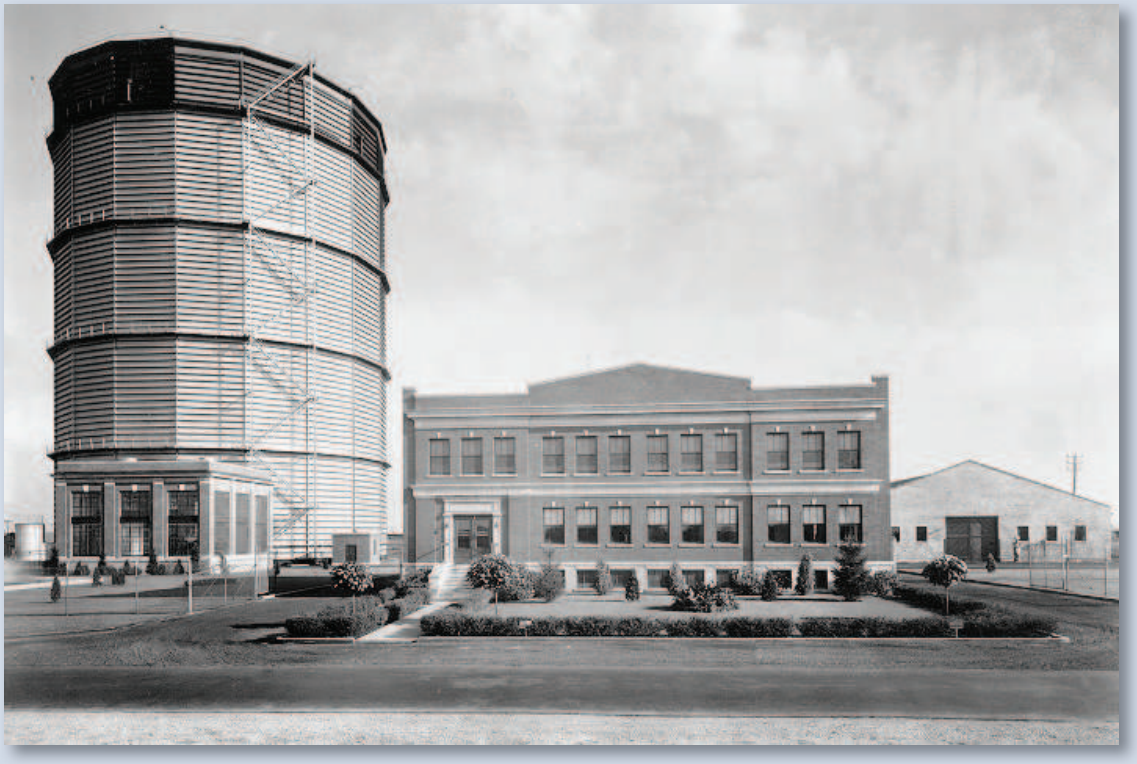
December 2011

nationalgrid

Site Characterization Report

for the

East Garden City Former Stewart Avenue Holder Station



Prepared for:

National Grid
Hicksville, New York

Dvirka and Bartilucci Consulting Engineers
A Division of D&B Engineers and Architects, P.C.

nationalgrid

December 13, 2011

Mr. R. Scott Deyette
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233-7014

Re: East Garden City Former Stewart Avenue Holder Station
Site Characterization Report

Dear Mr. Deyette:

Enclosed for your review, please find one hard copy and one CD copy of the *Site Characterization Report* for the East Garden City Former Stewart Avenue Holder Station.

Please contact me at (516) 545-2578 or Sarah Aldridge at (516) 545-2568 if you have any questions or comments.

Sincerely,

Patrick J. Van Rossem
Project Manager

PVR/ST/jmy,lf
cc: S. Karpinski (NYSDOH)
J. DeFranco (NCDH)
G. Sparacio (LIPA)
S. Aldridge (National Grid)
T. Leissing (National Grid)
F. Murphy (National Grid)
S. Tauss (D&B Engineering)
♦3008\MISC11LTR.DOC-04(R02)

SITE CHARACTERIZATION REPORT
FOR THE
EAST GARDEN CITY
FORMER STEWART AVENUE HOLDER STATION
EAST GARDEN CITY, NEW YORK
SITE NO. 130120

Prepared for:

NATIONAL GRID
HICKSVILLE, NEW YORK

Prepared by:

DVIRKA AND BARTILUCCI CONSULTING ENGINEERS
WOODBURY, NEW YORK

DECEMBER 2011

SITE CHARACTERIZATION REPORT
FOR THE
EAST GARDEN CITY
FORMER STEWART AVENUE HOLDER STATION
EAST GARDEN CITY, NEW YORK

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EXECUTIVE SUMMARY

National Grid contracted Dvirka and Bartilucci Consulting Engineers (D&B) to conduct a Site Characterization of the East Garden City Former Stewart Avenue Holder Station (hereinafter referred to as the Site) located in East Garden City, New York. National Grid is working under an Order of Consent and Administrative Settlement (Index No. A2-0552-0606) with the New York State Department of Environmental Conservation (NYSDEC) to investigate and, if necessary, remediate potential contamination at multiple sites on Long Island and in New York City. A three million cubic feet (ft^3) tar-sealed gas storage holder formerly existed at the East Garden City Site, which was utilized to hold both manufactured gas and natural gas. Based on review of the 1966 and 1970 aerial photographs and Sanborn Maps, the storage holder was decommissioned sometime between 1966 and 1970. While the Site was not a Manufactured Gas Plant (MGP) facility, MGP-related materials, such as coal clinker, have previously been observed at some locations at the Site. The basic objectives of the Site Characterization included:

- Identifying the nature and extent of contamination associated with the former Holder Station and MGP-related materials in Site soil;
- Identifying the potential impacts of any such contamination to human health and the environment; and
- Assessing the SC results to determine if any site-related contamination warrants more investigation or remediation.

The Site Characterization field activities were completed from April 2011 through June 2011 in accordance with the NYSDEC-approved February 2011 Site Characterization Work Plan (SCWP). The scope of work included the excavation of test pits, completion of soil borings, installation of groundwater monitoring wells, collection of surface and subsurface soil samples to characterize soil conditions; and groundwater samples were collected to characterize soil and groundwater quality at the Site.

The Site, which is approximately 10 acres in area, is owned by the Long Island Power Authority (LIPA). A natural gas gate station is located in the northern portion of the Site and is operated by National Grid. An electric substation in the southern portion of the Site is operated by LIPA. The New York Power Authority (NYPA) owns electrical equipment located in the northwestern portion of the Site, and a transformer in the eastern portion of the electric substation yard.

The majority of the Site is covered with asphalt, crushed stone or a maintained lawn. A chain link fence surrounds the majority of the Site, including all operating areas for the natural gas and electric substation equipment. Entrance to operating areas is restricted by locked security gates which require a company-issued access card and/or authorization to open. Only driveways and parking lots outside of the operating areas do not have restricted access and these areas are mostly covered by asphalt. Since the Site has restricted access to the operating areas, and the private driveways and parking lots are mostly covered by asphalt, the potential for contact with Site soil is very low for the general public. In addition, any site-related excavation work can be addressed by a Site Management Plan (SMP) to address Site workers.

The following is a brief summary of the findings of the Site Characterization:

Surface and Subsurface Soil

Reworked fill deposits are present throughout the Site to a depth of approximately 8 to 12 feet below grade. MGP-related materials were visually observed in these fill deposits in limited areas of the Site, including the former gas holder foundation, the southeastern portion of the natural gas gate station and the eastern portions of the electric substation. Evidence of MGP-related materials included limited evidence of solid tar, slight to moderate staining and

odors, and/or the presence of coal clinker. Although the majority of the MGP-related materials were observed during previous investigations to a depth of approximately 4 to 6 feet below grade, the Site Characterization identified limited areas of deeper impacts, generally at 8 to 10 feet below grade. Since gas manufacturing did not occur at the Site, it is assumed that the limited MGP-related materials observed at the Site originated from another location, and may have been placed on-site along with other soil.

Semivolatile organic compounds (SVOCs), consisting primarily of polycyclic aromatic hydrocarbons (PAHs), were detected above their respective NYSDEC Industrial Use Soil Cleanup Objectives (SCOs) in several shallow soil samples primarily collected in the eastern portion of the Site. Soil samples exhibiting the higher PAH concentrations also exhibited visual evidence of MGP-related materials. However, maximum total PAH concentrations were below 100 mg/kg. In addition, benzo(a)pyrene was the only individual PAH detected above its Industrial Use SCO of 1.1 mg/kg at a concentration of 2.1 mg/kg in only one of the 13 surface soil samples, and at concentrations of 1.5 mg/kg and 6.5 mg/kg in only two of the 42 subsurface soil samples. Volatile organic compounds (VOCs), metals, cyanide and polychlorinated biphenyls (PCBs) were not detected above their respective NYSDEC Industrial Use SCOs in any of the surface or subsurface soil samples collected during the Site Characterization.

Solidified tar and sediment was observed at the surface within a retired gas pipe located on the eastern side of the former gas holder foundation within the secured natural gas gate station. A sample of the solidified tar/sediment exhibited a total PAH concentration of 4,292 mg/kg. Although the tar is visible at the surface, it was observed within a fenced and secure restricted access area. In addition, the tar is solidified and, therefore, not mobile.

Groundwater

Trace concentrations of chlorinated VOCs and BTEX compounds were detected during the completed groundwater sampling, primarily in the upgradient monitoring wells. Chlorinated VOCs (CVOCs) are not typically associated with MGP-related materials and the CVOCs most likely originated from an upgradient source. Spills research noted a gasoline service station with at least one open petroleum spill located less than 1/8 of a mile upgradient of the Site, and this could be a potential source of VOCs.

One of the on-site monitoring wells located in the eastern portion of the electric substation yard exhibited elevated total and free cyanide concentrations in groundwater. However, monitoring wells located further downgradient along the southern perimeter of the Site did not exhibit elevated concentrations of cyanide, indicating that this is a localized condition.

Based on the findings of this Site Characterization including the previous investigations at the Site, additional delineation of MGP-related materials should not be necessary. In addition, based on the extensive network of above and below grade utilities present at the Site and limited potential for exposure to on-site workers or the public to site-related contaminants, remediation of soil containing MGP-related materials is not warranted at this time. The following items are detailed in Section 5.2 of the Conclusions:

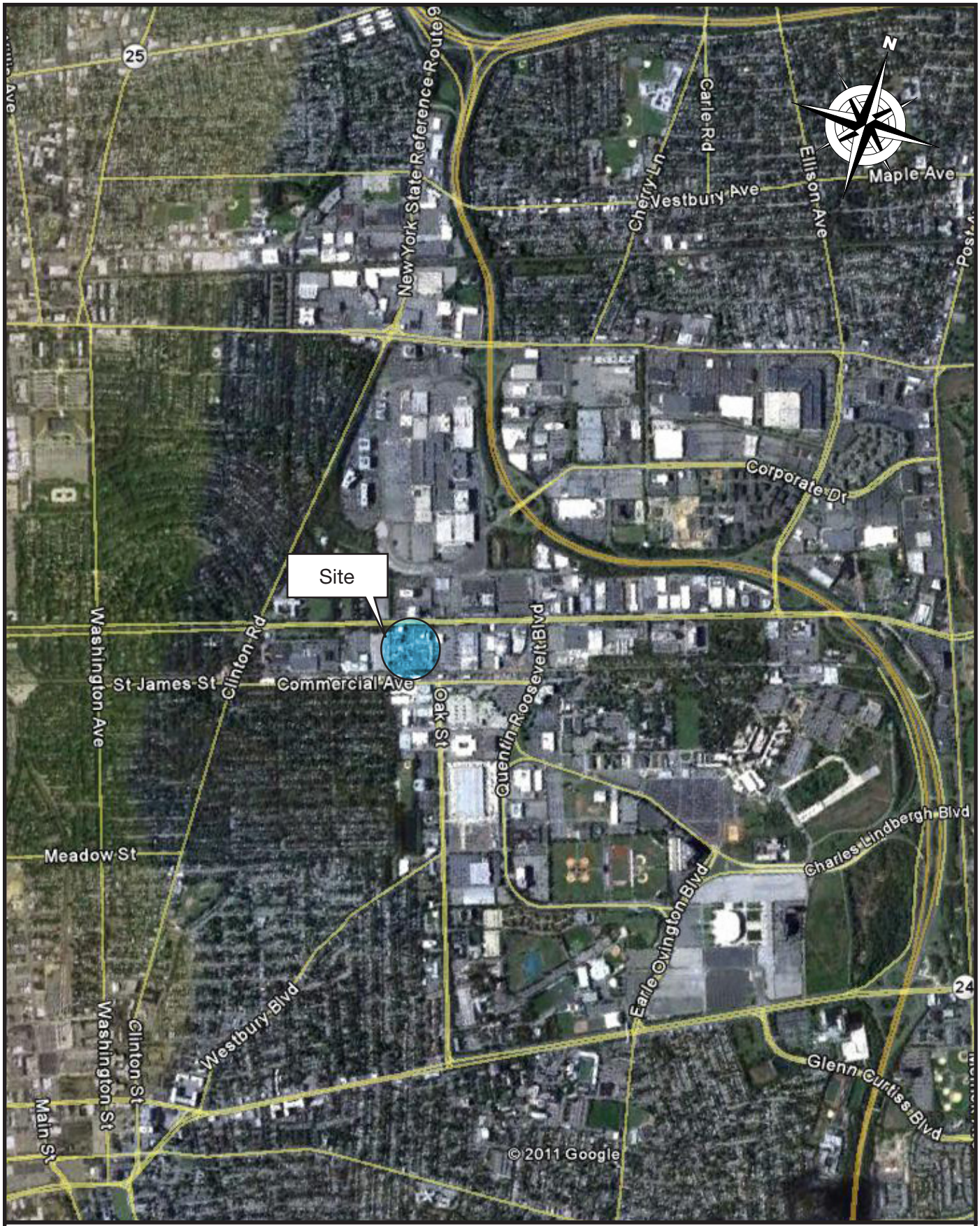
- Maintain limited access to the natural gas gate station and electric substation areas of the Site;
- Maintain the crushed stone, asphalt and maintained lawn cover at the Site;
- Cover the retired gas pipe containing the exposed solidified tar/sediment in asphalt and leave the structure in place; and
- Develop a Site Management Plan (SMP) for the Site.

1.0 INTRODUCTION

1.1 Project Background

National Grid contracted Dvirka and Bartilucci Consulting Engineers (D&B) to conduct a Site Characterization of the East Garden City Former Stewart Avenue Holder Station located in East Garden City, New York (hereinafter referred to as the Site). National Grid (formerly KeySpan) is working under an Order of Consent and Administrative Settlement (Index No. A2-0552-0606) with the New York State Department of Environmental Conservation (NYSDEC) to investigate and, if necessary, remediate potential contamination at multiple sites on Long Island and in New York City. A site location map is provided as Figure 1-1. The Site is currently being utilized as a natural gas gate station and an electric substation. The former three million cubic feet (ft^3) gas storage holder was used to hold both manufactured gas and natural gas. Based on review of the 1966 and 1970 aerial photographs and Sanborn Maps, the storage holder was decommissioned sometime between 1966 and 1970. While the Site was not a Manufactured Gas Plant (MGP) facility, MGP-related materials, such as coal clinker, have been observed at some locations on the property.

D&B completed the Site Characterization field activities from April 2011 through June 2011 in accordance with the NYSDEC-approved February 2011 Site Characterization Work Plan (SCWP). This Site Characterization Report has been completed in accordance with the New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation (DER)-10 document, dated May 2010. The report is organized as follows:



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

East Garden City Former Stewart Avenue Holder Station
Garden City, NY

Site Location Map

FIGURE 1-1

3008 - Site Location Map.indd (10/19/11 - 5:43 PM)

- Section 1 (Introduction) includes a site overview history, and previous investigation results;
- Section 2 (Site Characterization Scope of Work) describes the completed Site Characterization field activities and any changes from the planned scope of work;
- Section 3 (Site Geology and Hydrogeology) describes the site-specific geology and hydrogeology based on data collected from soil borings, test pits and monitoring wells installed during the Site Characterization, as well as data collected during previous investigations;
- Section 4 (Site Characterization Findings) presents the findings of the Site Characterization field activities, including the analytical results of all collected samples. An assessment of potential human health exposure pathways is also included; and
- Section 5 (Conclusions and Recommendations) presents conclusions based on the Site Characterization results.

1.2 Site Description

1.2.1 Current Site Description

The Site is located on Stewart Avenue in East Garden City, Nassau County, New York. Primary access to the Site is from Stewart Avenue, which bounds the Site to the north. The Site, which is approximately 10 acres in area, is currently a natural gas gate station and an electric substation. The natural gas gate station is present on the northern portion of the Site, and the electric substation (4H East Garden City electric substation) is present on the southern portion of the Site. A site plan is included as Drawing 1, provided in a map pocket at the end of this section of the report. The entire Site is owned by the Long Island Power Authority (LIPA). National Grid operates the natural gas gate station, LIPA operates the 4H East Garden City electric substation and the New York Power Authority (NYPA) owns other electrical equipment located in the northwestern portion of the Site. A NYPA transformer is also located in the eastern portion of the electric substation yard.

The majority of the Site is unpaved and covered with crushed stone. Asphalt paving is present on the northern portions of the Site, primarily the private parking lots and access roads. As shown on Drawing 1, a small above and below ground natural gas piping network and associated regulator buildings are located in the northeastern portion of the Site where National Grid's natural gas gate station and piping are located. The surface of the natural gas gate station consists of both asphalted and grass covered areas. A complex network of above and below ground electric equipment and associated control buildings are located in the electric substation yard in the southern portion of the Site, which is primarily covered by crushed stone. In addition, a National Grid office building (600 Stewart Avenue) and parking area are located on the northwestern portion of the Site, adjacent to Stewart Avenue. A chain link fence surrounds the majority of the Site, including all natural gas and electric substation equipment. Security gates require an access card and/or authorization to restrict entry to the electric substation yard and natural gas gate station.

The Site was the former location of a gas storage holder, where both natural gas and manufactured gas were stored for local distribution (see Section 1.3 for a discussion of Site history). A small portion of the concrete gas holder foundation is present in the central portion of the Site within the natural gas piping area. There are also two compressor buildings that were part of the former gas holder infrastructure, which are currently located to the northeast of the holder foundation. The approximate locations of the gas holder foundation and compressor buildings are depicted on Drawing 1. The two former compressor buildings are currently utilized by National Grid, with the smaller western building being used to house gas regulator equipment and the larger eastern building being used for storage.

1.2.2 Adjoining Property Description

The areas adjoining and surrounding the Site include commercial and industrial properties and are depicted on Figure 1-2. Stewart Avenue and commercial properties border the Site to the north. The Roosevelt Field Shopping Center is located further to the north, at a distance of approximately 1/3 mile. Roosevelt Field was an aviation field prior to the construction of the shopping mall. A Long Island Rail Road (LIRR) right-of-way and rail tracks bound the Site to the south. Various commercial and industrial properties are located further south beyond the LIRR rail tracks along Commercial Avenue. A shopping center, including restaurants and retail facilities, is located immediately east of the Site. A vacant lot is located immediately west of the Site that was the location of a former tea company warehouse and a former Newsday newspaper plant that was previously removed.

1.3 Site History

The SCWP included a discussion of the history of the Site, which is presented below. The discussion was based on a review of information obtained from National Grid and a review of available Sanborn (fire insurance) maps, historical aerial photographs and historical topographic maps. Sanborn maps were reviewed from 1936 through 1970. Although historical topographic maps were available for as early as 1903, details of the Site were not provided until the 1947 map. Historical aerial photographs were reviewed from 1957 through 1994. The EDR is available for review in the SCWP and the Sanborn Maps and aerial photographs from the EDR are available for review in *Appendix A* of this Site Characterization Report.

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

East Garden City Former Stewart Avenue Holder Station
Garden City, NY

Adjoining and Surrounding Properties

Source: Googlearth.com

Figure 1-2

3008 - Aerial Map.indd (10/19/11 - 5:38 PM)

1.3.1 Site Ownership and Past Site Operations

The 1936 Sanborn map indicates that the Site was owned by the Nassau & Suffolk Lightning Company. A single gas holder was in place by this time, with a capacity indicated as three million ft^3. A compressor house is depicted immediately north of the gas holder. In addition, an office building and garage were present on the northwest portion of the Site. The approximate locations of the former structures, including the former gas holder, are depicted on Drawing 1.

A tar-sealed gas holder station operated on the Site from the 1940's or earlier, as indicated by the 1936 Sanborn map. The holder that operated at the Site was a remote gas distribution holder with no gas production facilities on-site. Gas holders were used to store manufactured or natural gas at various points in the distribution system. The gas holders constructed in the early part of the 20th century were low-pressure holders with either a water or tar seal. Tar-sealed holders were large metal structures with a stationary shell and an internal piston that rose and fell when gas entered the cylinder. An oily tar was used to provide a seal around the edge of the piston. Tar, containing hydrocarbons, had the potential to leak or be inadvertently spilled during operations or upon decommissioning and demolition. Typically, to prevent corrosion, these structures were coated with paint, possibly containing lead. Maintenance painting and scraping during operations could have potentially deposited lead in the vicinity of the holder.

By 1950, the owner of the Site was indicated as the Long Island Lighting Company (LILCO). An additional garage is present south of the gas holder on the 1950 Sanborn map. The 1955 topographic map indicates that the Site was also utilized as an electric substation by that time. Additional compressors are depicted northeast of the gas holder on the 1961 Sanborn map. In addition, a building labeled "greas'g" (which is labeled as the former Greasing Building on drawings in this report) had been constructed to the south of the gas

holder by this time. The exact use or function of this building was unable to be determined from the Sanborn map. Based on review of the 1966 and 1970 aerial photographs and Sanborn Maps, the gas holder structure was removed from the Site between 1966 and 1970. According to the historical aerial photographs, additional electric substation structures were added after the removal of the gas holder structure.

1.3.2 Former Gas Holder Layout and Key Features

As depicted on Drawing 1, the Site consisted of a large capacity gas holder (approximately three million ft^3), three compressor houses, a building labeled "greas'g" (which is labeled as the former Greasing Building on drawings in this report), two garages and an office building. The gas holder consisted of a cylindrical chamber approximately 145 feet in diameter. Based on available information, the gas holder was constructed on a concrete foundation that was left in place after the gas holder was removed. A small portion of the concrete gas holder foundation remains on the central portion of the Site. According to National Grid, the office building located at 600 Stewart Avenue is the original office building constructed before 1936 that is depicted on the Sanborn maps.

1.4 Previous Investigations and Interim Remedial Measure

National Grid previously completed several phases of investigations at the Site for National Grid in support of electric substation upgrade projects in several areas of the substation yard from August 2007 to June 2008. In addition, D&B assisted National Grid with an Interim Remedial Measure (IRM), completed in the northeast corner of the electric substation yard in the first quarter of 2008. The previously completed investigations were primarily focused on shallow soil conditions in the northeast corner of the electric substation yard; however, D&B also investigated several additional areas throughout the electric substation yard and an area to the southeast of the electric substation yard. Two additional

limited soil investigations were conducted in August and January of 2007 by Miller Environmental Group (MEG) and Fenley and Nicol (F&N), respectively. All previously completed investigations and the IRM are summarized below. The previously completed soil sample locations are depicted on Drawing 2, included in a map pocket at the end of Section 2.0. Further details on the previously completed investigations and IRM are provided in the SCWP.

Based on the results of the previously completed investigations, soil exhibiting gray and black staining and varying amounts of coal clinker, including some with a blue coloration, have been identified in the southeastern portion of the natural gas gate station and the eastern portions of the electric substation yard ranging from grade to approximately 4 to 6 feet in depth. In addition, elevated photoionization detector (PID) readings were detected in several soil samples collected by MEG in the southeastern portion of the natural gas gate station, with a maximum PID reading of 29 parts per million (ppm). Based on the fill characteristics, it is possible that this material is MGP-related. Since gas manufacturing did not occur at the Site, the observed fill material may have originated from another site. Completed soil borings and trench locations exhibiting this MGP-related fill are depicted in purple on Drawing 2.

In total, 62 shallow subsurface soil samples were previously collected at the Site, focusing primarily on the MGP-related fill identified in the eastern portion of the Site, with sample depths ranging from approximately 1 to 6 feet below ground surface. Soil exhibiting concentrations of arsenic, mercury and benzo(a)pyrene above Industrial Use soil cleanup objectives (SCOs) were detected in the eastern and southeastern portions of the Site. These contaminant concentrations were found to be generally low with only 14 of the 62 collected soil samples exhibiting one or more compounds above their respective Industrial Use SCOs. Completion of the IRM in the northeastern corner of the electric substation yard in February

2008 resulted in the removal of soil containing the majority of the identified elevated contaminant concentrations.

1.5 Environmental Records Search

In order to assist in the development of the scope of work for the Site Characterization, D&B performed a review of federal, state and local records for the Site compiled in a regulatory agency database report by Environmental Data Resources Inc. (EDR). The detailed findings of this review were presented in the February 2011 SCWP and the Sanborn Maps and pertinent historical information from the EDR document are provided in Appendix A of this Site Characterization Report. The following sections present a summary of the findings from the EDR database review for the Site and surrounding properties.

1.5.1 East Garden City Electric Substation

As previously stated, the Site was not an MGP Site. However, becase the Site was used to store manufactured gas holder station, the Site was listed in the Manufactured Gas Plants database and the polychlorinated biphenyl (PCB) Activity Database System (PADS), which identifies generators, transporters, commercial storers and/or brokers and disposers of PCBs. However, note that the Site only stored manufactured gas and did not produce it since gas manufacturing did not occur at the Site. The Site has been identified as a Conditionally Exempt Small Quantity Generator (CESQG) of hazardous waste and as a large quantity generator in the past. Wastes which have been manifested off-site include PCB wastes, metals, corrosive wastes, ignitable wastes, halogenated solvents and tetrachloro-ethylene.

Two spills listed in the NY Spills database occurred at the Site, including NYSDEC Spill Nos. 0310194, 0305823 and 0212271. Spill No. 0310194 occurred on December 2, 2003 and involved a release of approximately 80 gallons of non-PCB dielectric fluid to soil

when seals on a sampling valve leaked. The spill was remediated by soil excavation and the NYSDEC closed the spill in 2005. The database notes that historical spills may have contributed to the observed contamination and may still be present. The second spill (NYSDEC Spill No. 0305823) occurred on September 2, 2003 and involved a release of approximately 20 gallons of dielectric fluid. It was reported that the spill was contained in a vaulted area of an aboveground transformer and was remediated. The spill was closed by the NYSDEC in 2005.

In addition, a dielectric cable fluid (DCF) spill occurred off-site on the Long Island Rail Road (LIRR) right-of-way to the south of the Site in March 2003. The DCF was released to the subsurface under the Long Island Rail Road (LIRR) right-of-way (ROW) located to the immediate south of the Site, and was assigned Spill No. 0212271 by the NYSDEC. The spill is currently listed as "open" by the NYSDEC and is being remediated by LIPA. A remediation system utilized to recover the DCF included six recovery wells and two belt-skimming devices to remove non-aqueous phase liquid (NAPL) from the groundwater surface. The recovered NAPL was then pumped to a 550-gallon recovery tank located on the Site, as depicted on Drawing 1. Automated recovery operations were supplemented by periodic vacuum-enhanced fluid recovery (VEFR) using a vacuum truck. The latest status report on the response to this spill was provided to the NYSDEC in January 2011, and the report indicated that the belt skimmers have been turned off due to low product levels. Recent recovery operations include the use of absorbent pads to recover residual product and occasional use of VEFR, as warranted by the observed conditions.

1.5.2 Adjoining and Surrounding Properties

As discussed in Section 3.3, shallow groundwater flows in a generally south/southeasterly direction within the vicinity of the Site. The review of the EDR database has identified a number of sites with contamination that, based on the south/southeasterly

direction of groundwater flow, could potentially impact soil and/or groundwater quality at the Site. These sites are discussed below. A figure depicting adjoining and surrounding properties, including these upgradient sites with contamination, is provided as Figure 1-2.

As depicted on Figure 1-2, the Old Roosevelt Field Contaminated Groundwater Area (ORCA) National Priority List (NPL) site is located approximately 1/3 mile north/northwest of the Site. The NPL, also known as Superfund, lists properties that are ranked as high priority for cleanup under the Superfund program. The ORCA site has historically exhibited a groundwater contaminant plume containing elevated concentrations of volatile organic compounds (VOCs), such as tetrachloroethene (PCE), trichloroethene (TCE) and carbon tetrachloride. The source of the contamination is cited as the previous use of Roosevelt Field as a major aviation field as well as other industrial sites in the area which have historically and may currently utilize chlorinated solvents. The ORCA site is located upgradient from the Site and has the potential to impact groundwater quality at the Site. In addition, Award Packaging, a State Hazardous Waste Site, is located east of Roosevelt Field and also potentially upgradient of the Site. Impacts to groundwater from VOCs such as PCE, TCE, toluene and xylenes have been documented at the Award Packaging site. Industrial sites located to the south and downgradient of the Site, including the Pasley Solvents NPL site, are not expected to impact groundwater quality at the Site.

The database also identified an open spill resulting from a small leak of a gasoline pump at the Exxon station at 611 Stewart Avenue, less than 1/8 mile north and upgradient of the Site. The presence of a service station immediately upgradient of the Site represents a potential to impact the groundwater quality at the Site.

