1	<1
Dimethyl Phthalate	**	<1	<1	<1	<1	<1
Acenaphthylene	20	<1	<1	<1	<1	<1
2,6-Dinitrotoluene	5	<1	<1	<1	<1	<1
3-Nitroaniline	**	<1	<1	<1	<1	<1
Acenaphthene	20	<1	<1	<1	<1	<1
Dibenzofuran	**	<1	<1	<1	<1	<1
2,4-Dinitrotoluone	**	<1	<1	<1	<1	<1
Diethyl Phthalate	**	<1	<1	<1	<1	<1
4-Chlorophenyl phenyl ether	**	<1	<1	<1	<1	<1
Fluorene	50	<1	<1	<1	<1	<1
4-Nitroaniline	**	<1	<1	<1	<1	<1
N-Nitrosodiphenylamine	**	<1	<1	<1	<1	<1
4-Bromophenyl Phenyl ether	**	<1	<1	<1	<1	<1
Hexachlorobenzene	0.35	<1	<1	<1	<1	<1
Phenanthrene	50	<1	<1	<1	<1	<1
Anthracene	50	<1	<1	<1	<1	<1
Di-n-Butyl Phthalate	50	<1	<1	<1	<1	<1
Fluoranthene	50	<1	<1	<1	<1	<1
Pyrene	50	<1	<1	<1	<1	<1
BenzylButylPhthalate	**	<1	<1	<1	<1	<1
3,3-Dichlorobenzidine	**	<10	<10	<10	<10	<10
Benzo (a) anthracene	0.002	<1	<1	<1	<1	<1
Chrysene	0.002	<1	<1	<1	<1	<1
Bis (2-ethylhexyl)phthalate	50	1	1	1	<1	2
Di-n-octyl Phthalate	**	<1	<1	<1	<1	<1
Benzo (b) fluoranthene	0.002	<1	<1	<1	<1	<1
Benzo (k) fluoranthene	0.002	<1	<1	<1	<1	<1
Benzo (a) pyrene	**	<1	<1	<1	<1	<1
Indeno (1,2,3-cd) pyrene	0	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene	**	<1	<1	<1	<1	<1
Benzo (ghi)perylene	**	<1	<1	<1	<1	<1
Phenol	1	na	na	na	na	<1
2-Chlorophenol	1	na	na	na	na	<1
2-Methylphenol	1	na	na	na	na	<1
4-methylphenol	1	na	na	na	na	<1
2-nitrophenol	1	na	na	na	na	<1
2,4-Dimethylphenol	1	na	na	na	na	<1
2,4-dichlorophenol	1	na	na	na	na	<1
4-Chloro-3-methylphenol	1	na	na	na	na	<1
2,4,6-Trichlorophenol	11	na	na	na	na	<1
2,4,5-Trichlorophenol	1	na	na	na	na	<1
2,4-Dinitrophenol	1	na	na	na	na	<10
4-Nitrophenol	1	na	na	na	na	<10
2-Methyl-4,6-dinitrophenol	1	na	na	na	na	<10
Pentachlorophenol	1	na	na	na	na	<10

All results reported in ug/L.
Analysis Method: EPA 8270
Groundwater standards taken from NYSDEC, TOGS 1.1.1, October 1993
* Guidance value
** No reported value in TOGS; NYSDEC can apply a "general organic guidance value" of 50 ug/L.
# Total = 2ug/Kg, unable to separate isomers.
na = not available; parameter not analyzed
Bold = exceeds guidance value