1.6 Areas of Interest and Project Objectives

As detailed in the February 2011 SCWP, the Site Characterization was designed to evaluate the potential for the following environmental conditions:

- There are a number of off-site petroleum and hazardous waste sites with known or suspected groundwater contamination that are located upgradient of the Site based on a south/southeasterly direction of groundwater flow. Therefore, there is a potential for Site groundwater and, to a lesser degree, Site soil to be impacted by these upgradient sources.

- Tar and other MGP-related materials associated with the operation, maintenance and demolition of the former gas holder and tar tanks may be present in Site soil and possibly groundwater. In addition, lead-based paint may have been used on the former holder.

- Tar and other MGP-related materials associated with the operation, maintenance and demolition of the former gas compressor buildings and equipment could potentially be present in Site soil and possibly groundwater.

- Available historical records identified the presence of several former buildings located on the Site, including two buildings labeled garage and a third building labeled "greas'g" (which is labeled as the former Greasing Building on drawings in this report). While specific information on the use of these buildings is not available, their descriptions imply that they were utilized for some type of equipment storage and/or maintenance. Therefore, it is possible that petroleum or other contaminants were previously handled in these areas. Note that, due to its former location to the west of the Site and the presence of significant below grade electrical equipment in its vicinity, the former west garage is not anticipated to be an area of concern at the Site.

- Previously completed investigations have identified a layer of fill material containing MGP-related materials, such as coal clinker, from grade to a depth of approximately 4 to 6 feet in the east and southeast portions of the Site. While contaminant concentrations detected in this fill appear to be relatively low, the areal extent and thickness of the fill can be better defined.

Accordingly, the primary objectives of the Site Characterization include:

- Assess the presence or absence of remnant structures of the former Holder Station, to the extent practicable;
- Evaluate soil and/or groundwater quality to determine if MGP-related materials are present in the subsurface and if these residuals have impacted groundwater;
- Determine whether the presence of MGP-related materials encountered could potentially pose a threat to public health and/or the environment;
- Evaluate potential migration pathways for any chemical constituents that may be related to the operation of the former gas holder facility, if any are encountered; and
- Characterize site-specific geology and hydrogeology.

STEWART AVENUE

(ABANDONED) TO MITCHELL FIELD (NEWBRIDGE RD)

N 73°36'48"E 650'

2018.55' TO CLINTON ROAD

2018.55' TO CLINTON ROAD

TOWER

OFFICE BUILDING (National Grid)

NYPA ELECTRIC SUBSTATION AREA

AREA CONTAINING NYPA ELECTRICAL EQUIPMENT

FORMER WEST GARAGE

"NYPA 345KV STATION"

SEE NYPA DWG. NO. SCP-EGC-GM-001

CHAIN LINK FENCE

ASPHALT

Lawn

NATURAL GAS GATE STATION AREA (NATIONAL GRID)

FORMER COMPRESSOR HOUSE

GAS GATE HOUSE BLDG.

STORAGE BUILDING

Compressor House

FORMER TAR TANK

FORMER GAS HOLDER

RETIRED GAS PIPE

345KV TRANSMISSION LINES SEE F42491 & F42492

VACANT LOT (FORMER NEWSDAY NEWSPAPER PLANT)

PARKING LOT AND RETAIL STORES

ELECTRIC CABLE FLUID TANKS AND PUMP

FUTURE V.S. TERMINAL & PIPE TYPE CABLE

CONTROL CONTROL HOUSE

69KV. STRUCTURE (F18294)

4M ELECTRIC SUBSTATION AREA

METAL BUILDING

69KV OIL FILLED CABLE

138KV CT'S

550 GALLON CABLE FLUID RECOVERY TANK

69KV DIELEC. CBL. N.D.E.G. CO-GEN.

450MVA 345-138KV AUTO-TFMR

NEW YORK POWER AUTHORITY TRANSFORMER

8 5/8" O.D. CABLE PIPE

Y-49 FEEDER 3-5" S.S. CONDUITS

NYPA PROJECT SEE NYPA DWG. NO. SCP-EGC-GM-001

GAS VALVE

TO MITCHEL FIELD (NEWBRIDGE RD)

NOTE - ENTIRE AREA WITHIN THE SUBSTATION FENCE COVERED WITH DOLOMITE.

NOTE - ENTIRE AREA WITHIN THE SUBSTATION FENCE COVERED WITH DOLOMITE.

LEGEND:

- SITE FENCING
- LOCATION OF FORMER GAS HOLDER SITE STRUCTURE

GARDEN CITY VILLAGE LINE

S 73°36'48"W 250'

S 7°9° 36'48"N 250'

S 73°36'10"W 200'

S 73°36'48"E 380.48' W 200'

S 16°23'12"E 321.27' 309.10'

LONG ISLAND RAIL ROAD (CENTRAL BRANCH)

NO.	DATE	REVISION	INT.

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW.

PROJECT ENGINEER:	DRAWN BY:
T.F.	D.C
DESIGNED BY:	CHECKED BY:
S.T.	T.F.

NATIONAL GRID

NASSAU COUNTY — NEW YORK

EAST GARDEN CITY FORMER STEWART AVENUE HOLDER STATION SITE CHARACTERIZATION

SITE PLAN

PROJECT NO.	DRAWING NO.
3668	1
DATE: DECEMBER 2011	
SCALE: 1" = 40'	

2.0 SITE CHARACTERIZATION SCOPE OF WORK

This section provides an overview of the field activities associated with the Site Characterization of the East Garden City Former Stewart Avenue Holder Station. The Site Characterization field activities were completed from April 2011 through June 2011 in accordance with the NYSDEC-approved February 2011 Site Characterization Work Plan (SCWP). In order to meet the objectives stated in Section 1.6, the following activities were performed:

- Underground Utility Clearance;
- Air Monitoring;
- Surface Soil Sampling;
- Test Pit Excavation;
- Geoprobe Borings;
- Monitoring Well Installation;
- Groundwater Sampling and Analysis; and
- Site Survey.

A completed sample location map is provided as Drawing 2, provided in a map pocket at the end of this section of the report. Drawing 2 depicts the surveyed locations of all Site Characterization test pits, soil borings and monitoring wells. Additionally, Table 2-1 provides a summary of sample depths and analysis, sample point objectives, field observations and changes from the NYSDEC-approved scope of work. As specified in the February 2011 NYSDEC-approved SCWP, the Site Characterization focused on the areas of interest listed in Section 1.6. Accordingly, the suite of laboratory analyses utilized in the

TABLE 2-1
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SITE CHARACTERIZATION SCOPE SUMMARY

Investigation Method/Technology	Sample Point ID	Sample Media	Completion Depth Below Grade (ft)	No. of Samples Selected for Analysis	Sample Depth Below Grade (ft)	Installation or Sample Date	Sample Point Objectives	Comments/Deviations From Work Plan
Surface Soil Samples	EGCSS-01 through EGCSS-03	Soil	2"	3	0-2"	4/25/2011	Define potential impacts from MGP-related materials in unpaved areas of the natural gas gate station.	---
	EGCSS-04	Soil	2"	1	0-2"	4/25/2011	Define potential impacts from MGP-related materials in the unpaved open area to the east of the electric substation yard.	---
	EGCSS-05 through EGCSS-13	Soil	2"	9	0-2"	4/25/2011	Define potential impacts from MGP-related materials in the electric substation yard.	---
Test Pits	EGCTP-01	Soil	6	1	1-2'	4/27/2011	Investigate the former Gas Holder and associated tar tanks. Identify the holder foundation and determine if NAPL exists above or adjacent to the holder foundation. Characterize soil conditions immediately above and adjacent to the holder foundation.	Black staining was noted from 1 to 2 feet in depth; however, no odor or NAPL was observed. Small diameter pipe was noted at 2.5 feet in depth, extending east-west throughout the test pit. A suspected tar tank foundation was identified adjacent to the holder foundation.
	EGCTP-02	Soil	6.5	1	1-2'	5/10/2011	Investigate the former Gas Holder and associated tar tanks. Identify the holder foundation and determine if NAPL exists above or adjacent to the holder foundation. Characterize soil conditions immediately above and adjacent to the holder foundation.	Relocated approximately 60 feet east along holder foundation due to the presence of aboveground utilities in the proposed location. Solid tar observed at 1.5 feet in depth with tar-like odor. Refusal encountered at 6.5 feet in depth, at a concrete slab, likely part of the holder foundation. The test pit was not extended beyond the identified holder foundation, as per NYSDEC direction.
Soil Probes	EGCSB-01	Soil	35	2	8-10' 18-20'	5/17/2011	Investigate soil characteristics associated with the former west Compressor House. Define limits of MGP-related fill. Obtain information regarding site geology.	Relocated approximately 20 feet south due to the presence of underground utilities.
	EGCSB-02	Soil	35	2	9-11' 15.5-17.5'	5/18/2011	Investigate soil characteristics associated with the former west Compressor House. Define limits of MGP-related fill. Obtain information regarding site geology.	Relocated approximately 10 feet south due to the presence of underground utilities. Monitoring well EGCMW-04 installed in borehole.
	EGCSB-03	Soil	35	2	14-16' 23-25'	5/12/2011	Investigate soil characteristics associated with the former east Compressor Houses. Define limits of MGP-related fill. Obtain information regarding site geology.	---
	EGCSB-04	Soil	35	2	12-14' 14-16'	5/12/2011	Investigate soil characteristics associated with the former east Compressor Houses. Define limits of MGP-related fill. Obtain information regarding site geology.	---
	EGCSB-05	Soil	35	2	12-14' 14-16'	5/13/2011	Investigate soil characteristics associated with the former east Compressor Houses. Define limits of MGP-related fill. Obtain information regarding site geology.	Slight hydrocarbon-like odor noted at 13 to 15 feet in depth. One inch thick tar/clinker layer and coal tar-like odor noted at 16 feet in depth.
	EGCSB-06	---	---	---	---	---	Investigate soil characteristics associated with the former Gas Holder. Determine if MGP-related materials exist above, at and/or adjacent to the holder foundation. Obtain information regarding site geology.	Multiple refusals were encountered due to large brick and concrete fragments in the proposed area. Location was eliminated from sampling program based on direction from National Grid.
	EGCSB-07	Soil	35	2	10-12' 14.5-16.5'	5/13/2011	Investigate soil characteristics associated with the former Gas Holder. Determine if MGP-related materials exist above, at and/or below the holder foundation. Obtain information regarding site geology.	One half-inch thick coal tar layer and slight coal tar-like odor noted at 11.5 feet in depth.

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Investigation Method/Technology	Sample Point ID	Sample Media	Completion Depth Below Grade (ft)	No. of Samples Selected for Analysis	Sample Depth Below Grade (ft)	Installation or Sample Date	Sample Point Objectives	Comments/Deviations From Work Plan
Soil Probes (continued)	EGCSB-08	Soil	35	2	8-10' 15-17'	5/20/2011	Investigate soil characteristics associated with the former Gas Holder. Determine if MGP-related materials exist adjacent to the holder foundation. Obtain information regarding site geology.	Relocated approximately 15 feet south to electric yard due to presence of underground utilities in the proposed location.
	EGCSB-09	Soil	35	2	8-10' 15-17'	5/20/2011	Investigate soil characteristics associated with the former Gas Holder. Determine if MGP-related materials exist adjacent to the holder foundation. Obtain information regarding site geology.	---
	EGCSB-10	Soil	35	2	8-10' 17.5-19.5'	5/17/2011	Investigate soil characteristics associated with the former Gas Holder. Determine if MGP-related materials exist adjacent to the holder foundation. Obtain information regarding site geology.	---
	EGCSB-11	Soil	35	2	8-10' 14.5-16.5'	5/23/2011	Define limits of the reworked fill layer exhibiting coal clinker, staining and elevated PAH and metals concentrations. Obtain information regarding site geology.	Relocated approximately 10 feet southeast due to the presence of aboveground utilities in the proposed location.
	EGCSB-12	Soil	8	0	---	---	Define limits of the reworked fill layer exhibiting coal clinker, staining and elevated PAH and metals concentrations. Obtain information regarding site geology.	Location completed to 8 feet using vacuum excavation. Geoprobe work could not be completed due to presence of aboveground utilities.
	EGCSB-13	Soil	35	2	8-10' 16-18'	5/20/2011	Define limits of the reworked fill layer exhibiting coal clinker, staining and elevated PAH and metals concentrations. Obtain information regarding site geology.	---
	EGCSB-14	Soil	35	2	8.5-10.5' 14-16'	5/25/2011	Investigate soil characteristics associated with the former south Garage. Define limits of MGP-related fill. Obtain information regarding site geology.	Relocated approximately 30 feet northeast due to presence of above ground utilities. Slight black staining noted at 10 feet in depth. Monitoring well EGCMW-06 installed in borehole.
	EGCSB-15	Soil	35	2	8.5-10.5' 14.5-16.5'	5/24/2011	Investigate soil characteristics associated with the former Greasing Building. Define limits of MGP-related fill. Obtain information regarding site geology.	Relocated approximately 20 feet north as per direction from National Grid. Slight naphthalene-like odor noted from 8.5 to 10 feet depth.
	EGCSB-16	Soil	35	2	8-10' 15-17'	5/24/2011	Investigate soil characteristics associated with the former Greasing Building. Define limits of MGP-related fill. Obtain information regarding site geology.	Relocated approximately 10 feet north due to presence of underground utilities in the proposed location. Black staining and a slight naphthalene-like odor noted from 8 to 10 feet in depth.
	EGCSB-17	Soil	35	2	9-11' 14-16'	5/24/2011	Define limits of the reworked fill layer exhibiting coal clinker, staining and elevated PAH and metals concentrations. Obtain information regarding site geology.	Trace clinker and black staining noted from 9 to 10 feet in depth.
	EGCSB-18	Soil	35	2	8-10' 16-18'	5/19/2011	Investigate soil characteristics east of the NYPA electric substation area. Define limits of MGP-related fill. Obtain information regarding site geology.	---
	EGCSB-19	Soil	35	2	8-10' 16-18'	5/20/2011	Investigate soil characteristics south of the NYPA electric substation area. Define limits of MGP-related fill. Obtain information regarding site geology.	Relocated approximately 20 feet west due to the presence of above ground utilities in the proposed location.
	EGCSB-20	---	---	---	---	---	Investigate soil characteristics south of the NYPA electric substation area. Define limits of MGP-related fill. Obtain information regarding site geology.	Location was eliminated from sampling program as per direction from National Grid, and based on several underground and aboveground utilities in the proposed area.

TABLE 2-1
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SITE CHARACTERIZATION SCOPE SUMMARY

Investigation Method/Technology	Sample Point ID	Sample Media	Completion Depth Below Grade (ft)	No. of Samples Selected for Analysis	Sample Depth Below Grade (ft)	Installation or Sample Date	Sample Point Objectives	Comments/Deviations From Work Plan
Monitoring Well Installation and Sampling	EGCMW-01	Groundwater	28	1	16 - 26	6/8/2011	Determine water quality, groundwater flow and the presence/absence of NAPL in groundwater upgradient of the site.	Relocated approximately 20 feet west due to presence of underground utilities in the proposed location.
	EGCMW-02	Groundwater	29	1	17 - 27	6/6/2011 9/9/11	Determine water quality, groundwater flow and the presence/absence of NAPL in groundwater upgradient of the site.	Relocated approximately 20 feet east due to presence of underground utilities in the proposed location. Sample collected on 9/9/11 analyzed only for total and free cyanide.
	EGCMW-03	Groundwater	27	1	15 - 25	6/7/2011	Determine water quality, groundwater flow and the presence/absence of NAPL in groundwater in the downgradient area of the site.	Soil samples collected and analyzed beyond the SCWP scope of work at NYSDEC request.
		Soil	35	2	8.5-10.5' 15.5-17.5'	5/26/2011		
	EGCMW-04	Groundwater	28	1	16 - 26	6/6/2011	Determine water quality, groundwater flow and the presence/absence of NAPL in groundwater downgradient of the former west Compressor House.	Well installed in soil boring EGCSB-02.
	EGCMW-05	Groundwater	27	1	15 - 25	6/6/2011	Determine water quality, groundwater flow and the presence/absence of NAPL in groundwater downgradient of the former Gas Holder.	Soil samples collected and analyzed beyond the SCWP scope of work at NYSDEC request.
		Soil	35	2	8-10' 15-17'	5/23/2011		
	EGCMW-06	Groundwater	24.5	2	12.5 - 22.5	6/6/2011 9/9/11	Determine water quality, groundwater flow and the presence/absence of NAPL in groundwater downgradient of the former south Garage and Former Greasing Building.	Well installed in soil boring EGCSB-14. Groundwater sample collected on 9/9/11 analyzed only for total and free cyanide.
	EGCMW-07	Groundwater	28	2	16 - 26	6/7/2011 9/9/11	Determine water quality, groundwater flow and the presence/absence of NAPL in groundwater in the downgradient area of the site.	Relocated approximately 10 feet east due to presence of aboveground utilities in the proposed location. Groundwater sample collected on 9/9/11 analyzed only for total and free cyanide. Soil samples collected and analyzed beyond the SCWP scope of work at NYSDEC request.
		Soil	35	2	9.5-11.5' 16-18'	5/19/2011		
Foundation Distribution Pipe Sample	EGCHFD-01	Solid Tar/ Sediment	1	1	0-1'	4/27/2011	Characterize material found within foundation distribution pipe near perimeter of former gas holder.	Sample of solidified tar/sediment collected from holder foundation gas distribution pipe, at NYSDEC request.

Sample Analyses:

Surface soil samples were analyzed for SVOCs, TAL Metals, Cyanide, PCBs and TPHs.
Subsurface soil samples and the gas distribution pipe sample were analyzed for VOCs, SVOCs, TAL Metals, Cyanide, PCBs and TPHs.
Groundwater samples were analyzed for VOCs, SVOCs, TAL Metals, Cyanide and PCBs.
Monitoring wells EGCMW-02, 06 and 07 were re-sampled on September 9, 2011 for total and free cyanide.
All samples were analyzed for PCBs.

Methods:

Target Compound List Volatile Organic Compounds by EPA Method 8260.
Target Compound List Semi-Volatile Organic Compounds by EPA Method 8270.
Target Analyte List metals by EPA Method 6000/7000 Series.
Cyanide by EPA Method 9012.
Polychlorinated Biphenyls by EPA Method 8082.
Total Petroleum Hydrocarbons by EPA Method 8100 modified.
Total Cyanide by EPA Method 335.4.
Free Cyanide by EPA Method 9016.

Site Characterization field program was selected to identify compounds indicative in MGP-related materials, as well as potential contaminants from the identified upgradient sources.

Due to the presence of aboveground and underground utilities, modifications to the scope of work were necessary, including the relocation and elimination of some sample locations. Modifications to the scope of work were discussed with and approved by National Grid and the NYSDEC Project Manager prior to implementation. All scope of work modifications are summarized on Table 2-1, and are detailed in Section 2.12.

2.1 Underground Utility Clearance

Prior to implementing any intrusive activities, utility clearance procedures were conducted. The procedures entailed utility markouts pursuant to Code 753, obtaining and reviewing available utility drawings and completing a field reconnaissance to verify, to the maximum extent possible, the location of utilities relative to the planned locations of all intrusive work. Representatives from D&B, National Grid and LIPA completed a survey of all aboveground utilities in the investigation areas to ensure no aboveground utilities were located in close proximity to any sample locations. Given the extensive network of underground utilities present throughout the Site, a private utility markout contractor, Advanced Geological Services (AGS), performed a geophysical survey utilizing electromagnetic methods and ground penetrating radar in order to further identify underground utilities in areas where intrusive activities were performed. In addition, LIPA performed an underground utilities survey prior to the initiation of intrusive activities.

A Code 753 utility markout was completed as per the 16 New York Codes, Rules and Regulations (NYCRR) Part 753. Consistent with the One-Call (also called Dig Safe New York) criteria, a request was made at least 72 hours prior to initiating fieldwork. Per Code 753 requirements, confirmations that the utilities were marked out were documented in the project

file. All hard-copy confirmations were available in the field during all intrusive operations. If the utility markings became faint or obscure, they were refreshed as needed.

As an added precautionary measure all soil boring and monitoring well locations were "hand cleared" prior to the use of mechanical drilling equipment using vacuum excavation and intrinsically safe hand tools specifically designed for use at electric substations (i.e. insulated digging bars and long-handled and/or fiberglass-handled scoops and/or shovels, etc.). All subsurface locations were hand/vacuum cleared to a depth of 8 feet below grade in order to confirm the absence of utilities at these locations. In order to further protect workers from energized utilities, a representative from LIPA was on site during completion of all intrusive activities.

2.2 Air Monitoring

Air monitoring was conducted in accordance with the New York State Department of Health (NYSDOH) generic Community Air Monitoring Plan (CAMP) and the NYSDEC's Generic CAMP provided in Appendix 1A of DER-10. Specifically, upwind and downwind air monitoring for VOCs and particulates was conducted during completion of all excavation activities. At the start of work, air monitoring stations were established upwind of the work activities and at the downwind perimeter of the excavation work zone. No concentrations above established action levels were detected for VOCs. Very few concentrations above established action levels were detected for particulates and were attributed to vehicular traffic on-site, as no visible dust was observed emanating from the intrusive activities at any time throughout the field activities. These observed conditions were brief and not sustained, and no corrective actions were necessary.

In addition, real-time work zone (or breathing zone) air monitoring was performed in the work zone during all intrusive activities. The work zone was monitored for VOCs, mercury

vapor, hydrogen cyanide (HCN), hydrogen sulfide (H_2S), carbon monoxide (CO), lower explosive limit (LEL) and oxygen (O_2). All readings were below action levels during intrusive activities in the work zone.

2.3 Surface Soil Sampling and Analyses

In order to evaluate the extent of MGP-related contaminants present in surface soil, a total of 13 surface soil samples (EGCSS-01 through EGCSS-13) were collected from open ground areas within the Site for chemical analysis. The surface soil sampling locations are depicted on Drawing 2. Sample locations were biased in the field toward the identified AOCs listed in Section 1.6.

Consistent with NYSDEC and NYSDOH requirements, the surface soil samples were collected at a depth of 0 to 2 inches below ground surface (or below grass or crushed stone cover material, if present) using a disposable polyethylene scoop. As summarized on Table 2-1, the surface soil samples were analyzed for Target Compound List (TCL) semivolatile organic compounds (SVOCs) by United States Environmental Protection Agency (USEPA) Method 8270, Target Analyte List (TAL) metals by USEPA 6000/7000 series methods, total cyanide by USEPA Method 9012, PCBs by USEPA Method 8082 and total petroleum hydrocarbons (TPHs) by USEPA Method 8100 modified. Analytical results are summarized in Appendix E on Tables E-1 through E-4, and are discussed in Section 4.1.

A retired gas pipe was visible at the surface on the eastern side of the gas holder foundation, containing an apparent combination of hardened tar and sediment. At the request of the NYSDEC, a sample of the hardened tar and sediment (EGCHFD-01) was collected from the 0 to 1-foot depth. This sample was analyzed for TCL VOCs by USEPA Method 8260, TCL SVOCs by USEPA Method 8270, TAL metals by USEPA 6000/7000 series methods, total cyanide by USEPA Method 9012, PCBs by USEPA Method 8082 and TPHs by

USEPA Method 8100 modified. Analytical results are summarized in Appendix E on Tables E-5 through E-9, and are discussed in Section 4.1.

2.4 Test Pit Excavation, Sampling and Analyses

Two test pits (EGCTP-01 and ECGTP-02) were excavated along the former gas holder foundation to determine the configuration of the foundation and to evaluate potential impacts to soil from the former gas holder and associated tar tanks. The surveyed test pit locations, as well as the approximate locations of former gas holder facility structures, are depicted on Drawing 2. The final test pit locations and configurations were modified as needed from those specified in the SCWP in order to observe subsurface conditions associated with the gas holder and associated tar tank foundations. Due to the presence of aboveground utilities, test pit EGCTP-02 was moved approximately 60 feet to the east along the holder foundation.

Given the numerous underground utilities present at the Site, the test pits were excavated by vacuum excavation utilizing a guzzler unit. As indicated on Table 2-1, the test pits were completed to depths between 6 and 6.5 feet below grade, sufficient to observe conditions associated with the former gas holder and tar tank foundations. Excavated soil was monitored for total VOCs using a PID and mercury vapor using a Mercury Vapor Analyzer (MVA). During excavation activities, the test pit walls and floor were investigated for evidence of MGP-related materials such as odors, staining, sheens, NAPL, elevated PID readings and remnant structures. Soil from the test pits was described according to the Unified Soil Classification System (USCS) and the NYSDEC's Field Description of Samples at Former MGP Sites document. Detailed notes as to the location of any subsurface structures were documented in the project field notebook and the test pits were photographed. Photographic documentation of the completed field activities is provided in Appendix B. Test pit logs are provided in Appendix B. It should be noted that all test pit logs utilize the National Grid Color Index for Logging Impacted Soil Figure, also provided in Appendix C.

One soil sample was collected from each test pit, and the objective was to sample from areas where visually impacted soil was encountered (such as black staining), if any. As summarized on Table 2-1, the subsurface soil samples collected from the test pits were analyzed for TCL VOCs by USEPA Method 8260, TCL SVOCs by USEPA Method 8270, TAL metals by USEPA 6000/7000 series methods, total cyanide by USEPA Method 9012, PCBs by USEPA Method 8082 and TPHs by USEPA Method 8100 modified. Analytical results are summarized in Appendix E on Tables E-10 through E-14, and are discussed in Section 4.2.

Excavated soil was stored in a roll-off container on-site for subsequent off-site disposal (see Section 2.9). Clean fill was utilized to restore the excavations to grade. Test pit location EGCTP-01 was hot-patched with asphalt and EGCTP-02 was backfilled with clean fill and covered with bluestone. All test pits were staked/marked for follow-up survey. All non-dedicated sampling equipment was decontaminated between sampling locations in accordance with the SCWP.

2.5 Soil Boring, Sampling and Analyses

A total of 20 soil borings (EGCSB-01 through EGCSB-20) were planned to characterize subsurface soil, to obtain a better understanding of site stratigraphy and to collect soil samples for laboratory analysis. The surveyed soil boring locations are provided on Drawing 2. An attempt was made to complete all soil borings in their planned locations; however, final boring placement was dependent on a number of factors including: test pit findings, equipment access and utility clearances. Three soil borings (ECGSB-06, 12 and 20) could not be completed due to field conditions. Changes to the scope of work are summarized on Table 2-1, and are detailed in Section 2.12 of this report. All changes were discussed and approved by the National Grid and the NYSDEC Project Manager prior to implementation.

All soil borings were "hand cleared" to a depth of 8 feet below grade using vacuum excavation and hand tools prior to the use of direct push Geoprobe sampling techniques. After hand clearing, all soil borings were advanced using Geoprobe sampling techniques to a depth of 35 feet below grade, as specified in the SCWP. Based on field observation, this depth is more than 15 feet below the water table. Soil sampling was conducted continuously utilizing decontaminated macro core soil samplers fitted with disposable 4-foot acetate liners.

During the advancement of the soil borings, each recovered soil sample was inspected and characterized by a D&B geologist utilizing the USCS and the NYSDEC's Field Descriptions of Samples at Former MGP Sites document. Each sample was monitored for total VOCs using a PID and mercury vapor using a MVA. Boring logs are provided in Appendix D. It should be noted that all boring logs utilize National Grid's Color Index for Logging Impacted Soil Figure, also provided in Appendix D. The following is a list of observations recorded by the geologist for each recovered sample:

- the presence of NAPL (tar or petroleum);
- PID measurements for approximately every 6 inches of soil in ppm of total VOCs;
- MVA measurements for approximately every 6 inches of soil in milligrams per cubic meter (mg/m^3);
- obvious staining or odors;
- color;
- the mineral and/or lithologic components of the material such as: quartz, shale, mica, granite, etc.;
- construction debris (i.e., brick, concrete, etc.);
- organic components such as roots, humus, wood fragments, peat, etc.;
- grain shape such as angular, sub-angular and rounded;
- grain size (significant for sand and gravel only) such as fine, medium and coarse;
- stratification; and

- degree of saturation such as dry, damp, moist, wet or saturated.

As summarized on Table 2-1, two soil samples were selected for chemical analysis during the advancement of each soil boring. One subsurface soil sample was collected from the 2-foot interval located immediately above the water table, and one subsurface soil sample was collected at the 2-foot interval exhibiting the highest PID and/or MVA readings or visual impacts. Separate phase NAPL was not observed in any of the recovered soil samples; therefore, no samples of NAPL were collected for analysis.

All subsurface soil samples collected from the soil borings were analyzed for TCL VOCs by USEPA Method 8260, TCL SVOCs by USEPA Method 8270, TAL metals by USEPA 6000/7000 series methods, total cyanide by USEPA Method 9012, PCBs by USEPA Method 8082 and TPHs by USEPA Method 8100 modified. Analytical results are summarized in Appendix E on Tables E-10 through E-14, and are discussed in Section 4.2.

Upon completion, all soil borings were backfilled with clean fill to grade and hot-patched with asphalt, as appropriate. The soil excavated from the soil borings was stored on-site in a roll-off container for subsequent proper off-site disposal (see Section 2.9). All soil borings were staked/marked for follow-up survey. All drilling equipment and non-dedicated sampling equipment was decontaminated between sampling locations in accordance with the SCWP.

2.6 Monitoring Well Installation and Development

A total of seven groundwater monitoring wells (EGCMW-01 through EGCMW-07) were installed in order to obtain groundwater quality and flow information, and to determine the presence/absence of NAPL in groundwater at the site. The surveyed monitoring well locations are provided on Drawing 2. As indicated on Drawing 2, monitoring well locations EGCMW-04 and EGCMW-06 were completed at soil boring locations EGCSB-02 and

EGCSB-14, respectively. An attempt was made to complete all monitoring wells in their planned locations; however, final placement was dependent on equipment access and utility clearance. Changes to the scope of work are summarized on Table 2-1, and are discussed in Section 2.12 of this report. All changes were discussed and approved by the National Grid and the NYSDEC Project Manager prior to implementation.

Prior to installation, soil samples were collected from each monitoring well location to 35 feet utilizing the direct push sampling techniques detailed in Section 2.5. Boring logs are provided in Appendix D. After the installation of monitoring wells EGCMW-01 and 02, the NYSDEC requested that soil samples be collected for analysis from the remaining monitoring well locations not already associated with soil borings (i.e. EGCMW-03, 05 and 07). Two soil samples were collected for analysis from these three locations in accordance with the procedures described in Section 2.5. Subsurface soil analytical results are summarized in Appendix F on Tables F-10 through F-14, and are discussed in Section 4.2.

All monitoring wells were installed in unconsolidated sediments (overburden) and were set so that the well screen intercepted the water table, which was observed at approximately 18 to 20 feet below grade. All shallow water table wells were installed utilizing a Geoprobe rig and hollow stem augers, rather than the planned use of pre-packed wells installed within the Geoprobe rods due to incompatibility between the well materials and the available Geoprobe rig.

Each monitoring well was completed with a 10-foot length of 1.5-inch PVC well screen and riser pipe. Each well was installed by advancing hollow stem augers to the desired depth with a Geoprobe rig. After reaching the desired depth, the well screen and PVC riser pipe was installed inside the augers. In order to ensure the viability of each groundwater monitoring well in the event that dense non-aqueous phase liquid (DNAPL) was encountered at any location, each well was fitted with a 2-foot sump. Filpro No.2 sand was placed in the

annulus of the soil boring from the bottom of the well to approximately 2 feet above the top of the well screen. A 2-foot bentonite seal was installed above the sand pack. A cement-bentonite grout was then placed above the seal and a locking flush-mounted well cover and cement well pad was installed at grade. A summary of the construction of each monitoring well is provided as Table 2-2, and monitoring well construction logs are provided in Appendix E.

The installed monitoring wells were developed until the turbidity of the groundwater achieved a reading of 50 NTUs (nephelometric turbidity units) or less. Well development was supplemented by measurements of field parameters, including temperature, pH and specific conductance. Development continued until the field parameters stabilized for a minimum of three consecutive readings of 10 percent variability or less.

The soil generated during well installation was stored on-site in a roll-off container for subsequent proper off-site disposal. Well development water was similarly containerized in clean closed-top 55-gallon DOT-approved steel drums. Management of investigation-derived waste is discussed further in Section 2.9. All drilling equipment and non-dedicated sampling equipment was decontaminated prior to and between uses at each sampling location in accordance with the SCWP.

2.7 Groundwater Sampling and Analysis

Groundwater sampling via low flow sampling procedures was performed a minimum of 7 days after the development of all monitoring wells. Prior to collecting samples, the depth to groundwater and LNAPL (if present) was measured in the wells using an electronic oil/water interface probe attached to a measuring tape accurate to 0.01 foot. The probe was

TABLE 2-2
East Garden City Former Stewart Avenue Holder Station
Site Characterization Report
MONITORING WELL CONSTRUCTION SUMMARY

Monitoring Well	Total Well Depth (ft)	Total Boring Depth (ft)	Ground Surface Elevation (ft msl)	Measuring Point Elevation (ft msl)	Casing Diameter (in)	Screen Depth (ft)
EGCMW-01	28.00	35.00	76.08	75.46	1.50	16 - 26
EGCMW-02	29.00	35.00	74.86	74.67	1.50	17 - 27
EGCMW-03	27.00	35.00	77.37	76.59	1.50	15 - 25
EGCMW-04	28.00	35.00	74.85	74.25	1.50	16 - 26
EGCMW-05	27.00	35.00	75.27	74.69	1.50	15 - 25
EGCMW-06	24.50	35.00	74.71	74.43	1.50	12.5 - 22.5
EGCMW-07	28.00	35.00	76.68	75.94	1.50	16 - 26

NOTES:
msl: Mean Sea Level
Depths are measured from ground surface

then lowered to the bottom of each well to check for the presence of DNAPL. LNAPL and DNAPL were not identified in any of the groundwater monitoring wells.

The water level data, well diameter, and well depth were used to calculate the volume of water in each well. The wells were then purged using low-flow purging techniques. Groundwater samples were collected from each well using a small diameter bladder pump equipped with clean, disposable tubing and transferred from the tubing on the outlet of the pump directly into clean laboratory-supplied sample bottles containing appropriate preserving agents.

As indicated on Table 2-1, one groundwater sample was collected from each well and analyzed for TCL VOCs by USEPA Method 8260, TCL SVOCs by USEPA Method 8270, TAL metals by USEPA 6000/7000 series methods, total cyanide by USEPA Method 9012 and PCBs by USEPA Method 8082. Analytical results are summarized in Appendix F on Tables F-15 through F-18 and are discussed in Section 4.3. It should be noted that total cyanide was detected at a concentration above its Class GA Standard in the sample collected from monitoring well EGCMW-06. An additional groundwater sample was collected from this well in September 2011 and analyzed for total cyanide and free cyanide by USEPA Method 9016. In addition, the monitoring well exhibiting the second highest total cyanide concentration (EGCMW-07) and an upgradient well (EGCMW-02) were resampled in September 2011 for comparison purposes.

Purge water was containerized in clean closed-top 55-gallon DOT-approved steel drums for subsequent proper off-site disposal. All non-dedicated sampling equipment (e.g., submersible pumps and oil/water interface probe) was decontaminated prior to and between each sampling location in accordance with the SCWP.

In addition to the initial round of water level gauging performed during groundwater sampling, one additional round of water levels was collected from all installed monitoring wells in order to confirm groundwater levels, groundwater flow directions, and the presence or absence of LNAPL or DNAPL.

2.8 Site Survey

At the completion of installation activities, the location and elevation of all test pits, soil borings and monitoring wells were surveyed by a New York State-licensed surveyor for production of a composite base map. Two elevation measurements were taken at each monitoring well location: the elevation on the rim of the flush-mounted manhole and the elevation of the top of PVC well casing. The survey elevations were measured to an accuracy of 0.01 foot above the National Geodetic Vertical Datum of 1929 (an approximation of mean sea level).

2.9 Management of Investigation-Derived Waste

Investigation-Derived Waste (IDW) included visually impacted soil, groundwater purged from monitoring wells and decontamination water. Soil waste was containerized in a roll-off container, and wastewater was containerized in clean closed-top 55-gallon DOT-approved steel drums. The containers and drums were sealed at the end of each workday and labeled with the date, the well or boring number(s), the type of waste (i.e., soil boring soil, test pit soil, development water or purge water) and the name of a point-of-contact, as appropriate. Composite and grab samples of soil waste and wastewater were collected for waste characterization and analyzed for TCLP VOCs, TCLP SVOCs, TCLP metals, PCBs, modified TPHs, ignitability, corrosivity, reactivity, and total cyanide, as per the approved disposal facility's sampling requirements. All drums were labeled "pending analysis" until laboratory data was available and the IDW was properly disposed.

2.10 Data Reduction

Data validation was performed in accordance with the USEPA Region I validation guidelines for organic and inorganic data review. These validation guidelines are regional modifications to the National Functional Guidelines for organic and inorganic data review (USEPA 1994). NYSDEC Analytical Services Protocol (ASP) Category B deliverable data packages were specified for all sample analyses, in accordance with NYSDEC ASP (6/2005). Specific data reduction, validation and reporting procedures that were followed are described in the SCWP. Validation included the following:

- Verification of 100% of all QC sample results (both qualitative and quantitative);
- Verification of the identification of 100% of all sample results (both positive hits and nondetects);
- Recalculation of 10% of all investigative sample results; and
- Preparation of a Data Usability Summary Report (DUSR), provided in Section 2.11.

2.11 Data Usability Summary Report

A total of 13 surface soil samples, 42 subsurface soil samples, 10 groundwater samples and one solid tar/sediment sample were collected as part of the Site Characterization of the former Holder Station. As per the NYSDEC-approved Site Characterization Work Plan, all samples were analyzed for VOCs (with the exception of surface soil samples), SVOCs, TAL metals, total cyanide, PCBs and TPHs, with the following exceptions:

- The 7 groundwater samples collected in June 2011 from monitoring wells EGCMW-01 through 07 were not analyzed for TPHs; and

- Based on observed concentrations of total cyanide detected in groundwater samples collected in June 2011, the three groundwater samples collected in September 2011 from monitoring wells EGCMW-02, 06 and 07 were analyzed for total and free cyanide only.

The laboratory analyses were performed by Chemtech, located in Mountainside, New Jersey, except for the three groundwater samples analyzed for total and free cyanide which were analyzed by META Environmental, Inc. located in Watertown, MA. All analyses were performed in accordance with the USEPA SW-846 and NYSDEC 6/05 Analytical Services Protocol (ASP) methodologies.

Sixteen data packages (C1993, C2019, C2201, C2222, C2241, C2263, C2293, C2317, C2341, C2361, C2375, C2430, C2522, C2567, C2585 and DB110913) have been reviewed in accordance with the NYSDEC 6/05 ASP Quality Assurance/Quality Control (QA/QC) requirements. Data Validation Checklists are presented in Appendix G. The findings of the validation process are presented below.

- Dimethylphthalate in data packages C1993, C2201 and C2241; cyanide in data packages C1993, C2241, C2263, C2293, C2317, C2341, C2361 and C2375; methylene chloride in data packages C2019, C2263 and C2317; lead, selenium, and calcium in data package C2375; and copper, sodium, thallium and zinc in data package C2522 were qualified as non-detect (U) due to blank results.

- Benzaldehyde exhibited percent recoveries (%Rs) that were outside QC criteria in the matrix spike and/or matrix spike duplicate in data packages C1993, C2019, C2201, C2222, C2241, C2263, C2293, C2317, C2341, C2361, C2375, C2430, C2522 and C2567 and was qualified as estimated (UJ) in the corresponding samples.

- 1,2,4,5-Tetrachlorobenzene and 2,3,4,6-tetrachlorophenol exhibited %Rs and relative percent differences (RPDs) that were outside QC criteria in the matrix spike and/or matrix spike duplicate in data packages C2522 and C2567 and were qualified as estimated (UJ) in the corresponding samples.

- Acetone and 1,4-dioxane in data package C2567, and 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol in data package C2585 exhibited %Rs that were below the QC limit in the laboratory control sample. As a result, they were qualified as estimated (UJ) in the corresponding samples.

- Methylene chloride exhibited %Rs and RPDs that were outside QC criteria in the matrix spike and/or matrix spike duplicate in data package C2263. As a result, it was qualified as estimated (J) in the corresponding samples.

- The RPD was above QC limits for fluoranthene and pyrene in data package C2201 and was qualified as estimated (J) in the corresponding samples.

- The surrogates were below QC limits in surface soil sample EGCSS-12 for SVOCs and within QC limits in the re-analysis. The re-analysis for SVOCs was reported for surface soil sample EGCSS-12.

- Aroclor-1260 was laboratory qualified with a "P" due to the duel column conformation percent difference (%D) in surface soil sample EGCSS-12 and was qualified as estimated (J).

- The surrogates were above QC limits in subsurface soil sample EGCSB-07 (14.5 to 16.5 feet) for PCBs, as well as in the reanalysis for this sample. PCBs were not detected in either analysis; therefore, the original analysis concentration was reported.

- The surrogates were below QC limits and numerous SVOCs and PCBs were qualified as estimated (J/UJ) in samples specific to data packages C1993, C2019 and C2361.

- Bromochloromethane in data package C2019 exhibited a %D above the QC limit in the continuing calibration and was qualified as estimated (UJ) in the corresponding samples.

- Phenanthrene in gas distribution pipe sample EGCHFD-01 (0 to 1 foot); pyrene in subsurface soil sample EGCTP-02 (1 to 2 feet); fluoranthene in subsurface soil sample EGCSB-07 (10 to 12 feet); and phenanthrene, fluoranthene and pyrene in subsurface soil sample EGCSB-16 (8 to 10 feet) exhibited initial analyses exceeding calibration ranges and were qualified as "E". The re-analyses which were done at a secondary dilution were reported with a "D" qualifier.

- TPH %Rs were outside the QC limit in the MS/MSD and/or the RPDs were above QC limits in data packages C2241, C2263, C2293, C2341 and C2361. As a result, TPHs were qualified as estimated (J) in the corresponding samples.

- Thallium in data package C2263; copper in data package C2293; magnesium and zinc in data package C2522; and sodium in data packages C2567 and C2585 exhibited %Rs outside the QC limits in their associated spike samples. These metals were qualified as estimated (J/UJ) in the corresponding samples.

- Numerous metals in data packages C2201, C2222, C2241, C2317, C2341 and C2567 exhibited %Rs outside QC limits in the contract required detection limit (CRDL) standard and were qualified as estimated (J) in the corresponding samples.

- Metals and/or mercury in data packages C1993, C2201, C2222, C2241, C2293, C2317, C2341, C2361, C2430 and DB110913 exhibited RPDs above the QC limit of 20% for the laboratory duplicate and were qualified as estimated (J/UJ) in the corresponding samples.

- Numerous metals exhibited %Ds that were above the QC limit of 10% for the serial dilution check samples and were qualified as estimated (J/UJ) in the samples associated with data packages C1993, C2241, C2263, C2293 and C2522.

- Field duplicate results for TPH was outside QC limits for surface soil sample EGCSS-03 and were qualified as estimated (J).

Based on the findings of the data validation process, the results are deemed valid and usable for environmental assessment purposes as qualified above.

2.12 Scope of Work Modifications

All modifications to the Site Characterization scope of work were discussed with and approved by National Grid and the NYSDEC Project Manager prior to implementation. All scope of work modifications are summarized on Table 2-1, and are detailed below:

- Several sample locations were relocated due to the presence of aboveground and underground utilities, including test pit EGCTP-02, soil borings EGCSB-01, 02, 08, 11, 14, 15, 16 and 19, and monitoring wells EGCMW-01, 02 and 07. The completed sample locations were selected to meet the original objectives of each location.

- Three soil borings (EGCSB-06, 12 and 20) could not be completed due to refusals (EGCSB-06) and the presence of aboveground and underground utilities (EGCSB-12 and 20).

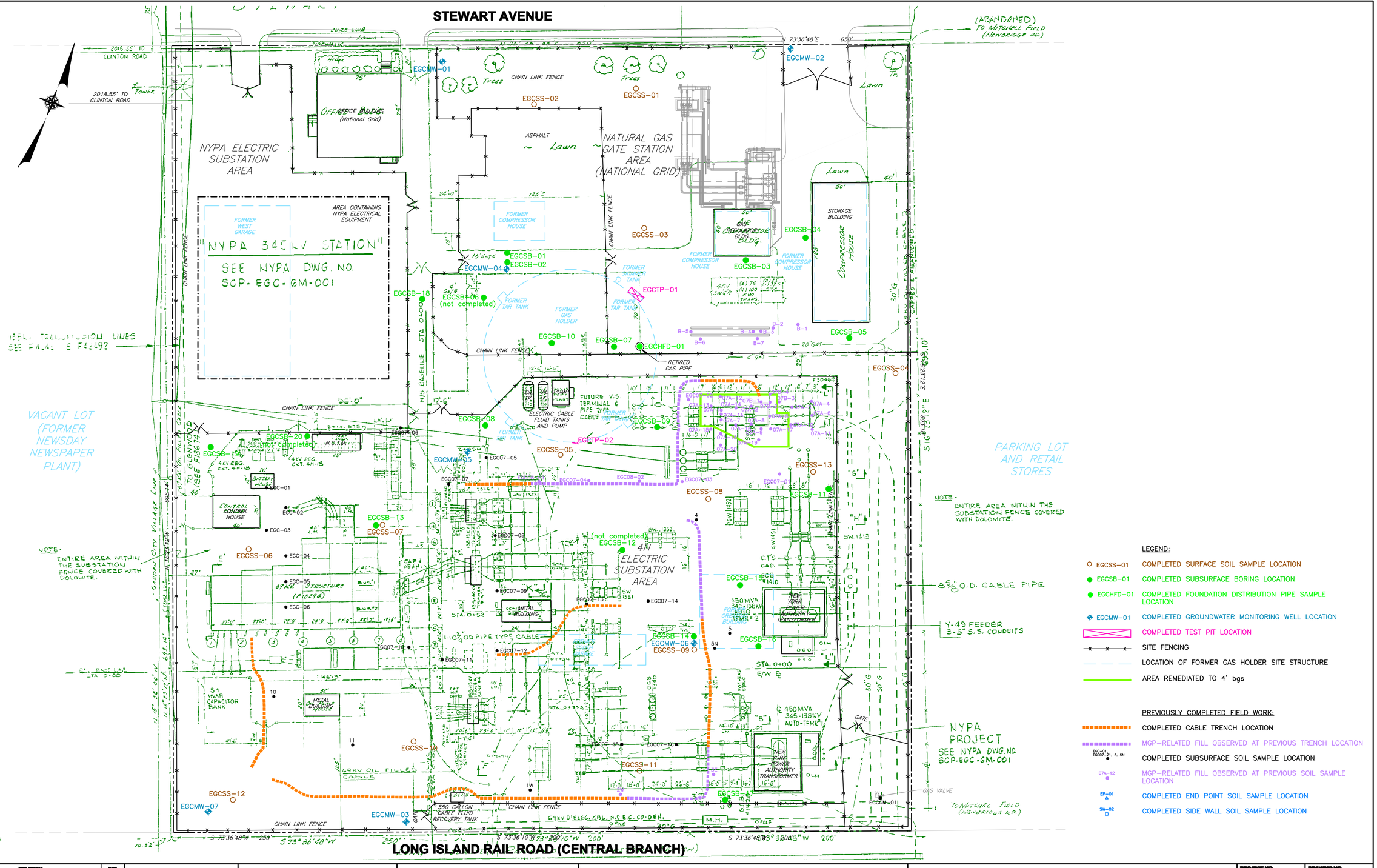
- Based on an incompatibility between the planned pre-packed wells and the available Geoprobe rig, monitoring wells were installed using a Geoprobe rig and hollow stem augers.

- At NYSDEC request, soil samples were collected for analysis from monitoring well locations EGCMW-03, 05 and 07.

- The analysis of PCBs was added to all samples, rather than only samples collected in the electric substation yard.

- An additional groundwater sample was collected from monitoring wells EGCMW-02, 06 and 07 for analysis of total and free cyanide in order to confirm and further investigate the observed cyanide concentration detected in EGCMW-06.

- A sample of solidified tar/sediment (EGCHFD-01) was collected from a retired gas pipe observed near the perimeter of the former gas holder foundation.



LEGEND:

- EGCSS-01 — COMPLETED SURFACE SOIL SAMPLE LOCATION
- EGCSB-01 — COMPLETED SUBSURFACE BORING LOCATION
- EGCHFD-01 — COMPLETED FOUNDATION DISTRIBUTION PIPE SAMPLE LOCATION
- EGCMW-01 — COMPLETED GROUNDWATER MONITORING WELL LOCATION
- COMPLETED TEST PIT LOCATION
- SITE FENCING
- LOCATION OF FORMER GAS HOLDER SITE STRUCTURE
- AREA REMEDIATED TO 4' bgs

PREVIOUSLY COMPLETED FIELD WORK:

- COMPLETED CABLE TRENCH LOCATION
- MGP-RELATED FILL OBSERVED AT PREVIOUS TRENCH LOCATION
- EGC-01, EGC07-21, 5, SN — COMPLETED SUBSURFACE SOIL SAMPLE LOCATION
- 07A-12 — MGP-RELATED FILL OBSERVED AT PREVIOUS SOIL SAMPLE LOCATION
- EP-01 — COMPLETED END POINT SOIL SAMPLE LOCATION
- SW-02 — COMPLETED SIDE WALL SOIL SAMPLE LOCATION

NO.	DATE	REVISION	INT.

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T.F.	D.C
DESIGNED BY:	CHECKED BY:
S.T.	T.F.

NATIONAL GRID

NASSAU COUNTY — NEW YORK

EAST GARDEN CITY FORMER STEWART AVENUE HOLDER STATION SITE CHARACTERIZATION

SAMPLE LOCATION MAP

PROJECT NO.	DRAWING NO.
3666	2
DATE: DECEMBER 2011	
SCALE: 1" = 40'	

3.0 SITE GEOLOGY AND HYDROGEOLOGY

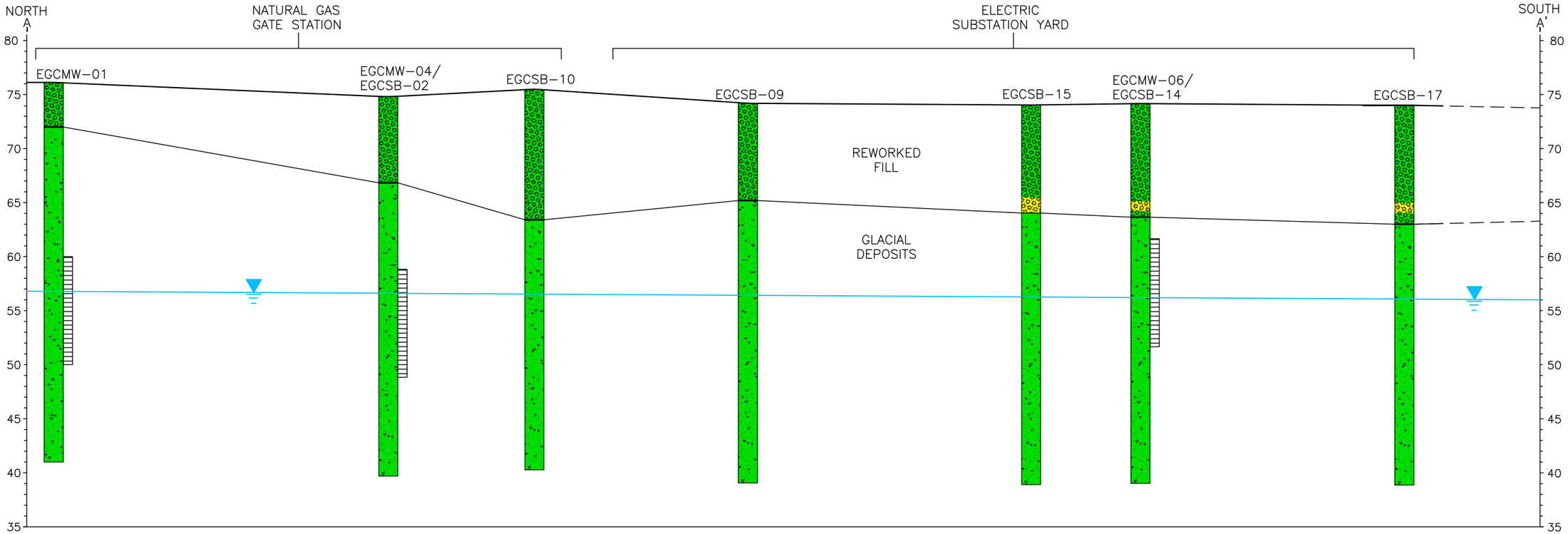
The following section presents the findings, as well as a discussion and interpretation of geologic and hydrogeologic data collected during the Site Characterization. Information utilized in support of this evaluation includes the following:

- Logs from completed test pits, soil borings and groundwater monitoring wells;
- Hydraulic head measurements from groundwater monitoring wells; and
- Geologic data obtained from previously completed investigations and the IRM.

The locations of test pits, soil borings and monitoring wells referenced in this section are depicted on Drawing 2. Test pit and boring logs for the Site Characterization are provided in Appendix C and D, respectively. Based on the information described above, two geologic cross sections of the Site were generated, and are provided as Figures 3-1 and 3-2. Figure 3-1 presents north-south geologic cross section A-A' which traverses the Site from the north near Stewart Avenue through the former Gas Holder foundation and electric substation to the southern end of the Site near the LIRR right-of-way. Figure 3-2 presents east-west geologic cross section B-B' which traverses the Site from the west near the lot of the former Newsday plant through the former Gas Holder foundation and the natural gas gate station to the eastern end of the Site. Note that the cross-sections depict visual contamination utilizing the National Grid Color Index for Logging Impacted Soil.

3.1 Topography

As described in the SCWP, the topography of the Site is relatively flat, with a general topographic gradient sloping to the south. Ground surface elevation ranges from approximately 75 to 77 feet above mean sea level (msl). There are no surface water bodies located on or in the vicinity of the Site.

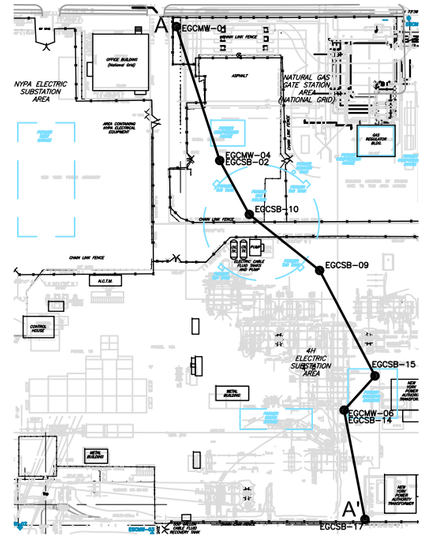


LEGEND

- REWORKED FILL
- FINE, MEDIUM TO COARSE SANDS TO FINE, MEDIUM TO COARSE SANDS WITH GRAVEL
- SOIL BORING
- WELL SCREEN FOR MONITORING WELL
- GROUND SURFACE
- STRATIGRAPHIC CONTACT, DASHED WHERE INFERRED
- ELEVATION OF WATER TABLE GIVEN IN FEET ABOVE MEAN SEA LEVEL. DASHED WHERE INFERRED
- NO OBSERVED IMPACTS
- STAINING, ODOR
- TAR SATURATED

10' 0 60'

NOTE: WATER TABLE ALTITUDE BASED ON DATA COLLECTED ON 06/08/11



KEY MAP SHOWING CROSS-SECTION LINE

SCALE: 1" = 200'

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NATIONAL GRID
EAST GARDEN CITY FORMER STEWART AVENUE HOLDER STATION
SITE CHARACTERIZATION

NORTH-SOUTH GEOLOGIC CROSS SECTION A-A'

FIGURE 3-1

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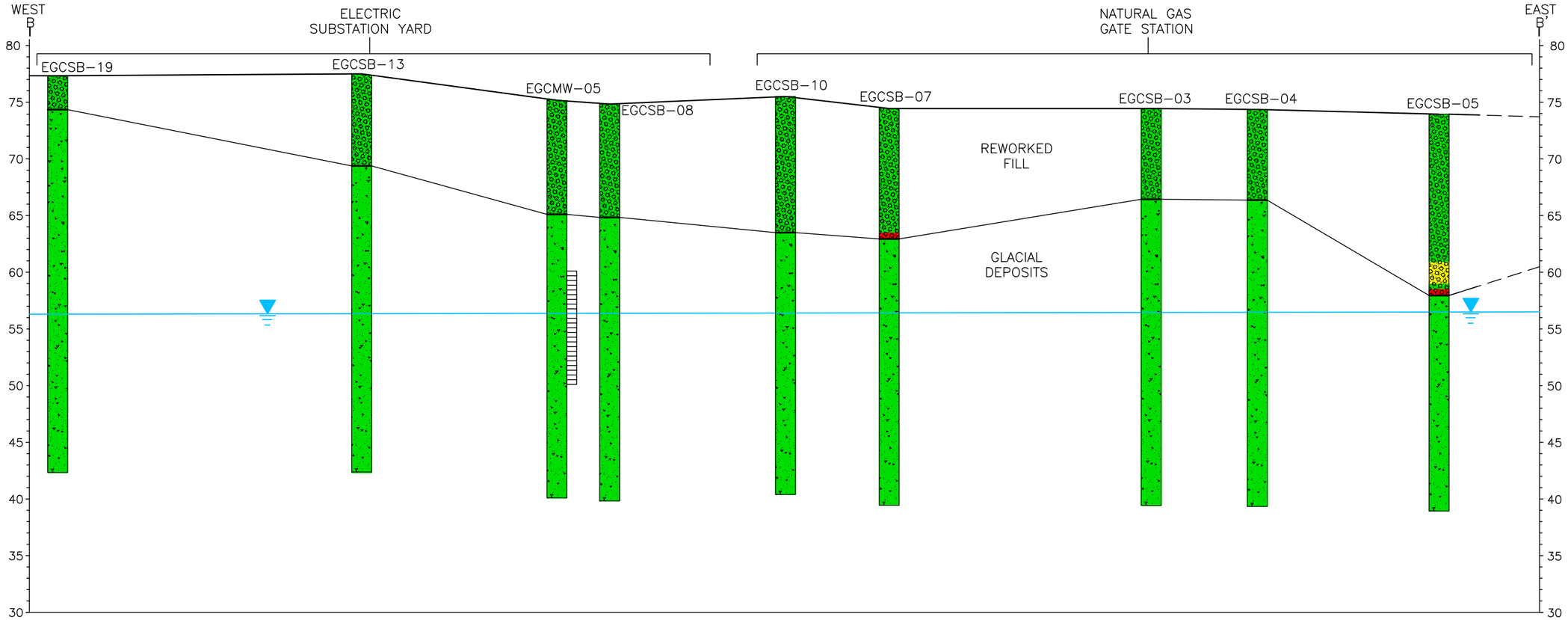
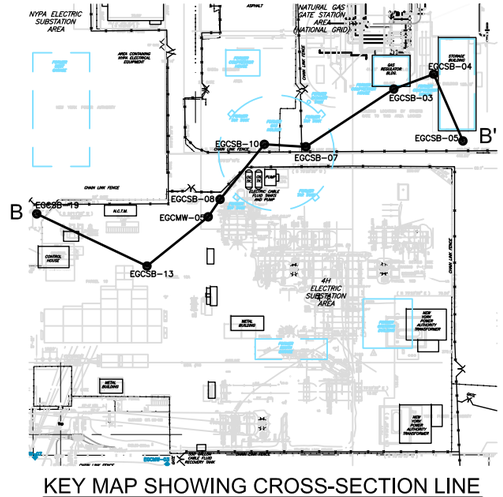


LEGEND

- REWORKED FILL
- FINE, MEDIUM TO COARSE SANDS TO FINE, MEDIUM TO COARSE SANDS WITH GRAVEL
- SOIL BORING
- WELL SCREEN FOR MONITORING WELL
- GROUND SURFACE
- STRATIGRAPHIC CONTACT, DASHED WHERE INFERRED
- ELEVATION OF WATER TABLE GIVEN IN FEET ABOVE MEAN SEA LEVEL. DASHED WHERE INFERRED
- NO OBSERVED IMPACTS
- STAINING, ODOR
- TAR SATURATED

10' 0 60'

NOTE: WATER TABLE ALTITUDE BASED ON DATA COLLECTED ON 06/08/11



KEY MAP SHOWING CROSS-SECTION LINE

SCALE: 1" = 200'

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NATIONAL GRID
EAST GARDEN CITY FORMER STEWART AVENUE HOLDER STATION
SITE CHARACTERIZATION

EAST-WEST GEOLOGIC CROSS SECTION B-B'

FIGURE 3-2

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3.2 Geology

A general description of the geology of the area has been previously derived from Smolensky, et al., 1989, and summarized in the SCWP. The Site is estimated to be underlain by approximately 1,000 feet of Cretaceous and Pleistocene-aged unconsolidated deposits overlying southeastward sloping bedrock. The unconsolidated deposits immediately overlying bedrock were deposited during the Cretaceous age and form, in ascending order, the Raritan and Magothy formations.