APPENDIX B

TABLE 3F
KEYSPAN GLENWOOD LANDING, NY 11547
SUMMARY OF SOIL ANALYTICAL RESULTS
METALS - AREA 3

COMPOUND	SOIL GUIDANC VALUE	SS3-1 12/10/98	SS3-2 12/10/98	SS3-3 12/10/98	SS3-4 12/10/98	FDS-4 12/10/98	SS3-5 12/10/98	SS3-6 12/10/98	SB3-1 12/8/98	SB3-3 12/10/98	SB3-4 12/10/98	SB3-5 12/9/98	SB3-6 12/8/98	SB3-7 12/8/98	SB3-8 12/8/98	SB3-9 12/8/98	SD3-1 12/10/98
Arsenic	7.5	<0.32	11.4	<0.32	<0.31	**8.75**	1.42	0.68	1.55	6.65	**20.1**	1.42	<0.55	<0.56	<0.56	<0.49	<0.31
Barium	300	19	25.6	17	7.72	**9.86**	12.7	16.8	34.3	77	42	72	2.85	16.4	19	6.56	12.2
Cadmium	1	0.43	0.95	0.34	0.623	0.84	0.78	**1.6**	0.513	2.46	**7.59**	23	<0.11	0.266	0.347	0.115	1.35
Chromium	10	6.42	**18.7**	11.1	9.21	9.18	**15.6**	**11.5**	25	26.3	**46**	37	3.16	7.62	6.03	2.92	**28.5**
Copper	25	9.14	13.9	7.43	17.9	9.45	**36.8**	**76.8**	9.86	70	212	356	3.84	5.51	7.79	3.91	**47.5**
Iron	2000	**5949**	**10615**	**5654**	**4686**	**6514**	**5488**	**6690**	**6140**	**23400**	**25500**	**15000**	1521	**5174**	**5661**	**1926**	**15600**
Lead	400	2.45	34	5.41	65	62	79	166	73	47.9	193	200	0.681	2.71	14.6	2.59	104
Manganese	**	164	175	174	71	70	75.4	116	110	293	217	101	31.9	40.2	74	53.5	143
Mercury	0.1	**0.94**	**1.04**	<0.26	**0.52**	**0.97**	**1**	<0.25	<0.24	<0.37	**1.12**	**3.03**	<0.26	<0.24	<0.23	<0.22	**0.6**
Nickel	13	6.4	10.1	5.82	4.09	5	5.81	11.1	5.31	**16.2**	**44.5**	**31.7**	1.23	**6.39**	**4.88**	**2.54**	**16.4**
Selenium	2	<0.21	<0.22	<0.22	0.69	0.67	0.29	<0.22	0.866	0.67	**2.11**	0.82	<0.22	0.298	0.23	0.173	0.97
Silver	**	<0.32	<0.34	<0.32	<0.31	<0.31	<0.30	<0.32	<0.31	<0.49	<0.40	<0.5	<0.33	<0.34	<0.34	<0.29	<0.31
Vanadium	150	9.7	28.6	8.86	14.1	15.4	16.6	25	8.84	51	42.8	39.7	5.86	10.8	10.7	2.93	91.7
Zinc	20	16.3	35	17.2	**141**	**67.6**	**100**	**1150**	**59.4**	**105**	**657**	**1520**	3.93	13.6	15.2	8.72	**57.5**
Antimony	**	<1	<1	<1	<1	<1	<1	2.6	<1	<2	2.9	10	<1	<1	<1	<1	1.1
Beryllium	0.16	0.11	0.11	0.11	<0.11	<0.11	0.11	0.11	0.21	0.36	0.16	0.17	<0.06	0.17	0.17	0.051	0.15
Calcium	**	720	3700	12000	13000	7200	9600	1000	8900	3100	21000	2700	120	110	340	110	7700
Cobalt	30	2.4	2.5	2.4	1.6	1.5	2.2	2.3	2	22	140	3.3	0.4	2.1	2.3	0.92	3.1
Cyanide	**	<2	<2	<2	<2	<2	<2	<2	<2	<4	<4	<4	<2	<2	<2	<2	<2
Magnesium	**	890	2700	1100	7500	660	5500	900	2500	1400	1200	1000	26	320	410	210	470
Thallium	**	<1	<1.1	<1	<1	<1	<1	<1	3.1	<2	<2	<2	<0.6	<0.6	<0.6	<0.6	<0.5
Aluminum	**	2300	2700	2200	1600	1200	2300	2400	3500	12000	4500	4200	720	2900	3300	1100	1600
Potassium	**	510	420	450	160	170	230	170	410	730	430	400	43	160	220	120	290
Sodium	**	<55	<55	32	<55	<55	<55	<55	63	<100	90	<100	41	57	36	17	130

All results reported in mg/Kg.
Analysis Method: EPA 6010 / 7041 / 7071 / 9012
Soil cleanup guidance values from NYSDEC, TAGM 4046, April 1995
** No guidance value published in this reference
Bold = exceeds guidance value

APPENDIX B

TABLE 3G
GLENWOOD GAS PLANT
GLENWOOD LANDING, NY 11547
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
DISSOLVED METALS