The Raritan Formation consists of the Lloyd Sand and the Raritan Clay. The Lloyd Sand (also known as the Lloyd aquifer) is approximately 300 feet thick beneath the Site and consists of sand and gravel with some clay lenses. The Raritan confining unit consists of silty and solid clay, and lenses and layers of sand, with a thickness of approximately 100 feet. Because of low permeability, the Raritan Clay serves as a confining unit for the underlying Lloyd Sand. The Magothy Formation (also known as the Magothy aquifer) is a deltaic deposit consisting of alternating layers of fine sand, silt and clay. The Magothy Formation, which is approximately 500 feet thick beneath the Site, is unconformably overlain by the glacial deposits of Pleistocene age (the Upper Glacial aquifer).

The Upper Glacial aquifer consists primarily of glacial outwash deposits, and may be as much as 100 feet thick at the Site. Boring logs from the Site Characterization provide direct observations of the Upper Glacial aquifer. These glacial deposits are generally characterized as a light brown to tan/orange, well sorted sand, which can range from fine to coarse. The sand is often mixed with fine to medium gravel, and little to no silt or clay. The water table is located in the glacial deposits of the unconfined Upper Glacial aquifer.

Throughout the Site, recent (Holocene age) fill deposits overly the Upper Glacial aquifer immediately below the ground surface. All test pits and soil borings were completed in

the fill deposits and the underlying Upper Glacial aquifer. However, all evidence of MGP-related materials was observed in the fill deposits. The following presents additional discussion and detail concerning the fill deposits:

3.2.1 Fill Deposits

Recent (Holocene-aged) fill deposits are present across the Site, overlying the glacial deposits and the water table. Previous investigations have found that these deposits are comprised of a reworked fill consisting of fine to medium sand, some fine to medium gravel and varying amounts of anthropogenic material, such as concrete, brick and metal fragments, and coal clinker. The logs for the Site Characterization test pits and soil borings generally corroborate this description. The fill deposits are generally described as a brown to dark brown sand, which is often mixed with significant amounts of gravel. This soil is generally well graded and contains little or no silt and clay.

Based on limited soil data deeper than 6 feet, the previous investigations determined that the fill thickness was variable but was a minimum of 4 to 6 feet thick. However, the Site Characterization determined that the fill deposits are generally 8 to 12 feet in areas characterized at the Site. Anthropogenic materials, such as brick, asphalt and coal clinker were observed at these depths in nearly one third of all completed soil borings. The fill deposits are deepest at soil boring EGCSB-05, located in the southeastern portion of the natural gas gate station, where a one-inch thick lens of solid tar and coal clinker were observed at a depth of 16 feet below grade (see Figure 3-2). The transition from the fill deposits to the glacial deposits of the underlying Upper Glacial aquifer has been estimated based on the Site Characterization soil boring findings, and is depicted on Figures 3-1 and 3-2. This transition was determined by the lack of anthropogenic materials, as well as the distinctive lighter color and slightly coarser texture of the glacial deposits.

As discussed in Section 1.4, previous soil boring and trenching locations completed in the southeastern portion of the natural gas gate station and the eastern portions of the electric substation had exhibited visually impacted soil which may have been MGP-related. These locations are depicted in purple on Drawing 2. The visual MGP-related impacts observed during the previous investigations were observed at a depth of approximately 4 to 6 feet below grade, and included gray and black staining and varying amounts of coal clinker, including some coal clinker that exhibited a blue coloration. Five soil borings completed during the Site Characterization in these areas (EGCSB-05, 14, 15, 16 and 17) exhibited evidence of MGP-related fill, including some black staining, slight naphthalene-like odors, coal clinker and PID readings of up to 10 ppm. These impacts are generally confined to narrow zones within each soil boring at depths between 8 to 10 feet below grade, with the exception of the solid tar lens and coal clinker observed at a depth of 16 feet below grade at EGCSB-05. It should be noted that although coal clinker was observed in several soil borings, blue colored clinker was not observed in the soil borings or test pits completed during the Site Characterization.

Some visual contamination was observed in soil around (associated with) the former gas holder foundation, portions of which remain exposed on-site. The observed contamination included black staining observed at a depth of 1 to 2 feet below grade at test pit EGCTP-01 and a solid tar lens 3 to 4 inches thick at a depth of 1.5 feet below grade at test pit EGCTP-02. Both test pits were completed along the edge of the foundation of the former gas holder. In addition, test pit EGCTP-01 was completed within the footprint of a former tar tank in the northeast portion of the gas holder foundation. The former tar tank foundation was identified during the test pitting activities. Soil boring EGCSB-07 was completed within the footprint of the former gas holder and exhibited a half-inch thick lens of solid tar with a slight coal tar-like odor at a depth of 11.5 feet below grade.

3.3 Hydrogeology

Based on a review of Smolensky, et al., 1989, the Upper Glacial aquifer is the uppermost water-bearing unit at the Site. According to the NYSDEC, groundwater at the Site would be classified as GA (New York State Codes, Rules and Regulations, Title 6, Chapter X, Parts 700-705, effective March 1998). The best usage of GA water is as a source of potable water supply.

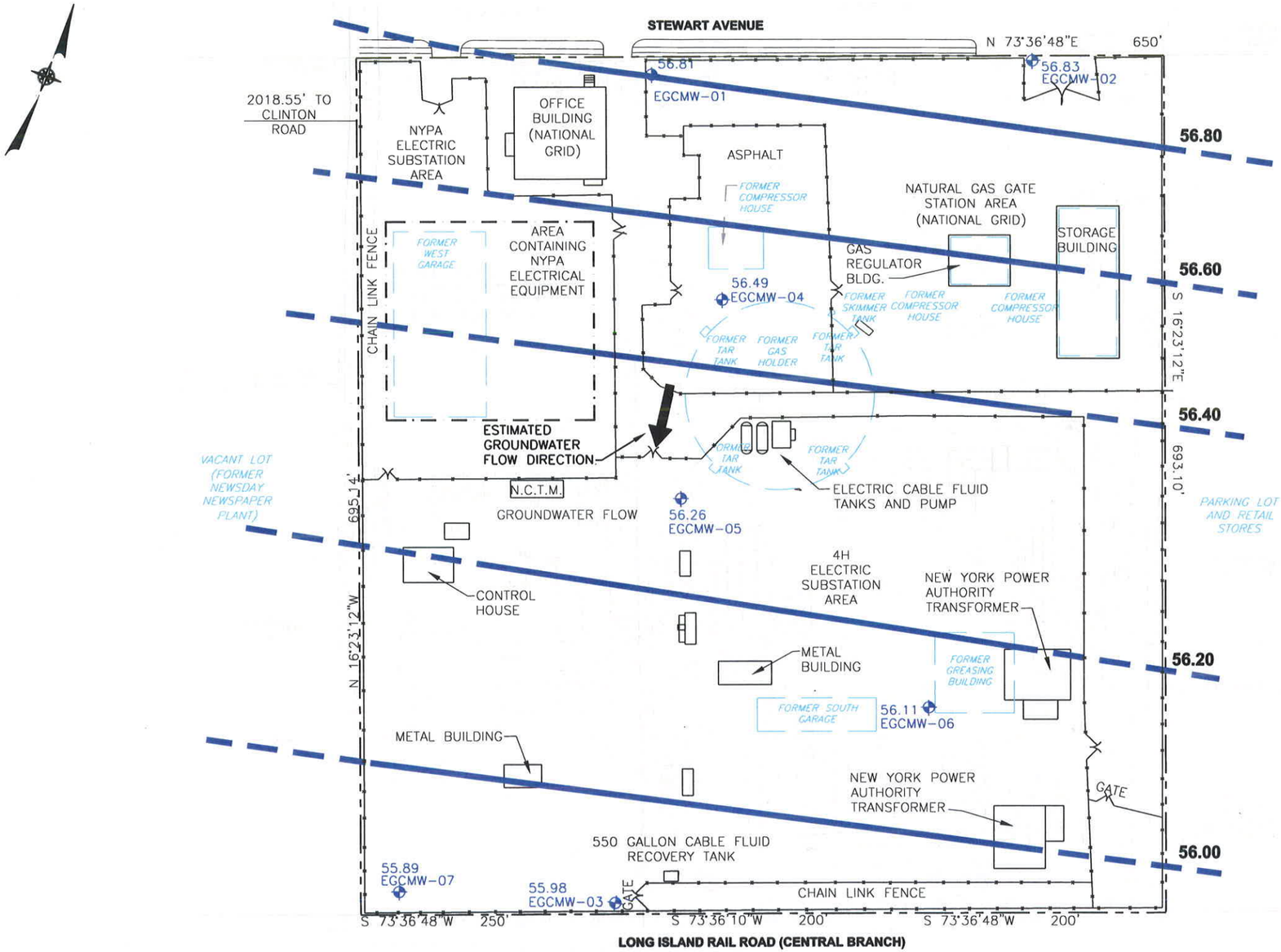
A round of water level measurements was collected on June 8, 2011 from all monitoring wells installed during the Site Characterization, including EGCMW-01 through EGCMW-07. The June 8, 2011 water level measurements, with calculated water elevations, are summarized on Table 3-1. A water table contour map generated using these water level measurements is provided as Figure 3-3.

Based on a review of Table 3-1, depth to groundwater at the Site is approximately 18 to 20 feet below grade. During the June 8, 2011 measurement round, the groundwater elevation ranged from 56.83 feet above msl at monitoring well EGCMW-02, located at the northeast corner of the Site near Stewart Avenue, to a minimum of 55.89 feet above msl at monitoring well EGCMW-07, located at the southwest corner of the Site. Figure 3-3 indicates that shallow groundwater flows in a south/southeasterly direction. As stated in Section 3.1, there are no surface water bodies located on or in the vicinity of the Site.

TABLE 3-1
East Garden City Former Stewart Avenue Holder Station
Site Characterization Report
WATER LEVEL MEASUREMENTS AND GROUNDWATER ELEVATIONS

Monitoring Well	Measuring Point Elevation (ft msl)	Total Installed Well Depth (ft bgs)	Depth to Water[1] (ft)	Calculated Water Elevation (ft msl)
EGCMW-01	75.46	28.00	18.65	56.81
EGCMW-02	74.67	29.00	17.84	56.83
EGCMW-03	76.59	27.00	20.61	55.98
EGCMW-04	74.25	28.00	17.76	56.49
EGCMW-05	74.69	27.00	18.43	56.26
EGCMW-06	74.43	24.50	18.32	56.11
EGCMW-07	75.94	28.00	20.05	55.89

NOTES:
Data collected on June 8, 2011.
[1]Measurements collected in feet below top of casing (measuring point)
msl: Mean Sea Level
bgs: Below Ground Surface



LEGEND:

- 56.81 EGCMW-01 — GROUNDWATER MONITORING WELL WITH GROUNDWATER ELEVATION IN FEET (MEAN SEA LEVEL)
- SITE FENCING
- LOCATION OF FORMER GAS HOLDER SITE STRUCTURE
- 56.20 — GROUNDWATER ELEVATION CONTOUR LINE DASHED WHERE INFERRED (MEAN SEA LEVEL)

0 100'
SCALE IN INCHES

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NATIONAL GRID
EAST GARDEN CITY FORMER STEWART AVENUE HOLDER STATION
EAST GARDEN CITY, NEW YORK

WATER TABLE CONTOUR MAP

SCALE:1"=100'

FIGURE 3-3

4.0 SITE CHARACTERIZATION FINDINGS

This section presents a detailed discussion of the results of the Site Characterization, specific to the presence or absence of MGP-related contaminants in soil and groundwater. In order to present a logical discussion of the data generated as part of this Site Characterization, the discussion has been organized into the following subsections:

- Surface Soil
- Subsurface Soil
- Groundwater
- Exposure Assessment

Drawing 2, provided in a map pocket at the end of Section 2.0, graphically presents the locations of all samples collected as part of the Site Characterization. Tables F-1 through F-18, provided in Appendix F, summarize the chemical data for all samples collected during the Site Characterization. The analytical results of the investigation were compared to standards, criteria and guidelines (SCGs) to protect human health and the environment based on current and future land use of the Site. Given the Site is currently utilized as an electric substation and a natural gas gate station, the most appropriate SCGs for the site for surface and subsurface soil are the Soil Cleanup Objectives (SCOs) for Industrial Use as defined in NYSDEC 6 NYCRR Part 375 (hereinafter referred to as Industrial Use SCOs). For groundwater, the Class GA Groundwater Standards and Guidance Values (hereinafter referred to as Class GA Standards) provided in the NYSDEC Technical and Operation Guidance Series (TOGS) (1.1.1) were utilized as SCGs. Concentrations above the SCGs are highlighted on the data tables.

Drawing 3, provided in a map pocket at the end of this section, summarizes all total benzene, toluene, ethylbenzene and xylene (BTEX) and total polycyclic aromatic hydrocarbon

(PAH) concentrations for surface soil and subsurface soil samples, as well as the hardened tar/sediment sample (EGCHFD-01) collected from a retired gas pipe observed at the surface of the gas holder foundation. In addition, any concentrations detected above the Industrial Use SCOs are noted on Drawing 3 in bold font.

4.1 Surface Soil

As summarized on Table 2-1, a total of 13 surface soil samples were collected for chemical analysis as part of the Site Characterization. As shown on Drawing 2, the sample locations were evenly distributed throughout the Site and were collected from unpaved areas below grass or crushed stone cover material, if present. All samples were analyzed for SVOCs (Table F-1), TAL metals and total cyanide (Table F-2), PCBs (Table F-3) and TPHs (Table F-4).

As discussed in Section 2.3, a retired gas pipe was observed at the surface on the eastern side of the gas holder foundation, containing an apparent combination of hardened tar and sediment. A sample of the hardened tar and sediment (EGCHFD-01) was collected from the retired gas pipe from 0 to 1 foot in depth. This sample was analyzed for VOCs (Table F-5), SVOCs (Table F-6), TAL metals and total cyanide (Table F-7), PCBs (Table F-8) and TPHs (Table F-9). To be conservative, the analytical results for the hardened tar/sediment sample were compared to Industrial Use SCOs, even though this material is in a hardened condition. For organizational purposes, the discussion of the analytical results of this sample is provided below following the surface soil sample results.

SVOCs and PAHs

PAHs are the most commonly encountered SVOC compounds at former MGP sites. As depicted on Drawing 3, total PAH concentrations in all surface soil samples were found to be relatively low, ranging from a minimum of 0.1 mg/kg in EGCSS-12 to a maximum of 22 mg/kg in EGCSS-02, located in the north-central portion of the Site inside the natural gas

gate station. The only SVOC detected above its Industrial Use SCO was benzo(a)pyrene, detected at a concentration of 2.1 mg/kg in EGCSS-02, above the SCO of 1.1 mg/kg.

TAL Metals and Total Cyanide

All TAL metals were detected at concentrations well below their respective Industrial Use SCOs in all 13 surface soil samples. Total cyanide was not detected in 8 of the 13 surface soil samples. The remaining five samples exhibited very low total cyanide concentrations of less than 2 mg/kg, well below its Industrial Use SCO of 10,000 mg/kg.

PCBs

Ten of the 13 surface soil samples were found to be free of detectable concentrations of any PCB compounds. Three samples exhibited detectable concentrations of Aroclor 1260 at less than 0.5 mg/kg, well below its Industrial Use SCO of 25 mg/kg.

TPHs

TPH concentrations ranged from a minimum of 9 mg/kg in EGCSS-12 to a maximum of 4,617 mg/kg in EGCSS-09 (collected from 0 to 2 inches below grade), located in the eastern portion of the electric substation yard in the vicinity of the former south garage and former Greasing Building, as well as the current NYPA transformer. However, the majority of the samples (11 of 13) exhibited TPH concentrations well below 100 mg/kg. There is no Industrial Use SCO established by the NYSDEC for TPHs; however, the NYSDEC Region 2 office has previously used 10,000 mg/kg as an informal reference value or "benchmark" to determine if there exists significant petroleum contamination, which may warrant further investigation or remediation. In addition, note that the PAH concentrations in surface soil were relatively low and not detected at concentrations above 22 mg/kg.

Sample from Retired Gas Pipe

Drawing 3 shows the location of the hardened tar observed in the retired gas pipe. Seven PAHs were detected above their respective Industrial Use SCOs in EGCHFD-01, with a total PAH concentration of 4,292 mg/kg. The 2,000 mg/kg concentration of phenanthrene is above the Industrial Use SCO of 1,000 mg/kg. In addition, the TPH concentration was 4,042 mg/kg, which is below the NYSDEC Region 2 office 10,000 mg/kg reference value discussed above. VOCs, metals, total cyanide and PCBs were either not detected or detected well below their respective Industrial Use SCOs.

4.2 Subsurface Soil

As summarized on Table 2-1, a total of 42 subsurface soil samples were collected for chemical analysis from the 17 completed soil borings, three of the seven groundwater monitoring well boring locations and test pit locations EGCTP-01 and EGCTP-02. All samples were analyzed for VOCs (Table F-10), SVOCs (Table F-11), TAL metals and total cyanide (Table F-12), PCBs (Table F-13) and TPHs (Table F-14). A discussion of the visual evidence of MGP-related impacts that was observed in the test pits and soil borings was provided in Section 3.2.1, and is referenced below where appropriate.

VOCs and BTEX

With the exception of methylene chloride, VOCs were generally not detected in the 42 subsurface soil samples. Methylene chloride, a common laboratory contaminant, was detected in the majority of the samples but at concentrations well below its Industrial Use SCO of 1,000 mg/kg. In addition, a trace concentration of PCE of 0.009 mg/kg was

detected in subsurface soil sample EGCSB-05 (14 to 16 feet), well below its Industrial Use SCO of 300 mg/kg.

Test pit subsurface soil sample EGCTP-02 (1 to 2 feet) exhibited concentrations of benzene, xylene, styrene and toluene, at trace concentrations of less than 0.01 mg/kg, and well below their respective NYSDEC Industrial Use SCOs. Test pit EGCTP-02 was completed along the former gas holder foundation. As discussed in Section 3.2.1, a solid tar lens 3 to 4 inches thick was observed at a depth of 1.5 feet below grade at test pit EGCTP-02.

SVOCs and PAHs

Only 8 of the 42 subsurface soil samples exhibited detectable concentrations of PAHs, with total PAH concentrations ranging from 0.13 mg/kg in EGCSB-11 (8 to 10 feet) to a maximum of 100 mg/kg detected in test pit subsurface soil sample EGCTP-02 (1 to 2 feet). The second highest total PAH concentration of 25 mg/kg was detected in EGCSB-16 (8 to 10 feet), located in the eastern portion of the electric substation yard in the vicinity of the former Greasing Building and current NYPA transformer. However, most of the subsurface soil samples that exhibited detectable total PAH concentrations were less than 5 mg/kg.

As depicted on Drawing 3, benzo(a)pyrene was the only PAH detected above the Industrial Use SCO of 1.1 mg/kg in two samples:

- EGCTP-02 (1 to 2 feet) at a concentration of 6.5 mg/kg; and
- EGCSB-16 (8 to 10 feet) at a concentration of 1.5 mg/kg.

The samples exhibiting the highest PAH concentrations exhibited the most evidence of visual impacts characteristic of MGP-related fill, such as the solid tar lens observed in the sample collected from test pit EGCTP-02 along the former gas holder foundation.

Furthermore, soil boring EGCSB-16 exhibited black staining and a slight naphthalene-like odor at a depth of 8 to 10 feet below grade.

In addition to PAHs, several other SVOCs were detected in the subsurface soil samples at relatively low concentrations including bis(2-ethylhexyl)phthalate and carbazole. However, both compounds were found at concentrations of less than 1.0 mg/kg and do not have a specific NYSDEC Industrial Use SCO. While carbazole can be associated with MGP tars, bis(2-ethylhexyl)phthalate is a common laboratory contaminant, which may be the source of this compound.

TAL Metals and Total Cyanide

All TAL metals were detected at concentrations well below their respective Industrial Use SCOs in all 42 subsurface soil samples. Total cyanide was found to be non-detectable in 34 of the 42 subsurface soil samples. Eight of the samples exhibited very low total cyanide concentrations of less than 10 mg/kg, well below its Industrial Use SCO of 10,000 mg/kg.

PCBs

Forty-one out of 42 subsurface soil samples were non-detect for PCB compounds. Only EGCSB-09 (15 to 17 feet) exhibited a detectable concentration of Aroclor 1254 at 0.05 mg/kg, well below its Industrial Use SCO of 25 mg/kg.

TPHs

TPH concentrations ranged from a minimum of 2 mg/kg detected in four samples to a maximum of 1,501 mg/kg, detected in test pit subsurface soil sample EGCTP-02 (1 to 2 feet). The second highest TPH concentration of 230 mg/kg was detected in EGCSB-15 (8.5

to 10.5 feet), located in the eastern portion of the electric substation yard in the vicinity of the former Greasing Building and current NYPA transformer. A slight naphthalene-like odor was also observed at this depth in soil boring EGCSB-15. However, the majority of the samples (40 out of 42) exhibited TPH concentrations of less than 50 mg/kg. There is no Industrial Use SCO established by the NYSDEC for TPH; however, the NYSDEC Region 2 office has previously used 10,000 mg/kg as an informal "reference" or "benchmark" to determine if there exists significant petroleum contamination, which may warrant further investigation or remediation.

4.3 Groundwater

As summarized on Table 2-1, a total of 7 monitoring wells (EGCMW-01 through EGCMW-07) were installed and sampled as part of the field investigation. Based on a south/southeasterly direction of groundwater flow, as detailed in Section 3.3, monitoring wells EGCMW-01 and EGCMW-02 are considered upgradient of the Site, with the remaining wells being downgradient of any potential on-site contamination sources. All samples were analyzed for VOCs (Table F-15), SVOCs (Table F-16), TAL metals and total/free cyanide (Table F-17) and PCBs (Table F-18). Note that LNAPL and DNAPL was not observed in any of the monitoring wells.

VOCs and BTEX

Groundwater samples collected from upgradient monitoring wells EGCMW-01 and EGCMW-02 contained a number of VOCs, including BTEX compounds in EGCMW-02, PCE in both upgradient wells, and TCE in EGCMW-01. PCE was detected at a concentration of 6.1 ug/l in EGCMW-01, above its Class GA Standard of 5 ug/l. In addition, trace concentrations of PCE and TCE below Class GA Standards were detected in downgradient monitoring wells EGCMW-03, 04 and 05. Trichlorofluoromethane was also detected at a

trace concentration of 1.2 ug/l in downgradient well EGCMW-06, below its Class GA Standard of 5 ug/l. PCE, TCE and trichlorofluoromethane are not contaminants associated with former MGP operations. As discussed in Section 1.5.2, there are a number of upgradient sources in the vicinity of the Site that have documented PCE and TCE contamination including the ORCA NPL site and Award Packaging, a State Hazardous Waste Site. In addition, there is at least one open petroleum spill associated with a service station located less than 1/8 of a mile upgradient of the Site, which may have impacted site groundwater with BTEX compounds.

With the exception of the PCE, TCE and trichlorofluoromethane, no other VOCs were detected in the downgradient monitoring wells, including BTEX compounds or other VOCs typically associated with former MGP operations.

SVOCs and PAHs

All SVOCs and PAH compounds were found to be non-detectable in all upgradient and downgradient monitoring wells.

TAL Metals and Cyanide

The groundwater samples collected from the 7 monitoring wells did not contain TAL metal concentrations above their Class GA Standards with the exception of iron, manganese and sodium. However, all three metals are common groundwater constituents and are not considered contaminants related to former MGP sites. All heavy metals including lead, chromium, arsenic, cadmium, and mercury were found to be either below detection limits or at concentrations well below Class GA Standards.

All seven groundwater samples were analyzed for the presence of total cyanide. Total cyanide was detected in 5 of 7 groundwater samples, ranging from 6 ug/l in EGCMW-04 to a maximum concentration of 972 ug/l in EGCMW-06, located in the eastern portion of the electric substation yard in the vicinity of the former south garage and former Greasing Building, as well as the current NYPA transformer. This concentration was above the Class GA Standard for total cyanide of 200 ug/l. The second highest total cyanide concentration of 17 ug/l was detected in EGCMW-07, well below its Class GA Standard. Monitoring well EGCMW-07 is located in the southwest corner of the Site.

A second groundwater sample was collected on September 9, 2011 from EGCMW-06 to confirm and further investigate the total cyanide result. For comparison purposes, this sampling round included the monitoring well exhibiting the second highest total cyanide concentration (EGCMW-07) and an upgradient well (EGCMW-02). The three groundwater samples were analyzed for total cyanide and free cyanide. The results of the September 2011 sampling confirmed the presence of cyanide above the Class GA Standard in EGCMW-06 at a concentration of 1,590 ug/l. The free cyanide concentration in EGCMW-06 was detected at 46.4 ug/l. Note that there is no Class GA Standard for free cyanide. In addition, well EGCMW-02 was non-detect for total cyanide and well EGCMW-07 exhibited a cyanide concentration of 27 ug/l, similar to the results from the first round of sampling. Free cyanide was detected at 5.68 ug/l in EGCMW-02 and 5.94 ug/l in EGCMW-07.

PCBs

All PCB compounds were found to be non-detectable in all upgradient and downgradient monitoring wells.

4.4 Exposure Assessment

This subsection addresses the potential qualitative risks to human receptors from contaminants of potential concern (COPCs). A COPC is any chemical detected at concentrations above the NYSDEC cleanup guidelines in a medium which could produce adverse health effects under the right conditions of dose and exposure.

The mediums of exposure at the Site include surface soil, subsurface soil and groundwater and the established NYSDEC cleanup guidelines for the Site are the Industrial SCOs for soil and Class GA Groundwater Standards and Guidance Values for groundwater. Site analytical data, including contaminant concentrations above the Industrial SCOs and Class GA Groundwater Standards and Guidance Values, are summarized in Appendix F.

Exposure Pathways

As detailed in NYSDEC DER-10, dated May 2010, an exposure pathway describes the means by which a potential receptor may be exposed to site-specific COPCs. A person who could come into contact with a COPC at an exposure point is called a "receptor." The ways in which the COPC can enter the body of a receptor are called "routes of exposure." Ingestion (by mouth), dermal (contact with skin) and inhalation (breathing into the lungs) are the routes of exposure considered in this and other human health risk assessments. This assessment considers both current and potential future exposures.

An exposure pathway is completed only when all five of the below elements occur or are present:

- Contaminant source;
- Contaminant release and transport mechanisms;

- Point of exposure;
- Route of exposure; and
- Receptor population.

An exposure pathway may be eliminated from further evaluation when any one of the five above elements has not occurred and/or is not present in the past, present and/or future.

Surface Soil

The chemical analysis of the 13 surface soil samples did not identify any contaminants above the Industrial Use SCOs, with the exception of benzo(a)pyrene in one sample. The majority of the Site is either covered by asphalt, concrete, or crushed stone, which limits direct exposure to surface soil. Therefore, contaminants in surface soil are not a potential exposure pathway.

A hardened tar/sediment sample was collected from a depth of 0 to 1 feet below grade from a retired gas pipe observed at the surface on the eastern side of the former gas holder foundation. This sample exhibited a total PAH concentration of 4,292 mg/kg, with seven individual PAHs exhibiting concentrations above their respective Industrial Use SCOs. This sample was collected from the natural gas gate station, which is a secure, fenced area with limited access. The only potential receptor of this hardened contamination would be National Grid workers or their contactors who periodically enter the natural gas gate station to perform maintenance activities. This potential exposure pathway is significantly minimized through the use of standard health and safety protocols for National Grid workers and their contractors. This area can also be covered with asphalt to further minimize this potential exposure pathway.

Subsurface Soil

Benzo(a)pyrene was the only COPC found at concentrations above its Industrial Use SCO in subsurface soil at the Site. Furthermore, benzo(a)pyrene was only detected above its Industrial Use SCO in two out of 42 samples. The isolated areas containing this contaminant above the SCO are secured by fencing and are not accessible to the public. Therefore, the only potentially complete exposure pathway for benzo(a)pyrene in the subsurface soil medium via ingestion, dermal contact and inhalation is for Site workers who may perform excavation activities in these isolated areas. Excavation of subsurface soil documented to contain benzo(a)pyrene can be easily managed by the implementation of a Site Management Plan (SMP), as detailed in the Section 5.0. In addition, these areas are secured by fencing and locked security gates and can only be accessed by authorized Site workers, further mitigating the potential to complete this exposure pathway.

Groundwater

The completed groundwater sampling identified total cyanide at a concentration above its Class GA standard in only one of the seven on-site monitoring wells, located in the eastern portion of the electric substation yard. Monitoring wells further downgradient along the southern perimeter of the Site did not exhibit elevated concentrations of cyanide. Trace concentrations of chlorinated VOCs and BTEX compounds were also detected during the groundwater sampling, primarily in the upgradient monitoring wells. Chlorinated VOCs, including PCE, TCE and trichlorofluoromethane, are not contaminants associated with former MGP operations. Based on available information, there are no known private or public groundwater supply wells within the immediate vicinity of the Site. Depth to groundwater is at least 18 feet below grade and therefore direct contact with groundwater during possible future excavation activities is not expected. Therefore, a complete exposure pathway does not exist for the groundwater contaminants identified on-site.

Exposure Assessment Analysis

Based on the above site-specific exposure assessment, potentially complete exposure pathways exist for chemical constituents above the Industrial Use SCOs for surface soil and subsurface soil via ingestion, dermal contact and inhalation. However, this potential is limited by the following:

- Relatively low contaminant concentrations - As detailed above, contaminant concentrations in Site surface and subsurface soil were not detected above their respective Industrial Use SCOs, with the exception of benzo(a)pyrene, detected primarily in the northern and central portions of the Site, which are covered by a maintained lawn or crushed stone. In addition, several PAHs were detected above their respective Industrial Use SCOs in the hardened tar/sediment sample collected from the retired gas pipe located in the holder foundation, which is located in a fenced and locked portion of the site. As detailed below, it is recommended to cover the retired gas pipe with asphalt.
- Site Security - A chain-link fence surrounds the majority of the Site, including all natural gas and electric substation equipment. The electric substation yard and natural gas gate station are not accessible to the public and access is only possible through security gates, which require a company-issued access card and/or authorization to open. In addition, LIPA, National Grid and NYPA workers and contractors are not permanently stationed at the Site; and
- Site Covering - The majority of the Site is covered by asphalt pavement and a maintained lawn in the northern portion of the Site (natural gas gate station), and crushed stone in the central and southern portions of the Site (electric substation yard).

Given these site conditions, the general public has very limited potential to come into contact with on-site contamination. Although the private access road is accessible to the public, the majority of the road is paved with asphalt, preventing exposure to Site soil. Surface soil without crushed stone or asphalt cover exists in the southeastern portion of the Site, associated with an equipment staging area. However, a surface soil sample collected during the Site Characterization (EGCSS-04) and a soil boring completed during a previous

investigation (EGCGM-01) did not indicate the presence of MGP-related contamination in these areas.

The most likely potential receptors of on-site contamination would be LIPA and National Grid workers or their contactors who periodically enter the Site to perform maintenance activities. However, the potential for exposure is significantly minimized by the site security, site covering and the relatively low contaminant concentrations outlined above. Furthermore, potential exposure to these contaminants is further managed through the implementation of existing health and safety protocols by LIPA and National Grid workers and contractors. Finally, future excavation activities can be managed by implementation of a SMP, as indicated in Section 5.0.

Future Use and Potential Exposure Routes

Currently, LIPA, National Grid and NYPA do not have any plans to change the use of the Site. As a result, the Site will remain as an active electric substation and natural gas gate station for the foreseeable future and these areas of the Site will remain secure with no public access. In addition, the main private access road that traverses the Site will remain paved with asphalt and, as recommended in Section 5.0, the retired gas pipe can be covered with asphalt. This and the SMP can help reduce the potential for on-site receptors to come into contact with contamination.

In addition, once in-place, the SMP can provide an additional framework to ensure that any engineering controls, such as the Site fencing and crushed stone cover, and institutional controls, such as any deed or groundwater use restrictions, remain in-place and effective and future Site activities such as excavations are properly managed.

STEWART AVENUE

EGCSS-02	0-2 in. bgs	INDUSTRIAL SCO
TOTAL PAHs	22	--
Benzo(a)pyrene	**2.1**	1.1

EGCSB-01	8-10 ft. bgs	18-20 ft. bgs
TOTAL BTEX	ND	ND
TOTAL PAHs	ND	ND

EGCSB-02	9-11 ft. bgs	15.5-17.5 ft. bgs
TOTAL BTEX	ND	ND
TOTAL PAHs	ND	ND

EGCSB-18	8-10 ft. bgs	16-18 ft. bgs
TOTAL BTEX	ND	ND
TOTAL PAHs	ND	ND

EGCSB-10	8-10 ft. bgs	17.5-19.5 ft. bgs
TOTAL BTEX	ND	ND
TOTAL PAHs	ND	ND

EGCSB-09	8-10 ft. bgs	15-17 ft. bgs
TOTAL BTEX	ND	ND
TOTAL PAHs	ND	ND

EGCSB-08	8-10 ft. bgs	15-17 ft. bgs
TOTAL BTEX	ND	ND
TOTAL PAHs	ND	ND

EGCMW-05	8-10 ft. bgs	15-17 ft. bgs
TOTAL BTEX	ND	ND
TOTAL PAHs	ND	ND

EGCSB-19	8-10 ft. bgs	16-18 ft. bgs
TOTAL BTEX	ND	ND
TOTAL PAHs	ND	ND

EGCSS-06	0-2 in. bgs
TOTAL PAHs	2.3

EGCSB-13	8-10 ft. bgs	16-18 ft. bgs
TOTAL BTEX	ND	ND
TOTAL PAHs	ND	ND

EGCSS-07	0-2 in. bgs
TOTAL PAHs	1.26

EGCSB-14	8.5-10.5 ft. bgs	14-16 ft. bgs
TOTAL BTEX	ND	ND
TOTAL PAHs	ND	ND

EGCSS-09	0-2 in. bgs
TOTAL PAHs	3.20

EGCSS-10	0-2 in. bgs
TOTAL PAHs	2.22

EGCMW-03	8.5-10.5 ft. bgs	15.5-17.5 ft. bgs
TOTAL BTEX	ND	ND
TOTAL PAHs	ND	ND

EGCSS-12	0-2 in. bgs
TOTAL PAHs	0.097

EGCMW-07	9.5-11.5 ft. bgs	16-18 ft. bgs
TOTAL BTEX	ND	ND
TOTAL PAHs	ND	ND

EGCSS-01	0-2 in. bgs
TOTAL PAHs	0.8

EGCSS-03	0-2 in. bgs
TOTAL PAHs	0.28

EGCSB-03	14-16 ft. bgs	23-25 ft. bgs
TOTAL BTEX	ND	ND
TOTAL PAHs	ND	ND

EGCSB-04	12-14 ft. bgs	14-16 ft. bgs
TOTAL BTEX	ND	ND
TOTAL PAHs	ND	ND

EGCTP-01	1-2 ft. bgs
TOTAL BTEX	ND
TOTAL PAHs	1.4

EGCSB-05	12-14 ft. bgs	14-16 ft. bgs
TOTAL BTEX	ND	ND
TOTAL PAHs	0.24	ND

EGCHFD-01	0-1 ft. bgs	INDUSTRIAL SCO
TOTAL BTEX	0.22	--
TOTAL PAHs	4,292	--
Benzo(a)anthracene	**200**	11
Benzo(a)pyrene	**130**	1.1
Benzo(b)fluoranthene	**160**	11
Chrysene	**200**	110
Dibenz(a,h)anthracene	**14**	1.1
Indeno(1,2,3-c,d,)pyrene	**37**	11
Phenanthrene	**2,000**	1,000

EGCSS-04	0-2 in. bgs
TOTAL PAHs	3.2

EGCSB-07	10-12 ft. bgs	14.5-16.5 ft. bgs
TOTAL BTEX	ND	ND
TOTAL PAHs	15.0	0.57

EGCTP-02	1-2 ft. bgs	INDUSTRIAL SCO
TOTAL BTEX	0.0119	--
TOTAL PAHs	100	--
Benzo(a)pyrene	**6.5**	1.1

EGCSS-13	0-2 in. bgs
TOTAL PAHs	1.90

EGCSS-05	0-2 in. bgs
TOTAL PAHs	0.4

EGCSB-11	8-10 ft. bgs	14.5-16.5 ft. bgs
TOTAL BTEX	ND	ND
TOTAL PAHs	0.13	ND

EGCSS-08	0-2 in. bgs
TOTAL PAHs	1.9

EGCSB-15	8.5-10.5 ft. bgs	14.5-16.5 ft. bgs
TOTAL BTEX	ND	ND
TOTAL PAHs	2.6	ND

EGCSB-16	8-10 ft. bgs	15-17 ft. bgs	INDUSTRIAL SCO
TOTAL BTEX	ND	ND	--
TOTAL PAHs	25	ND	--
Benzo(e)pyrene	**1.5**	ND	1.1

EGCSS-11	0-2 in. bgs
TOTAL PAHs	0.9

EGCSB-17	9-11 ft. bgs	14-16 ft. bgs
TOTAL BTEX	ND	ND
TOTAL PAHs	ND	ND

NOTE- ENTIRE AREA WITHIN THE SUBSTATION FENCE COVERED WITH DOLOMITE.

NOTE- ENTIRE AREA WITHIN THE SUBSTATION FENCE COVERED WITH DOLOMITE.

LEGEND:

- EGCSS-01 — COMPLETED SURFACE SOIL SAMPLE LOCATION
- EGCSB-01 — COMPLETED SUBSURFACE BORING LOCATION
- EGCHFD-01 — COMPLETED FOUNDATION DISTRIBUTION PIPE SAMPLE LOCATION
- EGCMW-01 — COMPLETED GROUNDWATER MONITORING WELL LOCATION
- COMPLETED TEST PIT LOCATION
- SITE FENCING
- LOCATION OF FORMER GAS HOLDER SITE STRUCTURE
- AREA REMEDIATED TO 4' bgs

PREVIOUSLY COMPLETED FIELD WORK:

- COMPLETED CABLE TRENCH LOCATION
- MGP-RELATED FILL OBSERVED AT PREVIOUS TRENCH LOCATION
- EGC-01, EGC07-21, 5, 5N — COMPLETED SUBSURFACE SOIL SAMPLE LOCATION
- 07A-12 — MGP-RELATED FILL OBSERVED AT PREVIOUS SOIL SAMPLE LOCATION
- EP-01 — COMPLETED END POINT SOIL SAMPLE LOCATION
- SW-02 — COMPLETED SIDE WALL SOIL SAMPLE LOCATION

BILUE AND BOLD CONCENTRATIONS REPRESENT EXCEEDANCES OF THE NYSDEC PART 375 INDUSTRIAL USE SOIL CLEANUP OBJECTIVES

ALL CONCENTRATIONS PROVIDED IN MILLIGRAMS PER KILOGRAM (MG/KG)

ND: NOT DETECTED

--: NO INDUSTRIAL SCO PROVIDED

LONG ISLAND RAIL ROAD (CENTRAL BRANCH)

NO.	DATE	REVISION	INT.

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW.

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T.F.	D.C
DESIGNED BY:	CHECKED BY:
S.T.	T.F.

NATIONAL GRID

NASSAU COUNTY — NEW YORK

EAST GARDEN CITY FORMER STEWART AVENUE HOLDER STATION SITE CHARACTERIZATION

SUMMARY OF SURFACE AND SUBSURFACE SOIL ANALYTICAL DATA

PROJECT NO.	DRAWING NO.
3666	3
DATE: DECEMBER 2011	
SCALE: 1" = 40'	

5.0 CONCLUSIONS

This section of the report presents a summary of the Site Characterization findings and the conclusions regarding the nature and extent of observed contamination. The conclusions are based on the comparison of chemical constituents detected in soil and groundwater during the Site Characterization to the SCGs defined in Section 4.0, as well as visual observations of MGP-related materials. Note that the conclusions have been developed in the anticipation that the Site will continue to be utilized as a natural gas gate station and electric substation.

Summary of Findings

Surface Soil

In general, low concentrations of several PAHs, TAL metals, total cyanide and PCBs were detected in the collected surface soil samples. No analyte was detected above its respective Industrial Use SCOs, except for benzo(a)pyrene, which was detected at a concentration of 2.1 mg/kg (above its Industrial Use SCO of 1.1 mg/kg) in surface soil sample EGCSS-02, collected in the northern portion of the Site. Based on these findings, the presence of MGP-related materials has generally not impacted surface soil conditions.

In addition, a hardened tar and sediment sample collected from the retired gas pipe located on the eastern side of the former gas holder foundation exhibited a total PAH concentration of 4,292 mg/kg, with seven individual PAHs including benzo(a)pyrene, benzo(a)anthracene, benzo(b)flouranthene, chrysene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene and phenanthrene exhibiting concentrations above their respective Industrial Use SCOs.

Subsurface Soil

Laboratory analysis of the subsurface soil samples collected during the Site Characterization only identified relatively low concentrations of several PAHs, TAL metals, total cyanide and PCBs. Benzo(a)pyrene was the only contaminant found to exceed its Industrial Use SCO of 1.1 mg/kg in two of the 42 samples, and ranged in concentration from 1.5 mg/kg to 6.5 mg/kg. The highest benzo(a)pyrene concentration was associated with black-stained soil collected from test pit EGCTP-02, located along the foundation of the former gas holder.

Based on the findings of previous investigations and the Site Characterization presented herein, the presence and extent of MGP-related material in the subsurface has been adequately characterized. As part of the Site Characterization, subsurface soil was characterized and 42 samples were selected for chemical analysis throughout the Site. Although reworked fill deposits were observed throughout the Site, MGP-related material was only visually identified in subsurface soil in limited areas of the Site, including the former gas holder foundation, the southeastern portion of the natural gas gate station and the eastern portions of the electric substation. Evidence of these MGP-related materials in subsurface soil included slight to moderate staining and odors, and/or the presence of coal clinker. The majority of the MGP-related materials was observed during previous investigations to a depth of approximately 4 to 6 feet below grade, although the Site Characterization identified limited areas of deeper impacts, generally at 8 to 10 feet below grade. However, all MGP-related material was observed in the reworked fill deposits.

Hardened tar was only observed in the subsurface at two isolated areas, including along the foundation of the former gas holder at a depth of 1.5 feet and 11.5 feet below grade and in the southeast portion of the natural gas gate station, at a depth of 16 feet below grade. The former gas holder foundation, which is visible at grade, and an associated

tar tank foundation, which was observed during completion of test pit EGCTP-01, were the only former structures identified during the Site Characterization. Based on these findings, it is assumed that the tar tanks were aboveground structures, and were removed along with the gas holder.

Groundwater

Trace concentrations of chlorinated VOCs and BTEX compounds were detected during the completed groundwater sampling, primarily in the upgradient monitoring wells. PCE, at a concentration of 6.1 ug/l, was detected above its Class GA Groundwater Standard of 5 ug/l in upgradient monitoring well EGCMW-01. Chlorinated VOCs, including PCE, TCE and trichlorofluoromethane, are not contaminants associated with former MGP operations. It is likely that these VOCs originated from upgradient sources identified in the vicinity of the Site, including the ORCA NPL site and Award Packaging, a State Hazardous Waste Site, as well as a service station with at least one open petroleum spill located less than 1/8 of a mile upgradient of the Site.

Total cyanide was detected above its Class GA Standard of 200 ug/l in only one of the seven on-site monitoring wells (EGCMW-06), located in the eastern portion of the electric substation yard. Concentrations of total cyanide in EGCMW-06 were detected at 972 ug/l and 1,590 ug/l, with a free cyanide concentration of 46.4 ug/l. However, monitoring wells located further downgradient along the southern perimeter of the Site did not exhibit elevated concentrations of cyanide.

Exposure Assessment

There are potentially complete exposure pathways via ingestion, dermal contact and inhalation for excavating in subsurface soil for on-site LIPA, National Grid and NYPA workers

or their contactors who periodically enter the Site to perform maintenance activities via ingestion, dermal contact and inhalation. However, the potential for exposure is significantly minimized by the Site security fencing, Site covering and the relatively low contaminant concentrations. In addition, the public does not have access to areas of the Site where contamination has been identified. While contaminant concentrations are relatively low, there is a potentially open exposure pathway for on-site workers for dermal contact or inhalation of dust during excavation activities in areas where Site contaminants were detected above the Industrial Use SCOs. However, this potentially open exposure pathway can be significantly minimized through the use of proper health and safety protocols during on-site work by LIPA, National Grid, NYPA workers and their contractors and by implementation of a Site Management Plan (SMP), as indicated below.

Although some solid tar within a retired gas pipe is visible at the surface, it is hardened and, therefore, immobile. In addition, the retired gas pipe is located within the natural gas gate station, which is a secure, fenced area with limited access. Since the public does not have access to this area, the only potential receptor to the hardened tar would be National Grid workers or their contactors who periodically enter the natural gas gate station to perform maintenance activities.

Recommendations

Based on the findings of this Site Characterization and previous investigations at the Site, additional Site Characterization should not be necessary. Considering the extensive network of above and below grade utilities present at the Site and the limited potential for on-site workers or the public to come into contact with site-related contaminants, remediation of soil containing MGP-related materials is not warranted at this time. In addition, the following recommendations are provided:

- Maintain limited access to the natural gas gate station and electric substation areas of the Site;

- Maintain the crushed stone, asphalt and maintained lawn cover at the Site in order to minimize the potential for contact with Site soil in these areas;

- In order to further reduce the potential for Site worker contact with the exposed hardened tar/sediment observed within the retired gas pipe, this material can be covered with asphalt and left in place. Note that the retired gas pipe is located within the natural gas gate station, which is a secure, fenced location and requires an access card and/or authorization to enter; and

- While remediation of subsurface soil is not warranted based on the results of the Site Characterization, a SMP can be developed for the Site to help manage Site activities and reduce the potential for Site worker contact with Site soil.

APPENDIX A

SANBORN MAPS AND PERTINENT HISTORICAL INFORMATION FROM EDR DOCUMENT

East Garden City Substation
600 Stewart Avenue
Garden City, NY 11530

Inquiry Number: 2333687.3s
October 06, 2008

Certified Sanborn® Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

10/06/08

Site Name:
East Garden City Substation
600 Stewart Avenue
Garden City, NY 11530

Client Name:
Dvirka & Bartilucci Cons. Eng.
330 Crossways Park Drive
Woodbury, NY 11797

EDR Inquiry # 2333687.3s

Contact: Steve Tauss

EDR® Environmental Data Resources Inc

The complete Sanborn Library collection has been searched by EDR, and fire insurance maps covering the target property location provided by Dvirka & Bartilucci Cons. Eng. were identified for the years listed below. The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by Sanborn Library LLC, the copyright holder for the collection.

Certified Sanborn Results:

Site Name: East Garden City Substation
Address: 600 Stewart Avenue
City, State, Zip: Garden City, NY 11530
Cross Street:
P.O. # NA
Project: NA
Certification # B611-4480-9526

Sanborn® Library search results
Certification # B611-4480-9526

Maps Identified - Number of maps indicated within "( )"

1970 (1)
1963 (1)
1961 (1)
1950 (1)
1936 (1)

Total Maps: 5

The Sanborn Library includes more than 1.2 million Sanborn fire insurance maps, which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

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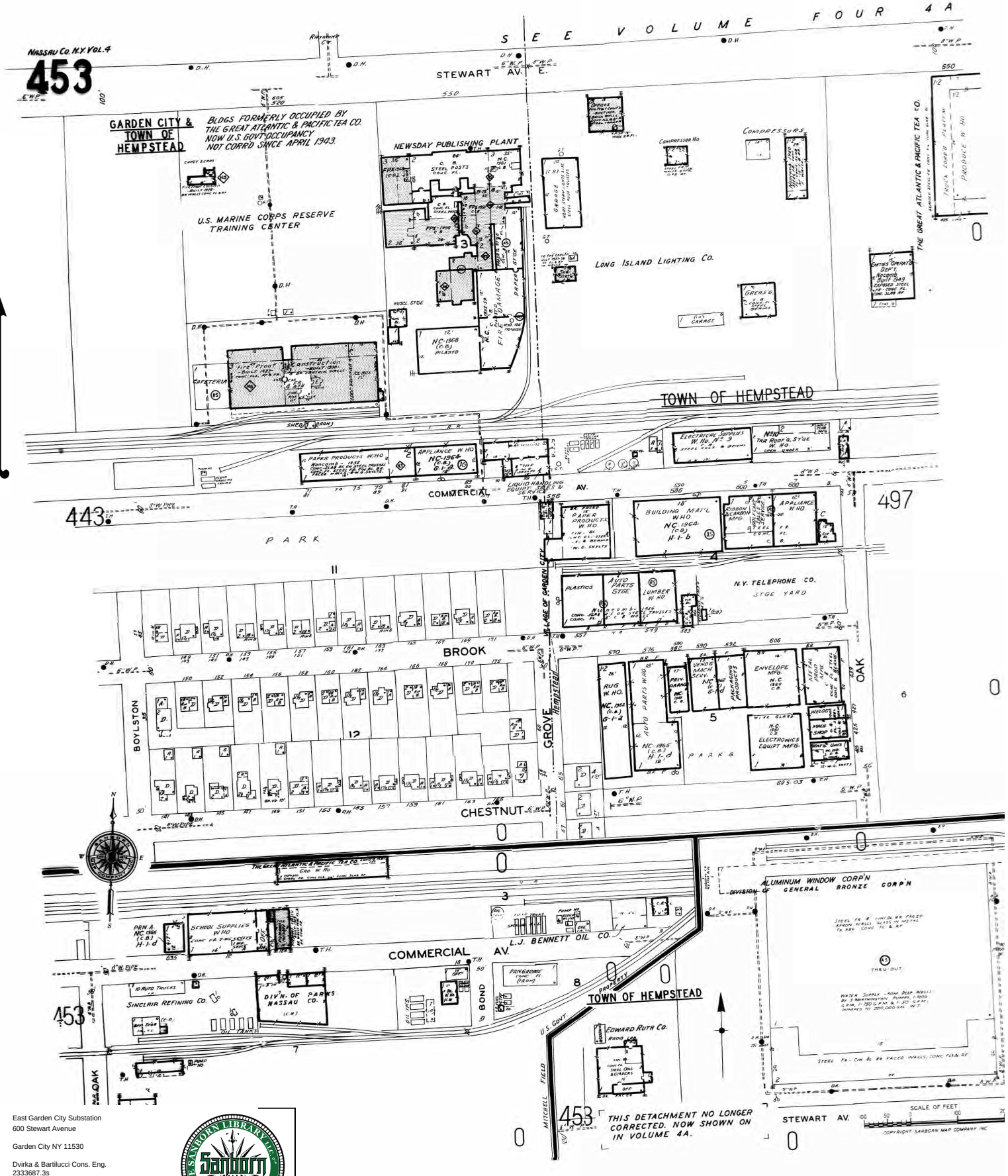
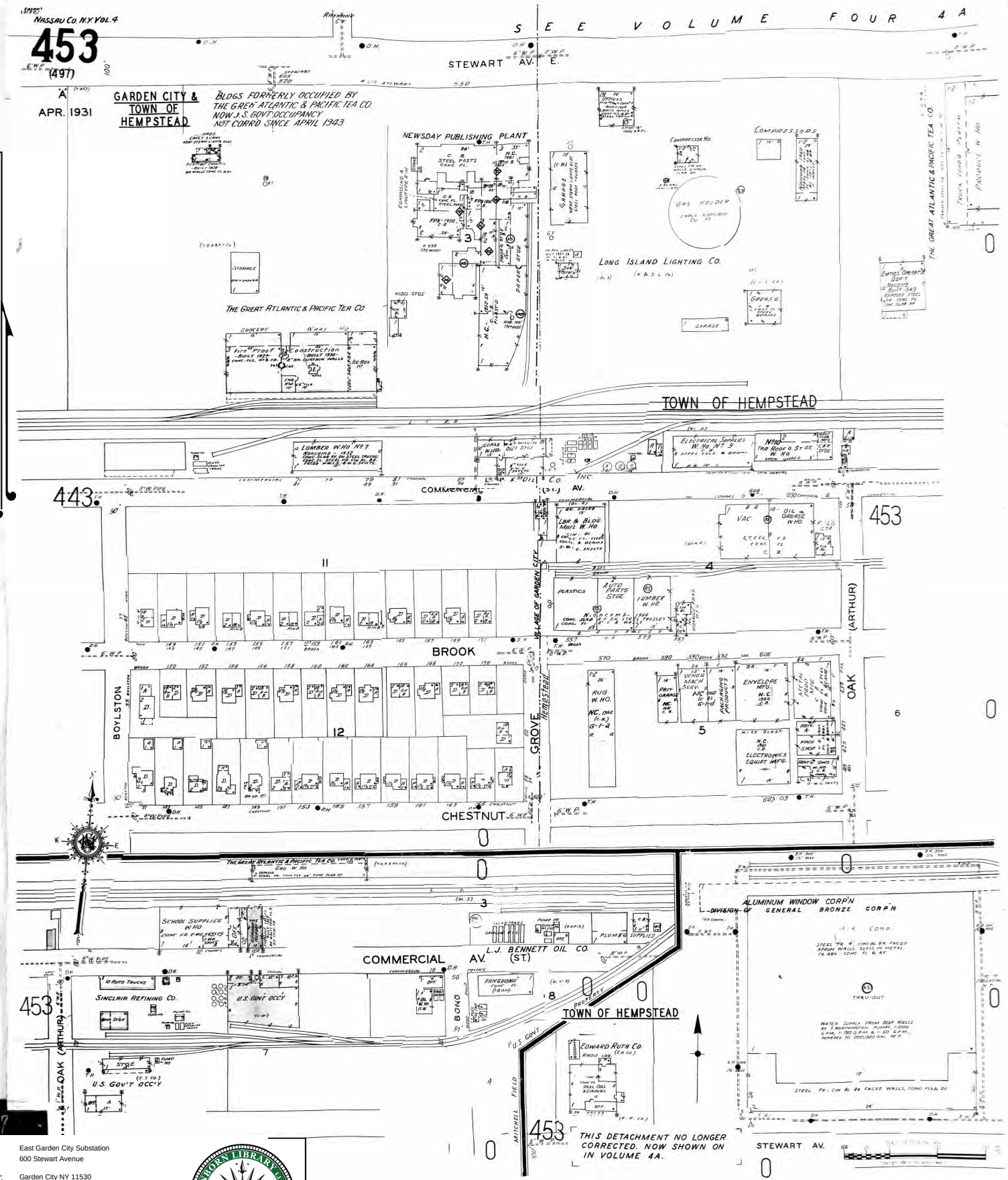


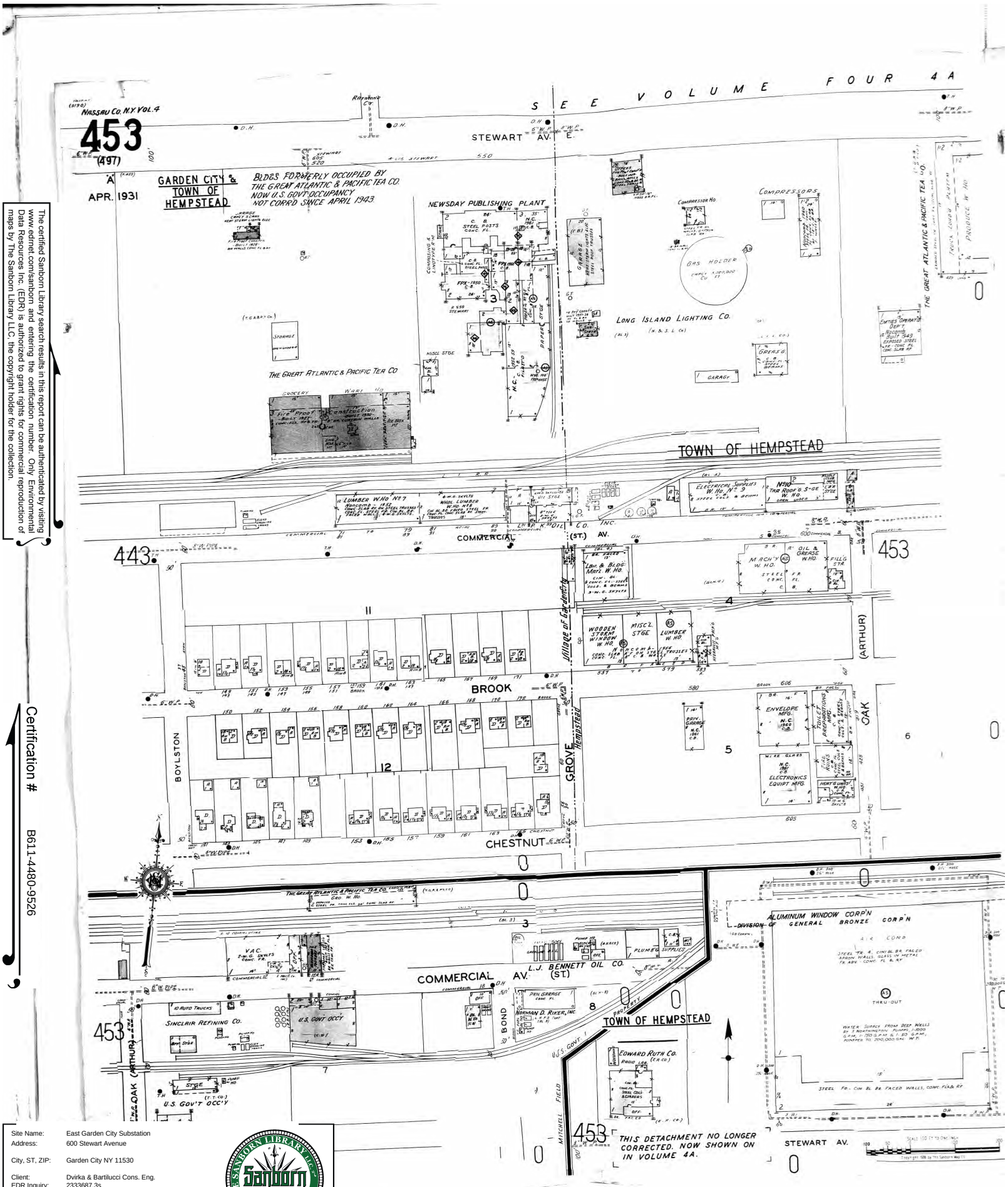
Certification # B611-4480-9526

Site Name:	East Garden City Substation
Address:	600 Stewart Avenue
City, ST, ZIP:	Garden City NY 11530
Client:	Dvirka & Bartilucci Cons. Eng.
EDR Inquiry:	2333687.3s
Order Date:	10/6/2008 8:30:13 AM
Certification #	B611-4480-9526