COMPOUND	Groundwater Standard	AREA 3				
		MW3-1 12/8/98	MW3-2 12/8/98	MW3-3 12/8/98	MW3-4 12/8/98	EB 12/9/98
Arsenic	0.025	<0.005	<0.005	<0.005	0.022	<0.005
Barium	1	0.033	0.028	0.024	0.043	0.029
Cadmium	0.01	<0.001	<0.001	<0.001	0.005	<0.001
Chromium	0.05	0.007	0.003	0.003	0.003	0.004
Copper	0.2	<0.025	<0.025	<0.025	0.041	<0.025
Iron	0.3	**2.06**	**1.78**	**1.06**	**58.1**	0.138
Lead	0.025	<0.004	<0.004	<0.004	0.035	<0.004
Manganese	0.3	0.208	0.123	0.083	**1.31**	0.006
Mercury	0.002	<0.5	<0.5	<0.5	<0.5	<0.5
Nickel	**	<0.002	<0.002	<0.002	0.01	<0.002
Selenium	0.01	0.002	<0.002	<0.002	<0.002	<0.002
Silver	50	<0.003	<0.003	<0.003	<0.003	<0.003
Vanadium	**	<0.001	<0.001	<0.001	0.016	<0.001
Zinc	0.3	<0.02	0.192	0.084	0.071	<0.02
Antimony	0.003	<0.005	<0.005	<0.005	<0.005	<0.005
Beryllium	0.003	<0.001	<0.001	<0.001	<0.001	<0.001
Calcium	**	18	16	13	22	9.9
Cobalt	0.11	<0.01	<0.01	<0.01	0.04	<0.01
Cyanide	**	NA	NA	NA	NA	NA
Magnesium	35	7.5	6.1	5.2	7.3	1.3
Thallium	4	<0.005	<0.005	<0.005	<0.005	<0.005
Aluminum	**	0.22	0.95	0.21	3.1	0.03
Potassium	**	2.8	2.2	1.8	3.3	0.83
Sodium	20	5.5	10	5.6	13	4.5

All results reported in mg/Kg.
Analysis Method: EPA 200.7 / 6010
Groundwater standards taken from NYSDEC, TOGS 1.1.1, October 1993
**: No reported value in TOGS
na = not available; parameter not analyzed
Bold = exceeds guidance value

APPENDIX B

TABLE 3H
KEYSPAN GLENWOOD LANDING, NY 11547
SUMMARY OF SOIL ANALYTICAL RESULTS
PCB

		AREA 3											
COMPOUND	SOIL GUIDANC VALUE	SS3-1 12/10/98	SS3-2 12/10/98	SS3-3 12/10/98	SS3-4 12/10/98	SS3-5 12/10/98	FDS-4 12/10/98	SS3-6 12/10/98	SB3-1 12/8/98	SB3-1R 12/10/98	SB3-1A 12/10/98	SB3-1B 12/10/98	SB3-1C 12/10/98
PCB-1016	1	<0.2	<0.2	<0.2	<0.2	<2.0	<0.2	<2.0	<0.2	<0.2	<0.2	<0.2	<0.2
PCB-1221	1	<0.2	<0.2	<0.2	<0.2	<2.0	<0.2	<2.0	<0.2	<0.2	<0.2	<0.2	<0.2
PCB-1232	1	<0.2	<0.2	<0.2	<0.2	<2.0	<0.2	<2.0	<0.2	<0.2	<0.2	<0.2	<0.2
PCB-1242	1	<0.2	<0.2	<0.2	<0.2	<2.0	<0.2	<2.0	<0.2	<0.2	<0.2	<0.2	<0.2
PCB-1248	1	**1.5**	0.3	<0.2	0.6	<2.0	<0.2	<2.0	<0.2	<0.2	<0.2	<0.2	0.2
PCB-1254	1	<0.2	<0.2	<0.2	<0.2	<2.0	<0.2	<2.0	<0.2	<0.2	<0.2	<0.2	<0.2
PCB-1260	1	<0.2	<0.2	<0.2	0.2	<2.0	<0.2	<2.0	<0.2	<0.2	<0.2	<0.2	<0.2

All results reported in mg/Kg.
Analysis Method: EPA 8082
Soil cleanup guidance values from NYSDEC, TAGM 4046, April 1995
** No guidance value published in this reference
Bold = exceeds guidance value