Copyright: 1970



Site Name:	East Garden City Substation
Address:	600 Stewart Avenue
City, ST, ZIP:	Garden City NY 11530
Client:	Dvirka & Bartilucci Cons. Eng.
EDR Inquiry:	2333687.3s
Order Date:	10/6/2008 8:30:13 AM
Certification #	B611-4480-9526



Certification # B611-4480-9526

Site Name:	East Garden City Substation
Address:	600 Stewart Avenue
City, ST, ZIP:	Garden City NY 11530
Client:	Dvirka & Bartilucci Cons. Eng.
EDR Inquiry:	2333687.3s
Order Date:	10/6/2008 8:30:13 AM
Certification #	B611-4480-9526

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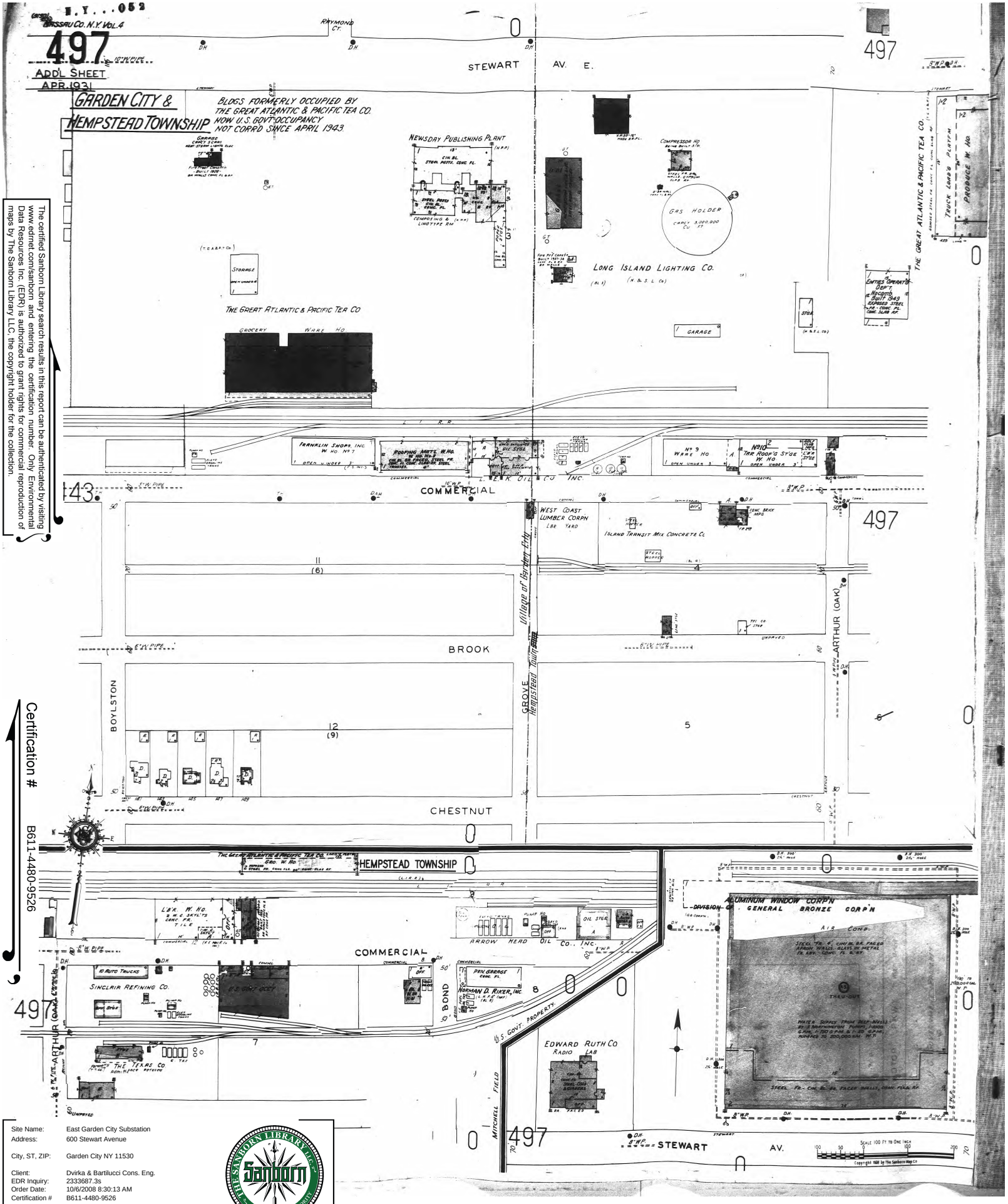

Certification # B611-4480-9526

Site Name:	East Garden City Substation
Address:	600 Stewart Avenue
City, ST, ZIP:	Garden City NY 11530
Client:	Dvirka & Bartilucci Cons. Eng.
EDR Inquiry:	2333687.3s
Order Date:	10/6/2008 8:30:13 AM
Certification #	B611-4480-9526

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497
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APR. 1931

GARDEN CITY & HEMPSTEAD TOWNSHIP

STEWART AV. E.
RAYMOND CT.
10"W.PIPE
8"W.PIPE
6"W.PIPE
6"S.PIPE
6"V.C.PIPE
GAS HOLDER
CAPCY. 3,000,000 CU. FT.
NASSAU & SUFFOLK LIGHTING CO.
THE ROBERT TOLLER CO.
THE GREAT ATLANTIC & PACIFIC TEA CO.
GROCERY
WARE HO
E. L. PHILLIPS LABOR CAMP
MESS HALL
BUNK HO
KITCHEN
L. I. R. R.
FRANKLIN SHOPS INC
W HO No 1
YARD
HAMLIN STUCCO CO. INC
No 10
TAR ROOFING STOR
WARE HO
No 9
WARE HO
L. E. K. OIL CO. INC
COMMERCIAL
THE BARRETT CO.
COAL TAR ENAMEL
OIL STOR
TAR STOR
UNPAVED
BROOK
BOYLSTON
GROVE
ARTHUR (OAK)
Village of Garden City
Hempstead Township
CHESTNUT
43
497
11
(6)
12
(9)
4
5
6
7
8
9
97
W. E. MAC ADAM CO. INC (TILE)
STOR OF PAPER GOODS
& MFG SKYLIGHTS
IRON FRAME
OFFICE
OIL STORAGE
WARE HO
No 13
LUMBER STORAGE
WARE HO
No 14
THE SALVATION ARMY
STOR HO
ARROW HEAD OIL CO. INC.
COMMERCIAL
10 AUTO TRUCKS
SINCLAIR REFINING CO.
BRKR STOR
BROOKLYN BUILDERS SUPPLY CO.
MASONS & PLASTERERS SUPPLIES (R.D.)
JOHN R. WELLS INC.
SUNRISE SERVICE STATIONS INC.
STANDARD BITULITHIC CO. INC.
YARD
THE TEXAS CO.
MAINTENANCE BUILDING
PATTERSON & FRANKLIN INC.
ROCK WOOL INSULATION CORP.
MOTOR P'KWY
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ALE 100 Ft to One INCH
Copyright 1931 by the Sanborn Map Co.

Site Name: East Garden City Substation
Address: 600 Stewart Avenue
City, ST, ZIP: Garden City NY 11530
Client: Dvirka & Bartilucci Cons. Eng.
EDR Inquiry: 2333687.3s
Order Date: 10/6/2008 8:30:13 AM
Certification # B611-4480-9526

East Garden City Substation
600 Stewart Avenue
Garden City, NY 11530

Inquiry Number: 2333687.5
October 06, 2008

The EDR Aerial Photo Decade Package

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDRs professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Date EDR Searched Historical Sources:

Aerial Photography October 06, 2008

Target Property:

600 Stewart Avenue

Garden City, NY 11530

Year	***Scale***	***Details***	***Source***
1957	Aerial Photograph. Scale: 1"=750'	Panel #: 2440073-F5/Flight Date: March 24, 1957	EDR
1966	Aerial Photograph. Scale: 1"=500'	Panel #: 2440073-F5/Flight Date: March 08, 1966	EDR
1976	Aerial Photograph. Scale: 1"=750'	Panel #: 2440073-F5/Flight Date: March 29, 1976	EDR
1980	Aerial Photograph. Scale: 1"=750'	Panel #: 2440073-F5/Flight Date: April 06, 1980	EDR
1994	Aerial Photograph. Scale: 1"=750'	Panel #: 2440073-F5/Flight Date: April 04, 1994	EDR


3-24-57
INQUIRY #: 2333687.5
YEAR: 1957
= 750'
N


INQUIRY #: 2333687.5
YEAR: 1966
= 500'
N


INQUIRY #: 2333687.5
YEAR: 1976
= 750'
N
EDR Environmental Data Resources Inc


INQUIRY #: 2333687.5
YEAR: 1980
= 750'
N
EDR Environmental Data Resources Inc


INQUIRY #: 2333687.5
YEAR: 1994
= 750'
N
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APPENDIX B

PHOTOGRAPHIC DOCUMENTATION

NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
PHOTOGRAPHIC DOCUMENTATION

Photo 1: Gas station located upgradient of the Site

Photo 2: Downwind air monitoring station and vacuum extraction piping

Photo 3: Exposed area of gas holder foundation in the vicinity of test pit EGCTP-01

Photo 4: Test pit EGCTP-01 excavation showing black stained soil

Photo 5: Vacuum excavation of soil boring in the northern portion of the Site

Photo 6: Bricks and concrete fragments in canceled soil boring location EGCSB-06

Photo 7:Geoprobe soil sampling at soil boring/monitoring well location EGCMW-07

Photo 8: Geoprobe soil core showing non-impacted soil

Photo 9: Solidified tar and sediment in the gas holder foundation suspected gas distribution pipe.

Photo 10: Installation of groundwater monitoring well EGCMW-05 utilizing a hollow stem auger rig

Photo 11: Completed groundwater monitoring well EGCMW-02

APPENDIX C

TEST PIT LOGS

RGB Color 255,0,0/ Auto Cad Index 10		TAR SATURATED
RGB Color 255,0,255/ Auto Cad Index 210		COATED MATERIAL, LENSES
RGB Color 255,191,0/ Auto Cad Index 40		BLEBS, GLOBS, SHEEN
RGB Color 255,255,0/ Auto Cad Index 50		STAINING, ODOR
RGB Color 127,233,255/ Auto Cad Index 141		PETROLEUM IMPACTS SHEEN, STAINING, ODORS
RGB Color 0,0,255/ Auto Cad Index 170		PURIFIER WASTE AND ODOR
RGB Color 0,165,0/ Auto Cad Index 92		NO OBSERVED IMPACTS

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

East Garden City Former Stewart Avenue Holder Station
Garden City, NY

Color Index for Logging Impacted Soil

Figure1

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Test Pit No.:** EGCTP-01 **Sheet** _1_ **of** _1_ **By:** Christopher Kiernan
Contractor: WRS **Operator:** Leo Torres **Equipment:** Vacuum Truck	**Geologist:** Paul Barusich **Test Pit Method:** Vacuum **Date Started:** 4/27/11 **Date Completed:** 4/27/11	**Test Pit Completion Depth:** 6' **Ground Surface Elevation:** --- **Test Pit Dimensions:** 15' x 5'

Depth (ft.)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Description of Materials	Nat. Grid Color Index
0' – 1'	0.0	0.0	0" – 3" Asphalt and rebar. 3" – 1' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; 40% gravel, fine to medium, subangular; dark brown, medium dense, moist, black staining at 1' bgs.	
1' – 2'	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; 40% gravel, fine to medium, subangular; dark brown, medium dense, moist, black staining.	
2' – 3'	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; 15% gravel, fine to coarse, subangular; 5% silt; brown, loose, moist.	
3' – 4'	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; 35% gravel, fine to coarse, subangular; 5% silt; dark brown, loose, moist.	
4' – 5'	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): 60% sand, fine to medium, subangular; 35% gravel, fine to medium, subangular; 5% silt; dark brown, loose, moist.	
5' – 6'	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): 60% sand, fine to medium, subangular; 35% gravel, fine to medium, subangular; 5% silt; dark brown, loose, moist.	

NOTES:

Small diameter pipe observed at a depth of 2.5 feet running east-west.
Suspected foundation of tar tank was identified.

Sample for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs was collected from 1' – 2' bgs.

After discussion with NYSDEC, test pit ended at a depth of 6 feet.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Test Pit No.:** EGCTP-02 **Sheet** _1_ **of** _1_ **By:** Christopher Kiernan
Contractor: WRS **Operator:** Leo Torres **Equipment:** Vacuum Truck	**Geologist:** Paul Barusich **Test Pit Method:** Vacuum **Date Started:** 5/10/11 **Date Completed:** 5/10/11	**Test Pit Completion Depth:** 6.5' **Ground Surface Elevation:** --- **Test Pit Dimensions:** 4' x 4'

Depth (ft.)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Description of Materials	Nat. Grid Color Index
0' – 1'	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; 40% gravel, fine to medium, subangular; dark brown, medium dense, moist.	
1' – 2'	0.0	0.1	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; 40% gravel, fine to medium, subangular; dark brown, medium dense, moist, solid tar layer (3-4" thick) at 1.5 feet, tar-like odor.	
2' – 3'	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; 40% gravel, fine to medium, subangular; brown – dark brown, loose, moist.	
3' – 4'	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; 40% gravel, fine to medium, subangular; brown – dark brown, loose, moist.	
4' – 5'	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; 40% gravel, fine to medium, subangular; brown – dark brown, loose, moist.	
5' – 6'	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; 40% gravel, fine to coarse, subangular; brown, loose, moist.	
6' – 6.5'	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; 40% gravel, fine to coarse, subangular; brown, loose, moist.	

NOTES:

Refusal encountered at a depth of 6.5 feet at a concrete slab.
Concrete wall on north edge of borehole, likely part of the gas holder foundation.

Sample for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs was collected from 1' – 2' bgs.

After discussion with NYSDEC, test pit ended at a depth of 6 feet.

APPENDIX D

BORING LOGS

RGB Color 255,0,0/ Auto Cad Index 10		TAR SATURATED
RGB Color 255,0,255/ Auto Cad Index 210		COATED MATERIAL, LENSES
RGB Color 255,191,0/ Auto Cad Index 40		BLEBS, GLOBS, SHEEN
RGB Color 255,255,0/ Auto Cad Index 50		STAINING, ODOR
RGB Color 127,233,255/ Auto Cad Index 141		PETROLEUM IMPACTS SHEEN, STAINING, ODORS
RGB Color 0,0,255/ Auto Cad Index 170		PURIFIER WASTE AND ODOR
RGB Color 0,165,0/ Auto Cad Index 92		NO OBSERVED IMPACTS

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

East Garden City Former Stewart Avenue Holder Station
Garden City, NY

Color Index for Logging Impacted Soil

Figure1

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-01 **Sheet** 1 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 4/28/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** n/a **Date Completed:** 5/17/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat. Grid Color Index
0' – 1'	1	HA	12	0.0	0.0	0' – 0.25' Asphalt. 0.25' – 1' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~35% gravel, fine to medium, subangular; ~5% silt; brown, loose, moist.	
1' – 2'	2	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to medium, subangular; brown, medium dense, moist.	
2' – 3'	3	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~35% gravel, fine, subangular; ~5% silt; dark brown, medium dense, moist.	
3' – 4'	4	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~90% sand, fine to medium, subangular; ~5% gravel, fine, subangular; ~5% silt; brown, loose, moist.	
4' – 5'	5	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~90% sand, fine to medium, subangular; ~5% gravel, fine, subangular; ~5% silt; brown, loose, moist.	
5' – 6'	6	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~90% sand, fine to medium, subangular; ~5% gravel, fine, subangular; ~5% silt; brown, loose, moist.	
6' – 7'	7	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subangular; light brown – tan, loose, dry.	
7' – 8'	8	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subangular; light brown – tan, loose, dry.	
8' – 10'	9	GP	24	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~75% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; ~5% brick fragments; tan – brown, loose, moist.	
10' – 15'	10	GP	48	0.0 0.0	0.0 0.0	10' – 13' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; tan – brown, loose, moist. 13' – 14' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% fine to medium, subangular; orange – tan, loose, moist.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 8' – 10' bgs and 18' – 20' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-01 **Sheet** 2 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 4/28/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** NA **Date Completed:** 5/17/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat Grid Color Index
15' – 20'	11	GP	48	0.0 0.0	0.0 0.0	15' – 17' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, medium to coarse, subrounded; tan – orange, loose, moist. 17' – 19' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; brown, loose, moist.	
20' – 25'	12	GP	60	0.0 0.0	4.2 0.0	20' – 21' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; brown, loose, wet at 20' bgs. 21' – 25' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan – orange, loose, wet.	
25' – 30'	13	GP	48	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; tan – orange, loose, wet.	
30' – 35'	14	GP	36	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine to medium, subrounded; tan – orange, loose, wet.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 8' – 10' bgs and 18' – 20' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-02 **Sheet** 1 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 4/28/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** n/a **Date Completed:** 5/18/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat. Grid Color Index
0' – 1'	1	HA	12	0.0	0.0	0' – 0.25' Asphalt. 0.25' – 1' WELL GRADED SAND WITH GRAVEL (SW): ~70% sand, fine to medium, subangular; ~25% gravel, fine to course, subangular; ~5% silt; dark brown, medium dense, moist.	
1' – 2'	2	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to medium, subangular; brown, medium dense, moist.	
2' – 3'	3	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to medium, subangular; brown, medium dense, moist.	
3' – 4'	4	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~35% gravel, fine, subangular; ~5% silt; dark brown, medium dense, moist.	
4' – 5'	5	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~90% sand, fine to medium, subangular; ~5% gravel, fine, subangular; ~5% silt; brown, medium dense, moist.	
5' – 6'	6	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine, subangular; light brown, loose, moist.	
6' – 7'	7	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine to medium, subangular; light brown, loose, moist.	
7' – 8'	8	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine to medium, subangular; light brown, loose, moist.	
8' – 10'	9	GP	24	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to coarse, subrounded; brown – orange, loose, moist.	
10' – 15'	10	GP	48	0.0 0.0 0.0	2.3 0.0 0.0	10' – 11' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; brown – gray, loose, moist. 11' – 13' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; brown – tan, loose, moist. 13' – 14' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to medium, subangular; brown – tan, loose, moist.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 9' – 11' bgs and 15.5' – 17.5' bgs. Monitoring well EGCMW-04 was installed within the borehole to 28' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-02 **Sheet** _2_ **of** _2_ **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 4/28/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** NA **Date Completed:** 5/18/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat Grid Color Index
15' – 20'	11	GP	48	0.0 0.0	0.0 0.0	15' – 17' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; orange – tan, loose, moist. 17' – 19' POORLY GRADED SAND (SP): ~100% sand, fine to medium, subangular; orange – tan, loose, wet at 17.5' bgs.	
20' – 25'	12	GP	60	0.0 0.0 0.0	0.0 0.0 0.0	20' –23' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine, subrounded; tan – orange, loose, wet. 23' – 24' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to medium, subrounded; tan – orange, loose, wet. 24' – 25' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan – orange, loose, wet.	
25' – 30'	13	GP	48	0.0 0.0 0.0	0.0 0.0 0.0	25' – 27' POORLY GRADED SAND (SP): ~100% sand, fine to medium, subangular; tan, loose, wet. 27' – 28' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to medium, subrounded; tan, loose, wet. 28' – 29' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5: gravel, fine to medium, subangular; tan, loose, wet.	
30' – 35'	14	GP	60	0.0 0.0	0.0 0.0	30' – 34' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan, loose, wet. 34' – 35' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to coarse, subangular; ~20% gravel, fine to medium, subrounded; tan, loose, wet.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 9' – 11' bgs and 15.5' – 17.5' bgs. Monitoring well EGCMW-04 was installed within the borehole to 28' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-03 **Sheet** 1 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 4/27/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** n/a **Date Completed:** 5/12/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat. Grid Color Index
0' – 1'	1	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand; fine to medium, subangular; ~35% gravel, fine to medium, subangular; ~5% silt and organic matter; soil overlaid by two inches of bluestone; brown, loose, moist.	
1' – 2'	2	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~70% sand, fine to medium, subangular; ~25% gravel, fine, subangular; ~5% silt; brown, loose, moist.	
2' – 3'	3	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~70% sand, fine to medium, subangular; ~25% gravel, fine, subangular; ~5% silt; brown, loose, moist.	
3' – 4'	4	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~90% sand, fine to medium, subangular; ~5% gravel, fine, subangular; ~5% silt; dark brown, loose, moist.	
4' – 5'	5	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~90% sand, fine to medium, subangular; ~5% gravel, fine, subangular; ~5% silt; dark brown, loose, moist.	
5' – 6'	6	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~90% sand, fine to medium, subangular; ~5% gravel, fine, subangular; ~5% silt; dark brown, loose, moist.	
6' – 7'	7	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; brown, loose, moist.	
7' – 8'	8	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; brown, loose, moist.	
8' – 10'	9	GP	24	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; light brown, loose, moist.	
10' – 15'	10	GP	48	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; tan - orange, loose, moist.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 14' – 16' bgs and 23' – 25' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-03 **Sheet** _2_ **of** _2_ **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 4/27/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** NA **Date Completed:** 5/12/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat Grid Color Index
15' – 20'	11	GP	36	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subangular; tan, loose, wet at 16' bgs.	
20' – 25'	12	GP	48	0.0	4.2	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subangular; tan – orange, loose, wet, slight hydrocarbon-like odor.	
25' – 30'	13	GP	60	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to coarse, subrounded; tan, loose, wet.	
30' – 35'	14	GP	48	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; tan – brown, loose, wet.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 14' – 16' bgs and 23' – 25' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-04 **Sheet** 1 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 4/26/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** n/a **Date Completed:** 5/12/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat. Grid Color Index
0' – 1'	1	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~75% sand, fine to medium, subangular; ~20% bluestone; ~5% silt; brown, loose, moist.	
1' – 2'	2	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% silt; brown, loose, moist.	
2' – 3'	3	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~75% sand, fine to medium, subangular; ~20% gravel, fine, subangular; ~5% silt; brown, loose, moist.	
3' – 4'	4	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~90% sand, fine to medium, subangular; ~5% gravel, fine, rounded; ~5% silt; brown, loose, moist.	
4' – 5'	5	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~90% sand, fine to medium, subangular; ~5% gravel, fine, rounded; ~5% silt; brown, loose, moist.	
5' – 6'	6	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~90% sand, fine to medium, subangular; ~5% gravel, fine, rounded; ~5% silt; brown, loose, moist.	
6' – 7'	7	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine, subangular; light brown – brown, loose, moist.	
7' – 8'	8	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine, subangular; light brown – brown, loose, moist.	
8' – 10'	9	GP	24	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; light brown – orange, loose, moist.	
10' – 15'	10	GP	48	0.0	3.3	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; tan – orange, loose, moist.	
15' – 20'	11	GP	48	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, medium to coarse, subrounded; tan with bands of tan – orange, loose, wet at 16' bgs.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 12' – 14' bgs and 14' – 16' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-04 **Sheet** 2 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 4/26/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** NA **Date Completed:** 5/12/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat Grid Color Index
20' – 25'	12	GP	48	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; tan – orange, loose, wet.	
25' – 30'	13	GP	48	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, coarse, subrounded; tan, loose, wet.	
30' – 35'	14	GP	60	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to coarse, subrounded; tan, loose, wet.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 12' – 14' bgs and 14' – 16' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-05 **Sheet** 1 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 4/26/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** n/a **Date Completed:** 5/13/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat. Grid Color Index
0' – 1'	1	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~15% gravel, fine, subangular; ~5% silt; brown, loose, moist.	
1' – 2'	2	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~90% sand, fine to medium, subangular; ~5% gravel, fine, subangular; ~5% silt; brown – light brown, loose, moist.	
2' – 3'	3	HA	12	0.0	0.0	WELL GRADED SILTY SAND WITH GRAVEL (SW): ~60% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; ~20% silt; dark brown, loose, moist.	
3' – 4'	4	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~35% gravel, fine, subangular; ~5% silt; light brown – orange, loose, moist.	
4' – 5'	5	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~35% gravel, fine, subangular; ~5% silt; light brown – orange, loose, moist.	
5' – 6'	6	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, medium to coarse, subangular; orange – light brown, loose, moist.	
6' – 7'	7	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine, subangular; orange – light brown, loose, moist.	
7' – 8'	8	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine, subangular; orange – light brown, loose, moist.	
8' – 10'	9	GP	24	0.0 0.0	0.0 0.0	8' – 9' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~35% gravel, medium to coarse, subangular; ~5% gravel, fine, subangular; brown, loose, moist. 9' – 10' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to medium, subangular; light brown – orange, loose, moist.	
10' – 15'	10	GP	60	0.0 0.0	0.0 0.0	10' – 13' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to medium, subangular; light brown – orange, loose, moist. 13' – 15' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, medium to coarse, subrounded; tan – brown, loose, moist, slight hydrocarbon-like odor.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 12' – 14' bgs and 14' – 16' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-05 **Sheet** 2 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 4/26/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** NA **Date Completed:** 5/13/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat Grid Color Index
15' – 20'	11	GP	60	0.0 0.0	3.8 10.0	15' – 16' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; 1" thick band of solid tar/clinker at 16' bgs; gray – tan, loose, wet at 16' bgs, coal-tar odor at 1" thick band. 16' – 20' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; tan, loose, wet.	
20' – 25'	12	GP	60	0.0 0.0	0.0 0.0	20' – 24' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; tan, loose, wet. 24' – 25' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan – brown, loose, wet.	
25' – 30'	13	GP	60	0.0 0.0	0.0 0.0	25' – 26' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan – brown, loose, wet. 26' – 30' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to medium, subrounded; tan, loose, wet.	
30' – 35'	14	GP	60	0.0 0.0	0.0 0.0	30' – 34' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan, orange bands at 31' bgs, loose, wet. 34' – 35' POORLY GRADED SAND (SP): ~100% sand, fine to medium, subangular; brown – tan, loose, wet.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 12' – 14' bgs and 14' – 16' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-07 **Sheet** 1 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 4/27/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** n/a **Date Completed:** 5/13/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat. Grid Color Index
0' – 1'	1	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to medium, subangular; brown, medium dense, moist.	
1' – 2'	2	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~35% gravel, fine to coarse, subangular; ~5% silt; brown – light brown, medium dense, moist.	
2' – 3'	3	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~75% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; ~5% silt; brown – dark brown, medium dense, moist.	
3' – 4'	4	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~75% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; ~5% silt; brown – dark brown, medium dense, moist.	
4' – 5'	5	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; brown – orange, loose, moist.	
5' – 6'	6	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; brown – orange, loose, moist.	
6' – 7'	7	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine, subangular; brown – orange, loose, moist.	
7' – 8'	8	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine, subangular; brown – orange, loose, moist.	
8' – 10'	9	GP	24	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~15% gravel, fine to medium, subangular: ~5% gravel, coarse, subrounded; brown – orange, loose, moist.	
10' – 15'	10	GP	48	0.0 0.0	11.5 0.0	10' – 11.5' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine, subangular; 0.5" layer of solid tar at 11.5' bgs; dark brown, loose, moist, slight coal tar-like odor at 11.5' bgs. 11.5' – 14' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan – orange, loose, moist.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 10' – 12' bgs and 14.5' – 16.5' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-07 **Sheet** _2_ **of** _2_ **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 4/27/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** NA **Date Completed:** 5/13/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat Grid Color Index
15' – 20'	11	GP	60	0.0 0.0 0.0	0.0 0.0 0.0	15' – 17' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan – orange, loose, wet at 16.5' bgs. 17' – 18' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, medium to coarse, subrounded; dark brown, loose, wet. 18' – 20 WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, medium to coarse, subrounded; brown – orange, loose, wet.	
20' – 25'	12	GP	36	0.0 0.0	0.0 0.0	20' – 22' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine to medium, subangular; tan – orange, loose, wet. 22' – 23' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subangular; tan – brown, loose, wet.	
25' – 30'	13	GP	60	0.0 0.0	0.0 0.0	25' – 27' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subangular; tan – brown, loose, wet. 27' – 30' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan – brown, loose, wet.	
30' – 35'	14	GP	60	0.0 0.0 0.0	0.0 0.0 0.0	30' – 31' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; tan – brown, loose, wet. 31' – 33' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, medium to coarse, subrounded; tan – gray, loose, wet. 33' – 35' POORLY GRADED SAND (SP): ~100% sand, fine to medium, subangular; tan – gray, loose, wet.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 10' – 12' bgs and 14.5' – 16.5' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-08 **Sheet** 1 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 5/11/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** n/a **Date Completed:** 5/20/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat. Grid Color Index
0' – 1'	1	HA	12	0.0 0.0	0.0 0.0	0" – 3" Bluestone 3" – 1' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; brown, medium dense, dry.	
1' – 2'	2	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; brown, medium dense, dry.	
2' – 3'	3	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~75% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; ~5% silt, brown, medium dense, moist.	
3' – 4'	4	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~90% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; ~5% silt; brown, loose, moist.	
4' – 5'	5	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; light brown – orange, loose, moist.	
5' – 6'	6	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine to medium, subangular; light brown – orange, loose, moist.	
6' – 7'	7	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine to medium, subangular; light brown – orange, loose, moist.	
7' – 8'	8	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to coarse, subangular; light brown – orange, loose, moist.	
8' – 10'	9	GP	24	0.0	0.0	WELL GRADED SAND (SW): ~90% sand, fine to coarse, subangular; ~5% gravel, fine, subangular; ~5% brick fragments; brown, loose, moist.	
10' – 15'	10	GP	48	0.0 0.0	0.0 0.0	10' – 12' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine, subrounded; orange – tan, loose, moist. 12' – 14' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; orange – tan, loose, moist.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 8' – 10' bgs and 15' – 17' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-08 **Sheet** 2 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 5/11/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** NA **Date Completed:** 5/20/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat Grid Color Index
15' – 20'	11	GP	48	0.0	0.0	15' – 16' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to medium, subrounded; orange – tan, loose, moist.	
				0.0	0.0	16' – 17' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; orange – light brown, loose, wet at 17' bgs.	
				0.0	0.0	17' – 19' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan – orange, loose, wet.	
20' – 25'	12	GP	48	0.0	0.0	20' – 21' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine to medium, subrounded; tan, loose, wet.	
				0.0	0.0	21' – 23' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to coarse, subangular; ~20% gravel, fine to medium, subrounded; tan, loose, wet.	
				0.0	0.0	23' – 24' WELL GRADED SAND (SW): ~95% sand, fine to coarse, subangular; ~5% gravel, fine to medium, subangular; tan, loose, wet.	
25' – 30'	13	GP	60	0.0	0.0	25' – 28' POORLY GRADED SAND (SP): ~100% sand, fine to medium, subangular; tan, loose, wet.	
				0.0	0.0	28' – 29' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to medium, subrounded; tan, loose, wet.	
				0.0	0.0	29' – 30' POORLY GRADED SAND (SP): ~100% sand, fine to medium, subangular; tan, loose, wet.	
30' – 35'	14	GP	60	0.0	0.0	30' – 31' POORLY GRADED SAND (SP): ~100% sand, fine to medium, subangular; tan, loose, wet.	
				0.0	0.0	31' – 32' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to coarse, subrounded; tan, loose, wet.	
				0.0	0.0	32' – 33' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; tan, loose, wet.	
				0.0	0.0	33' – 35' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan, loose, wet.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 8' – 10' bgs and 15' – 17' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-09 **Sheet** 1 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 5/10/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** n/a **Date Completed:** 5/20/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat. Grid Color Index
0' – 1'	1	HA	12	0.0	0.0	0" – 3" Bluestone 3" – 1' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~30% gravel, fine to medium, subangular; ~5% silt; ~5% bluestone; brown, medium dense, moist.	
1' – 2'	2	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~75% sand, fine to medium, subangular; ~20% gravel, fine to coarse, subangular; ~5% silt; brown, loose, moist.	
2' – 3'	3	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~90% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; brown, loose, moist.	
3' – 4'	4	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium; light brown, loose, moist.	
4' – 5'	5	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; brown – tan, loose, moist.	
5' – 6'	6	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; brown – tan, loose, moist.	
6' – 7'	7	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to coarse, subrounded; light brown, loose, moist.	
7' – 8'	8	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to coarse, subrounded; light brown, loose, moist.	
8' – 10'	9	GP	24	0.0 0.0	0.0 0.0	8' – 9' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; brown, loose, moist. 9' – 10' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; orange – tan, loose, moist.	
10' – 15'	10	GP	48	0.0 0.0	0.0 0.0	10' – 11' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; orange – brown, loose, moist. 11' – 14' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan – orange, loose, moist.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 8' – 10' bgs and 15' – 17' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-09 **Sheet** 2 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 5/10/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** NA **Date Completed:** 5/20/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat Grid Color Index
15' – 20'	11	GP	60	0.0	0.0	15' – 17' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan – brown, loose, moist, wet at 17' bgs.	
				0.0	0.0	17' –19' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan, loose, wet.	
				0.0	0.0	19' – 20' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium subangular; ~20% gravel, fine to medium, subrounded; tan, loose, wet.	
20' – 25'	12	GP	60	0.0	0.0	20' –22' POORLY GRADED SAND (SP): ~100% sand, fine to medium, subangular; tan, loose, wet.	
				0.0	0.0	22' – 23' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine, subrounded; tan – orange, loose, wet.	
				0.0	0.0	23' – 25' POORLY GRADED SAND (SP): ~100% sand, fine to medium, subangular; tan, loose, wet.	
25' – 30'	13	GP	48	0.0	0.0	25' – 26' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subrounded; ~40% gravel, fine to medium, subrounded; tan, loose, wet.	
				0.0	0.0	26' – 28' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to coarse, subangular; ~20% gravel, fine to coarse, subrounded; tan, loose, wet.	
				0.0	0.0	28' – 29' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; tan, loose, wet.	
30' – 35'	14	GP	48	0.0	0.0	30' – 31' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; tan, loose, wet.	
				0.0	0.0	31' – 33' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to coarse, subrounded; ~20% gravel, fine, subrounded; tan, loose, wet.	
				0.0	0.0	33' – 34' POORLY GRADED SAND (SP): ~100% sand, fine to medium, subangular; tan, loose, wet.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 8' – 10' bgs and 15' – 17' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-10 **Sheet** 1 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 4/28/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** n/a **Date Completed:** 5/17/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat. Grid Color Index
0' – 2'	1	HA	24	0.0 0.0 0.0 0.0	0.0 0.0 0.0 0.0	0" – 7" Asphalt. 7" – 16" WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~15% gravel, fine to medium, subangular; ~5% silt; tan, medium dense, moist. 16" – 21" Asphalt. 21" – 24" Concrete.	
2' – 3'	2	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~75% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; ~5% silt; brown, medium dense, moist.	
3' – 4'	3	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~75% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; ~5% silt; brown, medium dense, moist.	
4' – 5'	4	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~35% gravel, fine, subangular; ~5% silt; brown, loose, moist.	
5' – 6'	5	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~35% gravel, fine to coarse, subangular; ~5% silt; brown, loose, moist.	
6' – 7'	6	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~35% gravel, fine to coarse, subangular; ~5% silt; brown, loose, moist.	
7' – 8'	7	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~30% gravel, fine to coarse, sub angular; ~5% gravel, coarse, subrounded; ~5% silt; brown, loose, moist.	
8' – 10'	8	GP	24	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~15% gravel, fine to medium, subangular; ~5% brick and concrete fragments; orange – brown, loose, moist.	
10' – 15'	9	GP	60	0.0 0.0	0.0 0.0	10' – 12' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~15% gravel, fine to medium, subangular; ~5% brick and concrete fragments; orange – brown, loose, moist. 12' – 15' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; tan, loose, moist.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 8' – 10' bgs and 17.5' – 19.5' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-10 **Sheet** 2 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 4/28/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** NA **Date Completed:** 5/17/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat Grid Color Index
15' – 20'	10	GP	48	0.0 0.0	0.0 0.0	15' – 16' WELL GRADED SAND WITH GRAVEL (SW): 75% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; brown, loose, moist. 16' – 19' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; tan – orange, loose, wet at 19.5' bgs.	
20' – 25'	11	GP	48	0.0 0.0	0.0 0.0	20' – 23' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; orange – tan, loose, wet. 23' – 24' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; brown – orange, loose, wet.	
25' – 30'	12	GP	48	0.0 0.0	0.0 0.0	25' – 26' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; tan, loose, wet. 26' – 29' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, coarse, subangular; tan, loose, wet.	
30' – 35'	13	GP	48	0.0 0.0	0.0 0.0	30' – 31' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine, subangular; tan, loose, wet. 31' – 34' POORLY GRADED SAND (SP): ~100% sand, fine to medium, subangular; tan, loose, wet.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 8' – 10' bgs and 17.5' – 19.5' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-11 **Sheet** _1_ **of** _2_ **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 5/11/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** n/a **Date Completed:** 5/23/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat. Grid Color Index
0' – 1'	1	HA	12	0.0 0.0	0.0 0.0	0" – 3" Bluestone. 3" – 1' WELL GRADED SAND WITH GRAVEL (SW): ~60% sand, fine to medium, subangular; ~15% gravel, fine to medium, subangular; ~15% bluestone; tan, loose, dry.	
1' – 2'	2	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to medium, subangular; brown – red, loose, moist.	
2' – 3'	3	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to medium, subangular; brown, loose, moist.	
3' – 4'	4	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to medium, subangular; brown, loose, moist.	
4' – 5'	5	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to coarse, subangular; ~20% gravel, fine to course, subrounded; brown – orange, loose, moist.	
5' – 6'	6	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; orange – brown, loose, moist.	
6' – 7'	7	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; orange – brown, loose, moist.	
7' – 8'	8	HA	12	0.0	0.0	POORLY GRADED SAND (SP): ~100% sand, fine to medium, subangular; orange – brown, loose, moist.	
8' – 10'	9	GP	24	0.0	0.0	8' – 9' WELL GRADED SAND WITH GRAVEL (SW): ~70% sand, fine to medium, subangular; ~25% gravel, fine to medium, subangular; ~5% brick fragments and clinker; brown – dark brown, loose, moist.	
10' – 15'	10	GP	48	0.0 0.0 0.0	0.0 0.0 0.0	10' – 11' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; tan – brown, loose, moist. 11' – 13' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; tan – orange, loose, moist. 13' – 14' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to coarse, subangular; ~20% gravel, fine, subrounded; orange – tan, loose, moist.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 8' – 10' bgs and 14.5' – 16.5' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-11 **Sheet** _2_ **of** _2_ **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 5/11/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** NA **Date Completed:** 5/23/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat Grid Color Index
15' – 20'	11	GP	48	0.0 0.0 0.0	0.0 0.0 0.0	15' – 16.5' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine, subrounded; tan, loose, wet at 16.5' bgs. 16.5' – 17' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to coarse, subrounded; ~20% gravel, fine to medium, subrounded; orange – tan, lose, wet. 17' – 19' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; tan, loose, wet.	
20' – 25'	12	GP	48	0.0 0.0	0.0 0.0	20' – 22' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; tan, loose, wet. 22' – 24' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan, loose, wet.	
25' – 30'	13	GP	48	0.0 0.0 0.0	0.0 0.0 0.0	25' – 27.5' WELL GRADED SAND (SW): ~95% sand, fine to medium subangular; ~5% gravel, fine, subrounded; tan, loose, wet. 27.5' – 28.5' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to medium, subrounded; tan, loose, wet. 28.5' – 29' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan, loose, wet.	
30' – 35'	14	GP	0	--	--	No recovery.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 8' – 10' bgs and 14.5' – 16.5' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-12 **Sheet** 1 **of** 1 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 5/11/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** n/a **Date Completed:** 5/20/11	**Boring Completion Depth:** 8' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat. Grid Color Index
0' – 1'	1	HA	12	0.0 0.0	0.0 0.0	0" – 2" Bluestone 2" – 1' WELL GRADED SAND (SW): ~60% sand, fine to medium, subangular; ~35% bluestone; ~5% silt; brown – dark brown, medium dense, moist.	
1' – 2'	2	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subangular; light brown – tan, loose, moist.	
2' – 3'	3	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subangular; light brown – tan, loose, moist.	
3' – 4'	4	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; light brown – orange, loose, moist.	
4' – 5'	5	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; light brown – orange, loose, moist.	
5' – 6'	6	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; light brown – orange, loose, moist.	
6' – 7'	7	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; brown – orange, loose, moist.	
7' – 8'	8	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subangular; brown, loose, moist.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Due to presence of overhead utilities, boring could not be completed. No sample were collected for laboratory analysis.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-13 **Sheet** 1 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 5/10/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** n/a **Date Completed:** 5/20/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat. Grid Color Index
0' – 1'	1	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~75% sand, fine to medium, subangular; ~15% bluestone; ~5% gravel, fine to medium, subangular; ~5: silt; dark brown, medium dense, dry.	
1' – 2'	2	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~90% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; ~5% silt; dark brown, medium dense, dry.	
2' – 3'	3	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~90% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; ~5% silt; dark brown, medium dense, dry.	
3' – 4'	4	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; light brown, loose, moist.	
4' – 5'	5	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine, subangular; light brown, loose, moist.	
5' – 6'	6	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine, subangular; light brown, loose, moist.	
6' – 7'	7	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine, subangular; light brown, loose, moist.	
7' – 8'	8	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to coarse, subangular; ~20% gravel, fine to medium, subangular; light brown, loose, moist.	
8' – 10'	9	GP	24	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; brown – tan, loose, moist.	
10' – 15'	10	GP	48	0.0 0.0 0.0	0.0 0.0 0.0	10' – 10.5' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; brown – tan, loose, moist. 10.5' – 12' WELL GRADED SAND (SW): ~95% sand, fine to medium; ~5% gravel, fine to medium, subrounded; orange-brown, loose, moist. 12' – 14' WELL GRADED SAND (SW): ~95% sand, fine to medium; ~5% gravel, fine, subrounded; orange – brown, loose, moist.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 8' – 10' bgs and 16' – 18' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-13 **Sheet** 2 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 5/10/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** NA **Date Completed:** 5/20/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat Grid Color Index
15' – 20'	11	GP	24	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan – orange, loose, moist, wet at 18' bgs.	
20' – 25'	12	GP	60	0.0 0.0	0.0 0.0	20' – 22' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; tan – orange, loose, wet. 22' – 25' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan, loose, wet.	
25' – 30'	13	GP	60	0.0 0.0	0.0 0.0	25' – 28' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan, loose, wet. 28' – 30' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to coarse, subrounded; tan, loose, wet.	
30' – 35'	14	GP	48	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; tan, loose, wet.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 8' – 10' bgs and 16' – 18' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-14 **Sheet** 1 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 5/11/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** n/a **Date Completed:** 5/25/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat. Grid Color Index
0' – 1'	1	HA	12	0.0	0.0	0" – 3" Bluestone. 3" – 1' WELL GRADED SAND WITH GRAVEL (SW): ~60% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; ~15% bluestone; ~5% silt; brown, dense, moist.	
1' – 2'	2	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~70% sand, fine to medium, subangular; ~15% gravel, fine to medium, subangular; ~10% bluestone; ~5% silt; brown, medium dense, moist.	
2' – 3'	3	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~75% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; ~5% silt, brown, dense, moist.	
3' – 4'	4	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~60% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; ~15% clinker, angular; ~5% silt; brown – dark brown, dense, moist.	
4' – 5'	5	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~60% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; ~15% clinker, angular; ~5% silt; brown – dark brown, dense, moist.	
5' – 6'	6	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine to medium, subrounded; dark brown, medium dense, moist.	
6' – 7'	7	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine to coarse, subrounded; tan – orange, loose, moist.	
7' – 8'	8	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine to coarse, subrounded; tan – orange, loose, moist.	
8' – 10'	9	GP	24	0.0 0.0	0.0 2.1	8' – 9' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; brown, loose, moist. 9' – 10' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; brown – dark brown, loose, moist, trace black staining at 10' bgs.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 8.5' – 10.5' bgs and 14' – 16' bgs. Monitoring well EGCMW-06 was installed within the borehole to 24.5' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-14 **Sheet** 2 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 5/11/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** NA **Date Completed:** 5/25/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat Grid Color Index
10' – 15'	10	GP	48	0.0	0.0	10' – 10.5' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium; dark brown, loose, moist.	
				0.0	0.0	10.5' – 12' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine, subrounded; tan – orange, loose, moist.	
				0.0	0.0	12' – 14' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine, subrounded; orange – tan, loose, moist.	
15' – 20'	11	GP	48	0.0	0.0	15' – 16' POORLY GRADED SAND (SP): ~100% sand, fine to medium, subangular; tan – orange, loose, wet at 16' bgs.	
				0.0	0.0	16' – 17.5' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; orange – tan, loose, wet.	
				0.0	0.0	17.5' – 19' POORLY GRADED SAND (SP): ~100% sand, fine to medium, subangular; tan, loose, wet.	
20' – 25'	12	GP	48	0.0	0.0	20' – 22' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; orange – tan, loose, wet.	
				0.0	0.0	22' – 24' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine, subrounded; tan – orange, loose, wet.	
25' – 30'	13	GP	48	0.0	0.0	25' – 25.5' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; tan – orange, loose, wet.	
				0.0	0.0	25.'5 – 28' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to medium, subrounded; tan – orange, loose, wet.	
				0.0	0.0	28' – 29' POORLY GRADED SAND (SP): ~100% sand, fine to medium, subangular; orange – tan, loose, wet.	
30' – 35'	14	GP	48	0.0	0.0	30' – 32' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; tan, loose, wet.	
				0.0	0.0	32' – 34' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; tan, loose, wet.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 8.5' – 10.5' bgs and 14' – 16' bgs. Monitoring well EGCMW-06 was installed within the borehole to 24.5' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-15 **Sheet** 1 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 5/11/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** n/a **Date Completed:** 5/24/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat. Grid Color Index
0' – 1'	1	HA	12	0.0 0.0	0.0 0.0	0" – 3" Bluestone. 3" – 1" WELL GRADED SAND (SW): ~75% sand; fine to medium, subangular; ~20% bluestone; ~5% asphalt fragments, ~2-3" in diameter; brown – dark brown, dense, dry.	
1' – 2'	2	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~90% sand; fine to medium, subangular; ~5% bluestone; ~5% asphalt fragments, ~2-3" in diameter; brown – dark brown, dense, dry.	
2' – 3'	3	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~70% sand, fine to medium, subangular; ~15% gravel, fine to medium, subangular; ~10% brick fragments; ~5% silt; dark brown, dense, moist.	
3' – 4'	4	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~70% sand, fine to medium, subangular; ~15% gravel, fine to medium, subangular; ~10% brick fragments; ~5% silt; dark brown, dense, moist.	
4' – 5'	5	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~75% sand, fine to medium, subangular; ~15% gravel, fine to medium, subangular; ~5% gravel, coarse, subrounded; ~5% silt; dark brown, medium dense, moist.	
5' – 6'	6	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; dark brown, medium dense, moist.	
6' – 7'	7	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to coarse, subangular; dark brown, medium dense, moist.	
7' – 8'	8	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to coarse, subangular; dark brown, medium dense, moist.	
8' – 10'	9	GP	24	0.0 0.0 0.0	2.1 6.5 6.2	8' – 8.5' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; tan – brown, loose, moist. 8.5' – 9' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine, subrounded; dark brown, loose, moist, slight naphthalene odor. 9' – 10' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; orange – tan, loose, moist, slight naphthalene-like odor.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 8.5' – 10.5' bgs and 14.5' – 16.5' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-15 **Sheet** 2 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 5/11/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** NA **Date Completed:** 5/24/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat Grid Color Index
10' – 15'	10	GP	60	0.0	0.0	10' – 11' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; tan, loose, moist.	
				0.0	0.0	11' – 13' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; tan – orange, loose, moist.	
				0.0	0.0	13' – 15' WELL GRADED SAND WITH GRAVEL: (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine, subrounded; orange, loose, moist.	
15' – 20'	11	GP	60	0.0	0.0	15' – 15.5' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; tan – gray, bands of gray/green (no odor, appears to be native), loose, moist.	
				0.0	0.0	15.5' – 16' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; tan, loose, moist.	
				0.0	0.0	16' – 19' POORLY GRADED SAND (SP): ~100% sand, fine to medium, subangular; orange – tan, lose, wet at 16.5' bgs.	
				0.0	0.0	19' – 20' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; tan, loose, wet.	
20' – 25'	12	GP	60	0.0	0.0	20' – 23' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine, subrounded; tan, loose, wet.	
				0.0	0.0	23' – 25' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; tan, loose, wet.	
25' – 30'	13	GP	60	0.0	0.0	25' – 29' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; tan, loose, wet.	
				0.0	0.0	29' – 30' POORLY GRADED SAND (SP): ~100% sand, fine to medium, subangular; tan, loose, wet.	
30' – 35'	14	GP	60	0.0	0.0	30' – 33' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine, subrounded; tan, loose, wet.	
				0.0	0.0	33' – 35' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; tan, loose, wet.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 8.5' – 10.5' bgs and 14.5' – 16.5' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-16 **Sheet** 1 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 5/11/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** n/a **Date Completed:** 5/24/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat. Grid Color Index
0' – 1'	1	HA	12	0.0	0.0	0" – 3" Bluestone 3" – 1' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~35% gravel, fine to coarse, subrounded; ~5% silt; thin layer of asphalt at 6" bgs; dark brown, dense, moist.	
1' – 2'	2	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~35% gravel, fine to coarse, subrounded; ~5% silt; dark brown, dense, moist.	
2' – 3'	3	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; brown, medium dense, moist.	
3' – 4'	4	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~75% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; ~5% silt, brown, medium dense, moist.	
4' – 5'	5	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to coarse, subrounded; brown – orange, loose, moist.	
5' – 6'	6	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to coarse, subrounded; brown – orange, loose, moist.	
6' – 7'	7	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~90% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; ~5% silt, dark brown – black, medium dense, moist.	
7' – 8'	8	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~90% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; ~5% silt, dark brown, medium dense, moist.	
8' – 10'	9	GP	24	0.0 0.0	5.3 6.7	8' – 8.25' Asphalt 8.25' – 10' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, medium, subangular; dark brown – black, loose, moist, black staining, slight naphthalene-like odor.	
10' – 15'	10	GP	36	0.0 0.0	0.9 0.3	10' – 12' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine , subangular; tan – brown, loose, moist. 12' – 13' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan, loose, moist.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 8' – 10' bgs and 15' – 17' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-16 **Sheet** 2 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 5/11/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** NA **Date Completed:** 5/24/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat Grid Color Index
15' – 20'	11	GP	48	0.0 0.0 0.0	0.0 0.0 0.0	15' – 15.5' POORLY GRADED SAND (SP): ~100% sand, fine to medium, subangular; brown – tan, loose, moist. 15.5' – 17' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; brown, loose, wet at 17' bgs. 17' – 19' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; tan, loose, wet.	
20' – 25'	12	GP	60	0.0 0.0	0.0 0.0	20' – 22' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to coarse, subangular; tan, loose, wet. 22' – 25' WELL GRADED SAND (SW): ~95% sand, fine to coarse, subangular; ~5% gravel, fine to medium, subrounded; tan, loose, wet.	
25' – 30'	13	GP	60	0.0 0.0 0.0	0.0 0.0 0.0	25' – 27.5' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; tan, loose, wet. 27.5' – 29' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; tan, loose, wet. 29' – 30' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; tan, loose, wet.	
30' – 35'	14	GP	60	0.0 0.0 0.0	0.0 0.0 0.0	30' – 32' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to coarse, subangular; ~20% gravel, fine to medium, subrounded; tan, loose, wet. 32' – 33' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine to medium, subrounded; tan, loose, wet. 33' – 35' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; tan, loose, wet.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 8' – 10' bgs and 15' – 17' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-17 **Sheet** 1 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 5/11/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** n/a **Date Completed:** 5/24/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat. Grid Color Index
0' – 1'	1	HA	12	0.0 0.0	0.0 0.0	0" – 2" Bluestone. 2" – 1' WELL GRADED SAND WITH GRAVEL (SW): ~75% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; ~5% silt, brown, dense, moist.	
1' – 2'	2	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~75% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; ~5% silt; dark brown, medium dense, moist.	
2' – 3'	3	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~75% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; ~5% silt; dark brown, medium dense, moist.	
3' – 4'	4	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~75% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; ~5% silt, dark brown, loose, moist.	
4' – 5'	5	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~90% sand, fine to coarse, subangular; ~5% gravel, fine to medium, subangular; ~5% silt, dark brown, loose, moist.	
5' – 6'	6	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~80% sand, fine to coarse, subangular; ~20% gravel, fine to coarse, subrounded; dark brown, loose, moist.	
6' – 7'	7	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to coarse, subrounded; brown, loose, moist.	
7' – 8'	8	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to medium, subangular; dark brown, medium dense, moist.	
8' – 10'	9	GP	24	0.0 0.0	0.0 2.8	8' – 9' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; brown, loose, moist. 9' – 10' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~15% gravel, fine to medium, subangular; ~5% clinker; brown – black, loose, moist, black staining.	
10' – 15'	10	GP	48	0.0 0.0 0.0	0.5 0.0 0.0	10' – 11' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subangular; dark brown, loose, moist. 11' – 12.5' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; orange – tan, loose, moist. 12.5' – 14' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to coarse, subangular; ~20% gravel, fine, subrounded; tan, loose, moist.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 9' – 11' bgs and 14' – 16' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-17 **Sheet** 2 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 5/11/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** NA **Date Completed:** 5/24/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat Grid Color Index
15' – 20'	11	GP	48	0.0 0.0	0.0 0.0	15' – 16' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subangular; tan – brown, loose, wet at 16' bgs. 16' – 19' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; tan, loose, wet.	
20' – 25'	12	GP	48	0.0 0.0 0.0	0.0 0.0 0.0	20' – 21' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; tan, loose, wet. 21' – 22' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; tan – orange, loose, wet. 22' – 24' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; tan, loose, wet.	
25' – 30'	13	GP	48	0.0 0.0	0.0 0.0	25' – 28' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; tan, loose, wet. 28' – 29' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; tan, loose, wet.	
30' – 35'	14	GP	48	0.0 0.0 0.0	0.0 0.0 0.0	30' – 31.5' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; tan, loose, wet. 31.5' – 33' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to medium, subrounded; tan, loose, wet. 33' – 34' POORLY GRADED SAND (SP): ~100% sand, fine to medium, subangular; tan, loose, wet.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 9' – 11' bgs and 14' – 16' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-18 **Sheet** 1 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 4/28/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** n/a **Date Completed:** 5/19/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat. Grid Color Index
0' – 1'	1	HA	12	0.0 0.0	0.0 0.0	0" – 3" Asphalt. 3" – 1' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~30% gravel, fine to medium, subangular; ~5% silt; ~5% bluestone; dark brown, medium dense, moist.	
1' – 2'	2	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~30% gravel, fine to medium, subangular; ~5% silt; ~5% bluestone; dark brown, medium dense, moist.	
2' – 3'	3	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine to coarse, subangular; light brown – tan, loose, moist.	
3' – 4'	4	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine to coarse, subangular; light brown – tan, loose, moist.	
4' – 5'	5	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine, subangular; light brown, loose, moist.	
5' – 6'	6	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; light brown – orange, loose, moist.	
6' – 7'	7	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; light brown – orange, loose, moist.	
7' – 8'	8	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, medium, subangular; orange – light brown, loose, moist.	
8' – 10'	9	GP	24	0.0 0.0	0.0 0.0	8' – 9' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to coarse, subrounded; brown, loose, moist. 9' – 10' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium; ~20% gravel, fine to coarse, subrounded; orange – tan, loose, moist.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 8' – 10' bgs and 16' – 18' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-18 **Sheet** 2 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 4/28/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** NA **Date Completed:** 5/19/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat Grid Color Index
10' – 15'	10	GP	48	0.0 0.0	0.0 0.0	10' – 13' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; tan – orange, loose, moist. 13' – 14' WELL GRADED SAND (SW): 95% sand, fine to medium, subangular; ~5% gravel, fine, subangular; tan – orange, loose, moist.	
15' – 20'	11	GP	48	0.0 0.0	0.0 0.0	15' – 17' WELL GRADED SAND WITH GRAVEL (SW): 80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; tan – brown, loose, moist. 17' – 19' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to coarse, subrounded; tan – brown, loose, wet at 18' bgs.	
20' – 25'	12	GP	48	0.0 0.0	0.0 0.0	20' – 22' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; tan – brown, loose, moist. 22' – 24' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan – brown, loose, wet.	
25' – 30'	13	GP	60	0.0 0.0	0.0 0.0	25' – 27.5' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine, subrounded; tan – orange, loose, wet. 27.5' – 30' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to medium, subrounded; tan, loose, wet.	
30' – 35'	14	GP	60	0.0 0.0 0.0	0.0 0.0 0.0	30' – 32' POORLY GRADED SAND (SP): ~100% sand, fine to medium, subangular; tan, loose, wet. 32' – 33' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to medium, subrounded; tan, loose, wet. 33' – 35' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan, loose, moist.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 8' – 10' bgs and 16' – 18' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-19 **Sheet** 1 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 5/10/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** n/a **Date Completed:** 5/20/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat. Grid Color Index
0' – 1'	1	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~70% sand, fine to medium, subangular; ~20% bluestone; ~5% silt; dark brown, medium dense, moist.	
1' – 2'	2	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~70% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; ~5% cobbles, subrounded; ~5% silt; dark brown, loose, moist.	
2' – 3'	3	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~70% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; ~5% cobbles, subrounded; ~5% silt; dark brown, loose, moist.	
3' – 4'	4	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to coarse, subangular; ~20% gravel, fine to medium, subangular; light brown – orange, loose, moist.	
4' – 5'	5	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to coarse, subangular; ~5% gravel, fine, subangular; tan – light brown, loose, moist.	
5' – 6'	6	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to coarse, subangular; ~5% gravel, fine, subangular; tan – light brown, loose, moist.	
6' – 7'	7	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subangular; tan – light brown, loose, moist.	
7' – 8'	8	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subangular; tan – light brown, loose, moist.	
8' – 10'	9	GP	24	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan – brown, loose, moist.	
10' – 15'	10	GP	48	0.0 0.0	0.0 0.0	10' – 12' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; orange – tan, loose, moist. 12' – 14' WELL GRADED SAND WITH GRAVEL (SW): ~75% sand, fine to coarse, subangular; ~20% gravel, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan – orange, loose, moist.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 8' – 10' bgs and 16' – 18' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCSB-19 **Sheet** 2 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 5/10/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** NA **Date Completed:** 5/20/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat Grid Color Index
15' – 20'	11	GP	48	0.0	0.0	15' – 16' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to coarse, subrounded; tan – orange, loose, moist.	
				0.0	0.0	16' – 18' WELL GRADED SAND (SW): ~95% sand, fine to coarse, subangular; ~5% gravel, fine to medium, subrounded; tan – orange, loose, moist.	
				0.0	0.0	18' – 19' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; tan, loose, wet.	
20' – 25'	12	GP	48	0.0	0.0	20' – 22' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; tan, loose, wet.	
				0.0	0.0	22' – 23' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to coarse, subangular; ~20% gravel, fine to medium, subrounded; orange – tan, loose, wet.	
				0.0	0.0	23' – 24' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan, loose, wet.	
25' – 30'	13	GP	48	0.0	0.0	25' – 28' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan, loose, moist.	
				0.0	0.0	28' – 29' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; tan, loose, wet.	
30' – 35'	14	GP	60	0.0	0.0	30' – 31' WELL GRADED SAND (SW): ~95% sand, fine to coarse, subangular; ~5% gravel, fine, subrounded; tan, loose, wet.	
				0.0	0.0	31' – 35' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan, loose, wet.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 8' – 10' bgs and 16' – 18' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCMW-01 **Sheet** 1 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 4/26/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** n/a **Date Completed:** 5/13/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat. Grid Color Index
0' – 1'	1	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~15% gravel, fine; ~5% silt and organic matter; brown, loose, moist.	
1' – 2'	2	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~15% gravel, fine; ~5% silt and organic matter; brown, loose, moist.	
2' – 3'	3	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~90% sand, fine to medium, subangular; ~5% gravel, fine; ~5% silt; brown, loose, moist.	
3' – 4'	4	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~90% sand, fine to medium, subangular; ~5% gravel, fine; ~5% silt; brown, loose, moist.	
4' – 5'	5	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to coarse, subangular; ~15% gravel, fine to medium; ~5% silt; light brown – orange, loose, moist.	
5' – 6'	6	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to coarse, subangular; ~15% gravel, fine to medium; ~5% silt; light brown – orange, loose, moist.	
6' – 10'	7	GP	24	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~70% sand, fine to medium, subangular; ~30% gravel, fine to coarse; tan – brown, loose, dry.	
10' – 15'	8	GP	60	0.0 0.0 0.0	0.0 0.0 0.0	10' – 11' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; orange – brown, loose, moist. 11' – 14' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subangular; orange – tan, loose, moist. 14' – 15' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; brown – orange, loose, moist.	
15' – 20'	9	GP	60	0.0 0.0	0.0 0.0	15' – 18' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subangular; tan – orange, loose, wet at 18.5' bgs. 18' – 20' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; brown – orange, loose, wet.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
No samples were collected for laboratory analysis.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCMW-01 **Sheet** 2 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 4/26/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** NA **Date Completed:** 5/13/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat Grid Color Index
20' – 25'	10	GP	60	0.0	0.0	20' – 22' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; tan – brown, loose, wet.	
				0.0	0.0	22' – 24' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, medium to coarse, subrounded; tan – brown, loose, wet.	
				0.0	0.0	24' – 25' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, medium to coarse, subrounded; tan – brown, loose, wet.	
25' – 30'	11	GP	60	0.0	0.0	25' – 27' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, medium to coarse, subrounded; tan, loose, wet.	
				0.0	0.0	27' – 30' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, medium to coarse, subrounded; tan, loose, wet.	
30' – 35'	12	GP	60	0.0	0.0	30' – 34' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan, loose, wet.	
				0.0	0.0	34' – 35' POORLY GRADED SAND (SP): ~100% sand, fine to medium, subangular; tan, loose, wet.	