APPENDIX B

TABLE 3H
KEYSPAN GLENWOOD LANDING, NY 11547
SUMMARY OF SOIL ANALYTICAL RESULTS
PCB

		AREA 3								
COMPOUND	SOIL GUIDANC VALUE	SB3-3 12/10/98	SB3-4 12/10/98	SB3-5 12/9/98	SB3-6 12/8/98	SB3-7 12/8/98	SB3-8 12/8/98	SB3-9 12/8/98	SB3-9A 12/10/98	SD3-1 12/10/98
PCB-1016	1/10	<2.0	<2.0	<2.0	<0.2	<0.2	<0.2	<0.2	<0.2	<2
PCB-1221	1/10	<2.0	<2.0	<2.0	<0.2	<0.2	<0.2	<0.2	<0.2	<2
PCB-1232	1/10	<2.0	<2.0	<2.0	<0.2	<0.2	<0.2	<0.2	<0.2	<2
PCB-1242	1/10	<2.0	<2.0	<2.0	<0.2	<0.2	<0.2	<0.2	<0.2	<2
PCB-1248	1/10	<2.0	<2.0	<2.0	<0.2	<0.2	<0.2	<0.2	<0.2	<2
PCB-1254	1/10	<2.0	<2.0	<2.0	<0.2	<0.2	<0.2	<0.2	<0.2	<2
PCB-1260	1/10	<2.0	<2.0	<2.0	<0.2	<0.2	<0.2	<0.2	<0.2	<2

All results reported in mg/Kg.
Analysis Method: EPA 8082
Soil cleanup guidance values from NYSDEC, TAGM 4046, April 1995
Bold = exceeds guidance value

APPENDIX B

TABLE 3I
KEYSPAN GLENWOOD LANDING, NY 11547
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
PCBs

COMPOUND	GROUNDWATER STANDARD	AREA 3				
		MW3-1 12/8/98	MW3-2 12/8/98	MW3-3 12/8/98	MW3-4 12/8/98	FDGW-1 12/9/98
PCB-1016	0.1	<0.065	<0.065	<0.065	<0.065	<0.065
PCB-1221	0.1	<0.065	<0.065	<0.065	<0.065	<0.065
PCB-1232	0.1	<0.065	<0.065	<0.065	<0.065	<0.065
PCB-1242	0.1	<0.065	<0.065	<0.065	<0.065	<0.065
PCB-1248	0.1	<0.065	<0.065	<0.065	<0.065	<0.065
PCB-1254	0.1	<0.065	<0.065	<0.065	<0.065	<0.065
PCB-1260	0.1	<0.065	<0.065	<0.065	<0.065	<0.065

All results reported in ug/L.
Analysis Method: EPA 608
Groundwater standards taken from NYSDEC, TOGS 1.1.1, October 1993
Bold = exceeds guidance value

APPENDIX B

TABLE 3J
KEYSPAN GLENWOOD LANDING, NY 11547
SUMMARY OF SOIL ANALYTICAL RESULTS
PESTICIDES

		AREA 3		
COMPOUND	SOIL GUIDANCE VALUE	SS3-1 12/10/98	SS3-2 12/10/98	SS3-3 12/10/98
Lindane	**	<2	<2	<2
Heptachlor	100	<2	<2	<2
Aldrin	41	<2	<2	<2
Heptachlor Epoxide	20	<2	<2	<2
p,p-DDE	2100	<2	<2	<2
Dieldrin	44	<2	<2	<2
Endrin	100	<2	<2	<2
p,p-DDD	2900	<2	<2	<2
p,p-DDT	2100	<4	<4	<4
Chlordane	540	<9	<9	<9
Toxaphene	**	<43	<44	<43
Endrin Aldehyde	**	<13	<13	<13
a BHC	110	<2	<2	<2
b BHC	200	<2	<2	<2
d BHC	300	<2	<2	<2
Endosulfan 1	900	<4	<4	<4
Endosulfan 2	900	<4	<4	<4
Endosulfan Sulfate	1000	<13	<13	<13

All results reported in ug/Kg.
Analysis Method: EPA 8081
Soil cleanup guidance values from NYSDEC, TAGM 4046, April 1995
** No guidance value published in this reference
Bold = exceeds guidance value

APPENDIX B

TABLE 3K
KEYSPAN GLENWOOD LANDING, NY 11547
SUMMARY OF SOIL ANALYTICAL RESULTS
HERBICIDES

		AREA 3		
COMPOUND	SOIL GUIDANCE VALUE	SS3-1 12/10/98	SS3-2 12/10/98	SS3-3 12/10/98
2,4-D	500	<11	<11	<11
2,4,5-TP	1900	<5	<6	<5

All results reported in ug/Kg.
Analysis Method: EPA 8151
Soil cleanup guidance values from NYSDEC, TAGM 4046, April 1995
** No guidance value published in this reference
Bold = exceeds guidance value

APPENDIX B

TABLE 3L
KEYSPAN GLENWOOD LANDING, NY 11547
UMMARY OF SOIL ANALYTICAL RESULT
ETHYLENE GLYCOL

COMPOUND	STANDARDS	SB3-2 12/8/98
Ethylene Glycol	200000*	<120

Results reproted in mg/Kg.
Standard reported from TAGM "Contained-In" criteria for environmental media.
Bold = exceedance over guidance value.