Sample Types:SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
No samples were collected for laboratory analysis.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCMW-02 **Sheet** 1 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 4/26/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** n/a **Date Completed:** 5/16/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat. Grid Color Index
0' – 1'	1	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine; brown, loose, moist.	
1' – 2'	2	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~70% sand, fine to medium, subangular; ~25% gravel, fine; ~5% silt and organic matter; brown, loose, moist.	
2' – 3'	3	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~90% sand, fine to medium, subangular; ~5% gravel, fine; ~5% silt; brown, loose, moist.	
3' – 4'	4	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~90% sand, fine to medium, subangular; ~5% gravel, fine; ~5% silt; brown, loose, moist.	
4' – 5'	5	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~70% sand, fine to coarse, subangular; ~25% gravel, fine to medium; ~5% silt; light brown – orange, loose, moist.	
5' – 6'	6	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~70% sand, fine to coarse, subangular; ~25% gravel, fine to medium; ~5% silt; light brown – orange, loose, moist.	
6' – 10'	7	GP	24	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% fine to coarse gravel, tan – brown, loose, dry.	
10' – 15'	8	GP	60	0.0 0.0 0.0	0.0 0.0 0.0	10' – 13' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% fine to coarse gravel, tan – brown, loose, dry. 13' – 14' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% fine to medium gravel, subangular; dark brown, loose, dry. 14' – 15' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, medium to fine, subrounded; tan – brown, loose, moist.	
15' – 20'	9	GP	48	0.0 0.0	0.0 0.0	15' – 17' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; tan, loose, moist. 17' – 19' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; orange – tan, loose, wet at 19' bgs.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
No samples were collected for laboratory analysis.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCMW-02 **Sheet** 2 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 4/26/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** NA **Date Completed:** 5/16/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat Grid Color Index
20' – 25'	10	GP	36	0.0 0.0	0.0 0.0	20' – 22' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; orange – tan, loose, wet. 22' – 23' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to coarse, subrounded; orange – tan, loose, wet at 19' bgs.	
25' – 30'	11	GP	60	0.0 0.0 0.0	0.0 0.0 0.0	25' – 27' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan – brown, loose wet. 27' – 29' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to medium, subrounded; tan – gray, loose, wet. 29' – 30' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan – gray, loose wet.	
30' – 35'	12	GP	48	0.0 0.0	0.0 0.0	30' – 32' WELL GRADED SAND (SW): ~95% sand, fine to coarse, subangular; ~5% gravel, fine to medium, subangular; tan – gray, loose wet. 32' – 34' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine to medium, subrounded; tan – gray, loose, wet.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
No samples were collected for laboratory analysis.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCMW-03 **Sheet** 1 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 5/11/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** n/a **Date Completed:** 5/26/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat. Grid Color Index
0' – 1'	1	HA	12	0.0	0.0	0" – 1" Bluestone. 1" – 1' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to medium, subrounded; light brown, medium dense, moist.	
1' – 2'	2	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to medium, subrounded; light brown, medium dense, moist.	
2' – 3'	3	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to coarse, subrounded; light brown – orange, loose, moist.	
3' – 4'	4	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine to coarse, subrounded; light brown – orange, loose, moist.	
4' – 5'	5	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine to coarse, subrounded; light brown – orange, loose, moist.	
5' – 6'	6	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine to medium, subangular; tan, loose, moist.	
6' – 7'	7	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine to coarse, subrounded; tan, loose, moist.	
7' – 8'	8	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine to coarse, subrounded; tan, loose, moist.	
8' – 10'	9	GP	24	0.0	1.9	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to coarse, subangular; ~20% gravel, fine to medium, subrounded; tan – brown, loose, moist.	
10' – 15'	10	GP	36	0.0 0.0	0.0 0.0	10' – 11' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to coarse, subangular; ~20% gravel, fine to medium, subrounded; tan – brown, loose, moist. 11' – 13' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to coarse, subangular; ~20% gravel, fine to medium, subrounded; tan – brown, loose, moist.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 8.5' – 10.5' bgs and 15.5' – 17.5' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCMW-03 **Sheet** 2 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 5/11/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** NA **Date Completed:** 5/26/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat Grid Color Index
15' – 20'	11	GP	60	0.0	0.0	15' – 17' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to coarse, subangular; ~20% gravel, fine, subrouned; tan – brown, loose, moist.	
				0.0	0.0	17' – 18' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; orange – tan, loose, wet.	
				0.0	0.0	18' – 20' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; tan, loose, wet.	
20' – 25'	12	GP	48	0.0	0.0	20' – 22' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; tan, loose, wet.	
				0.0	0.0	22' – 24' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine, subrounded; tan, loose, wet.	
25' – 30'	13	GP	18	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subangular; tan, loose, wet.	
30' – 35'	14	GP	36	0.0	0.0	POORLY GRADED SAND (SP): ~100% sand, fine to medium, subangular; tan, loose, wet.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 8.5' – 10.5' bgs and 15.5' – 17.5' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCMW-05 **Sheet** 1 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 5/10/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** n/a **Date Completed:** 5/23/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat. Grid Color Index
0' – 1'	1	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~75% sand, fine to medium, subangular; ~15% gravel, fine to medium, subangular; ~5% bluestone; ~5% silt, brown, medium dense, dry.	
1' – 2'	2	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~75% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; ~5% silt, dark brown, medium dense, moist.	
2' – 3'	3	HA	12	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~75% sand, fine to medium, subangular; ~20% gravel, fine to coarse, subrounded; ~5% silt; brown, medium dense, moist.	
3' – 4'	4	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine to coarse, subangular; brown, loose, moist.	
4' – 5'	5	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine to coarse, subrounded; brown, loose, moist.	
5' – 6'	6	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to coarse, subangular; ~5% gravel, fine to medium, subangular; brown, loose, moist.	
6' – 7'	7	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to coarse, subangular; ~5% gravel, fine to medium, subangular; brown, loose, moist.	
7' – 8'	8	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to coarse, subangular; ~5% gravel, fine to medium, subangular; brown, loose, moist.	
8' – 10'	9	GP	24	0.0 0.0	0.0 0.0	8' – 9' WELL GRADED SAND WITH GRAVEL (SW): ~75% sand, fine to coarse, subangular; ~20% gravel, fine to medium, subrounded; ~5% brick fragments; brown, loose, moist. 9' – 10' WELL GRADED SAND WITH GRAVEL (SW): ~75% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; ~5% brick fragments; brown – tan, loose, moist.	
10' – 15'	10	GP	48	0.0 0.0	0.0 0.0	10' – 11' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subangular; brown – tan, loose, moist. 11' – 14' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subrounded; ~20% gravel, fine to medium, subrounded, loose, moist.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 8' – 10' bgs and 15' – 17' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCMW-05 **Sheet** _2_ **of** _2_ **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 5/10/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** NA **Date Completed:** 5/23/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat Grid Color Index
15' – 20'	11	GP	60	0.0	0.0	15' – 16' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan – brown, loose, moist.	
				0.0	0.0	16' – 17' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan, loose, wet at 17' bgs.	
				0.0	0.0	17' – 20' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; orange – tan, loose, wet.	
20' – 25'	12	GP	36	0.0	0.0	20' – 21' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; tan, loose, wet.	
				0.0	0.0	21' – 23' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; tan, loose, wet.	
25' – 30'	13	GP	60	0.0	0.0	25' – 27' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to coarse, subangular; ~20% gravel, fine, subangular; tan, loose, wet.	
				0.0	0.0	27' – 30' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; tan, loose, wet.	
30' – 35'	14	GP	36	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subrounded; tan, loose, wet.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 8' – 10' bgs and 15' – 17' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCMW-07 **Sheet** 1 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 5/11/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** n/a **Date Completed:** 5/19/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat. Grid Color Index
0' – 1'	1	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~35% gravel, fine to course, subrounded; ~5% silt, dark brown, medium dense, moist.	
1' – 2'	2	HA	12	0.0	0.0	WELL GRADED SAND (SW): ~90% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; ~5% silt; dark brown, medium dense, moist.	
2' – 3'	3	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine to medium, subrounded; light brown - orange, loose, moist.	
3' – 4'	4	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~35% gravel, fine to coarse, subrounded; ~5% cobbles, subrounded; light brown – orange, loose, moist.	
4' – 5'	5	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~35% gravel, fine to coarse, subrounded; ~5% cobbles, subrounded; light brown – orange, loose, moist.	
5' – 6'	6	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~35% gravel, fine to coarse, subrounded; ~5% cobbles, subrounded; tan, loose, moist.	
6' – 7'	7	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine to coarse, subangular; tan, loose, moist.	
7' – 8'	8	HA	12	0.0	0.0	WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~35% gravel, fine to coarse, subangular; ~5% sand, coarse, subangular; tan, loose, moist.	
8' – 10'	9	GP	24	0.0	0.0	WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to coarse, subangular; brown, loose, moist.	
10' – 15'	10	GP	36	0.0 0.0	0.0 0.0	10' – 11.5' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to coarse, subangular; brown, loose, moist. 11.5' – 13' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subrounded; ~20% gravel, fine to medium, subrounded; tan – orange, loose, moist.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 9.5' – 11.5' bgs and 16' – 18' bgs.

Dvirka and Bartilucci CONSULTING ENGINEERS	**Project No.:** 3008 **Project Name:** National Grid East Garden City Former Stewart Avenue Holder Station	**Boring No.:** EGCMW-07 **Sheet** 2 **of** 2 **By:** Christopher Kiernan
Drilling Contractor: Fenley Nicol/WRS **Driller:** Mike Smith **Drill Rig:** Geoprobe **Date Started:** 5/11/11	**Geologist:** Paul Barusich **Drilling Method:** Vacuum and Geoprobe **Drive Hammer Weight:** NA **Date Completed:** 5/19/11	**Boring Completion Depth:** 35' **Ground Surface Elevation:** --- **Boring Diameter:** 2"

Depth (ft.)	Soil Sample No.	Soil Sample Type	Soil Sample Rec. (inches)	Mercury Vapor (mg/m^3)	Photo-ionization Detector (ppm)	Sample Description	Nat Grid Color Index
15' – 20'	11	GP	48	0.0 0.0	0.0 0.0	15' – 18' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to medium, subangular; ~40% gravel, fine to coarse, subrounded; tan – orange, loose, moist. 18' – 19' WELL GRADED SAND WITH GRAVEL (SW): ~80% sand, fine to medium, subangular; ~20% gravel, fine to medium, subrounded; brown – gray, loose, wet at 18' bgs.	
20' – 25'	12	GP	48	0.0 0.0 0.0	0.0 0.0 0.0	20' – 22' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine, subangular; tan – orange, loose, moist. 22' – 23' WELL GRADED GRAVELLY SAND (SW): ~60% sand, fine to coarse, subangular; ~40% gravel, fine, subrounded; tan – orange, loose, wet. 23' – 24' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to coarse, subrounded; tan – orange, loose, wet.	
25' – 30'	13	GP	48	0.0 0.0	0.0 0.0	25' – 27' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to medium, subrounded; tan, loose, wet. 27' – 29' WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to coarse, subrounded; tan, loose, wet.	
30' – 35'	14	GP	12	0.0	0.0	WELL GRADED SAND (SW): ~95% sand, fine to medium, subangular; ~5% gravel, fine to coarse, subrounded; tan, loose, wet.	

Sample Types:
SS = Split Spoon
HA = Hand Auger
GP = Geoprobe Sampler
VC = Vacuum

NOTES:
Samples for TCL VOCs, TCL SVOCs, TAL Metals, Total Cyanide, PCBs, and TPHs were collected from 9.5' – 11.5' bgs and 16' – 18' bgs.

APPENDIX E

MONITORING WELL CONSTRUCTION LOGS

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

Well Construction Log

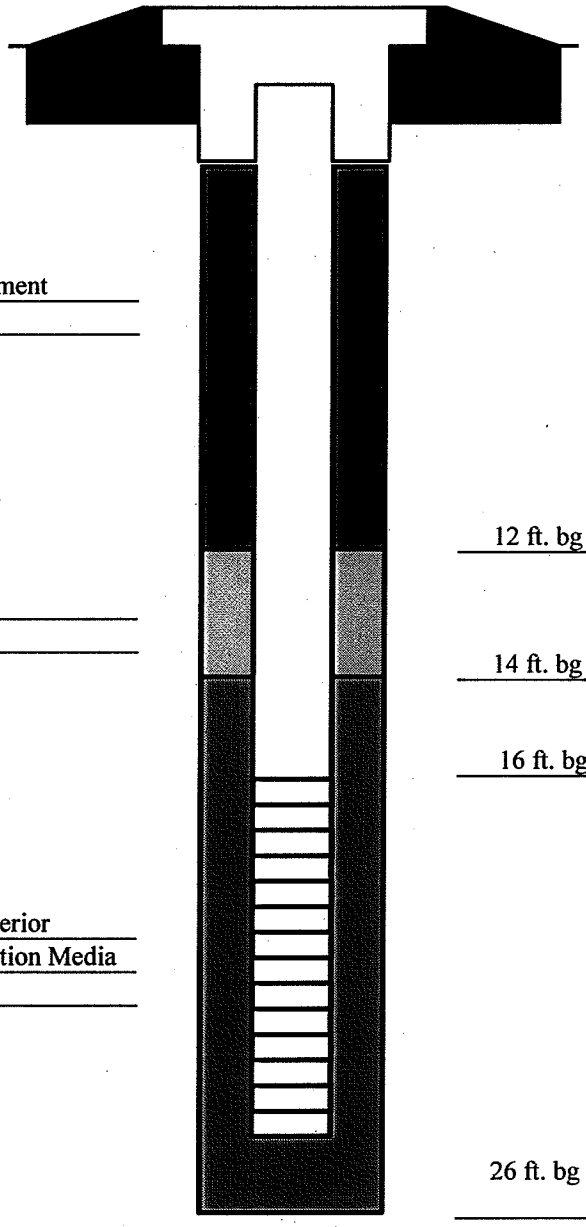
Site: East Garden City Former Stewart Avenue Holder Station | Job No. 3008-03 | Well No. EGCMW-01

Total Depth 28 ft. | Surface Elevation 76.08 | Top Riser Elevation 75.46

Water Level (Depth, Date, Time) 18.65', 6/8/2011, 0920 | Date Installed 5/13/2011

Riser Dia. 1.5 in. Material sch 40 PVC Length 18 ft.
Screen Dia. 1.5 in. Material sch 40 PVC Length 10 ft. Slot Size 0.020in

SCHEMATIC



Surface Seal Type: 9" Watertight Manhole

Ground Surface
____ Riser Elevation
____ Bottom Surface Seal

Grout Type: Bentonite / Cement Slurry

12 ft. bg — Top Seal

Seal Type: Bentonite

14 ft. bg — Top Sand Pack

16 ft. bg — Top Screen

Sand Pack Type: FilPro® Superior Quartz Filtration Media
Size: #2

26 ft. bg — Bottom of Screen (not inc. 2' sump)

35 ft. bg — Total Depth of Boring

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

Well Construction Log

Site: East Garden City Former Stewart Avenue Holder Station | Job No. 3008-03 | Well No. EGCMW-02

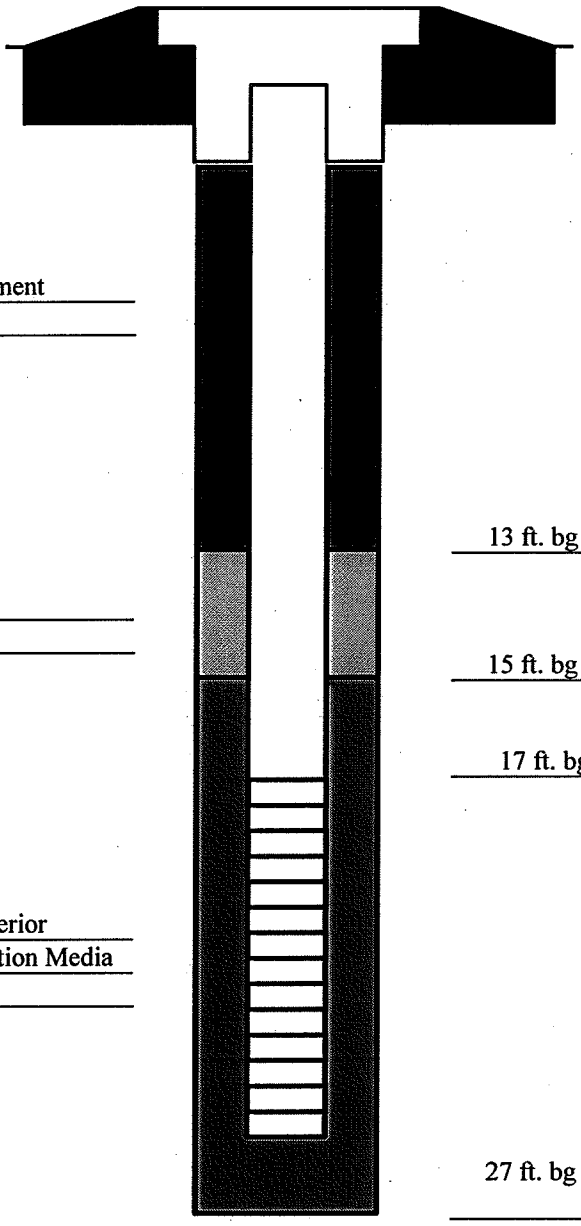
Total Depth 29 ft. | Surface Elevation 74.86 | Top Riser Elevation 74.67

Water Level (Depth, Date, Time) 17.84', 6/8/2011 0926 | Date Installed 5/16/2011

Riser Dia. 1.5 in. Material sch 40 PVC Length 19 ft.
Screen Dia. 1.5 in. Material sch 40 PVC Length 10 ft. Slot Size 0.020in

SCHEMATIC

Surface Seal Type
9" Watertight
Manhole



Ground Surface
Riser Elevation
Bottom Surface Seal

Grout Type Bentonite / Cement Slurry

13 ft. bg Top Seal

Seal Type Bentonite

15 ft. bg Top Sand Pack

17 ft. bg Top Screen

Sand Pack Type FilPro® Superior Quartz Filtration Media
Size #2

27 ft. bg Bottom of Screen (not inc. 2' sump)

35 ft. bg Total Depth of Boring

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

Well Construction Log

Site: East Garden City Former Stewart Avenue Holder Station | Job No. 3008-03 | Well No. EGCMW-03

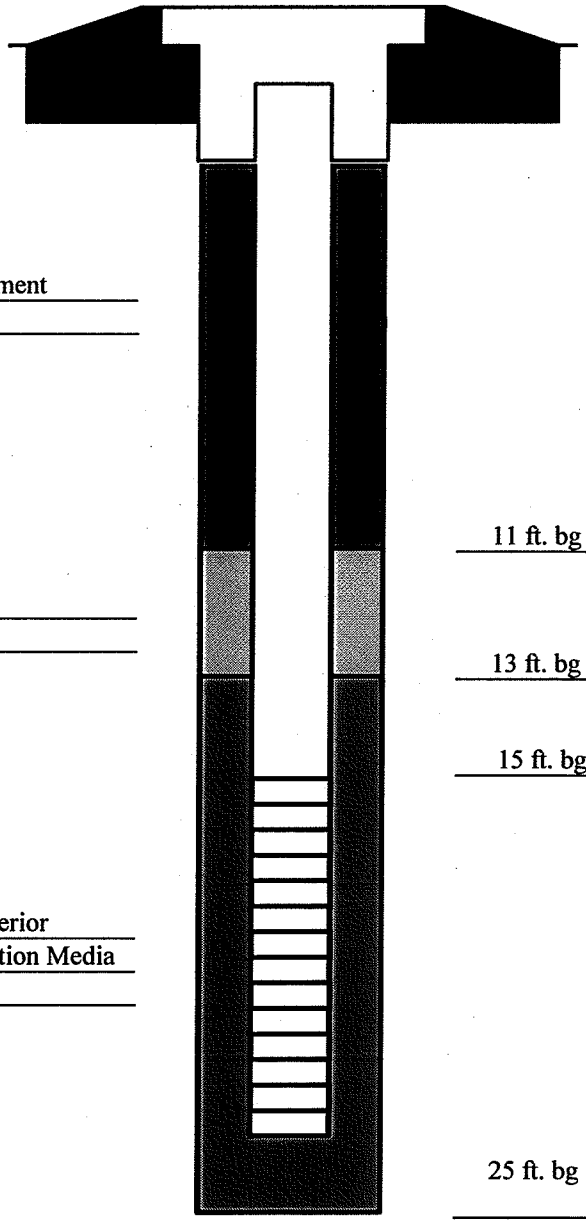
Total Depth: 27 ft. | Surface Elevation: 77.37 | Top Riser Elevation: 76.59

Water Level (Depth, Date, Time): 20.61', 6/8/2011 0930 | Date Installed: 5/26/2011

Riser Dia. 1.5 in. Material sch 40 PVC Length 17 ft.
Screen Dia. 1.5 in. Material sch 40 PVC Length 10 ft. Slot Size 0.020in

SCHEMATIC

Surface Seal Type: 9" Watertight Manhole



Ground Surface
Riser Elevation
Bottom Surface Seal

Grout Type: Bentonite / Cement Slurry

11 ft. bg — Top Seal

Seal Type: Bentonite

13 ft. bg — Top Sand Pack

15 ft. bg — Top Screen

Sand Pack Type: FilPro® Superior Quartz Filtration Media
Size: #2

25 ft. bg — Bottom of Screen (not inc. 2' sump)

35 ft. bg — Total Depth of Boring

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

Well Construction Log

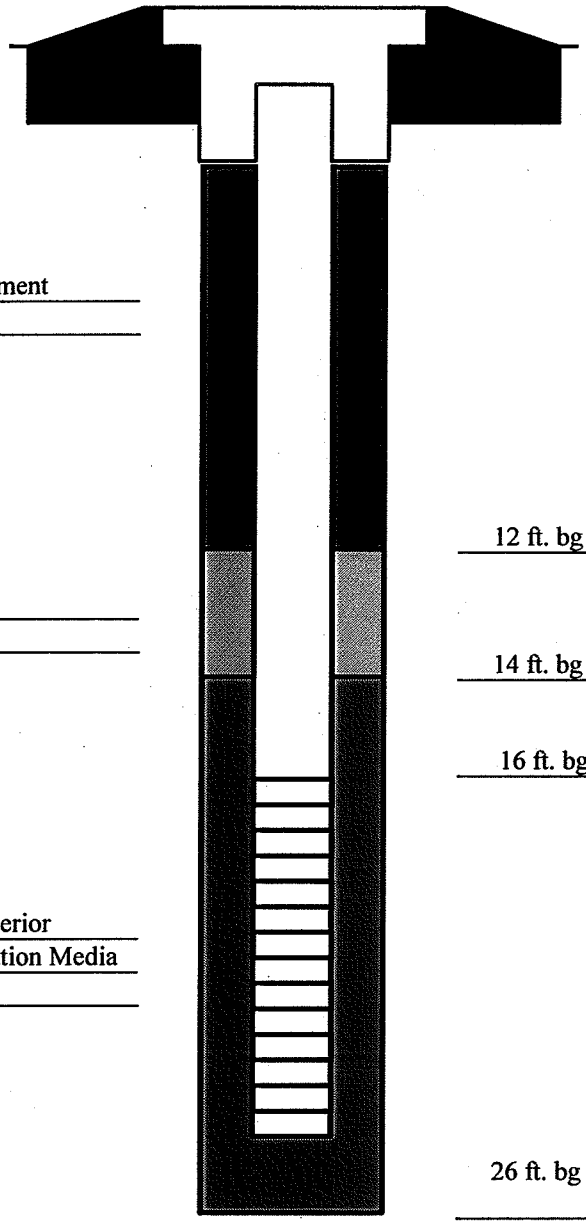
Site: East Garden City Former Stewart Avenue Holder Station | Job No. 3008-03 | Well No. EGCMW-04

Total Depth 28 ft. | Surface Elevation 74.85 | Top Riser Elevation 74.25

Water Level (Depth, Date, Time) 17.76', 6/8/2011 0933 | Date Installed 5/18/2011

Riser Dia. 1.5 in. Material sch 40 PVC Length 18 ft.
Screen Dia. 1.5 in. Material sch 40 PVC Length 10 ft. Slot Size 0.020in

SCHEMATIC



Surface Seal Type: 9" Watertight Manhole

Ground Surface
Riser Elevation
Bottom Surface Seal

Grout Type: Bentonite / Cement Slurry

12 ft. bg — Top Seal

Seal Type: Bentonite

14 ft. bg — Top Sand Pack

16 ft. bg — Top Screen

Sand Pack Type: FilPro® Superior Quartz Filtration Media
Size: #2

26 ft. bg — Bottom of Screen (not inc. 2' sump)

35 ft. bg — Total Depth of Boring

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

Well Construction Log

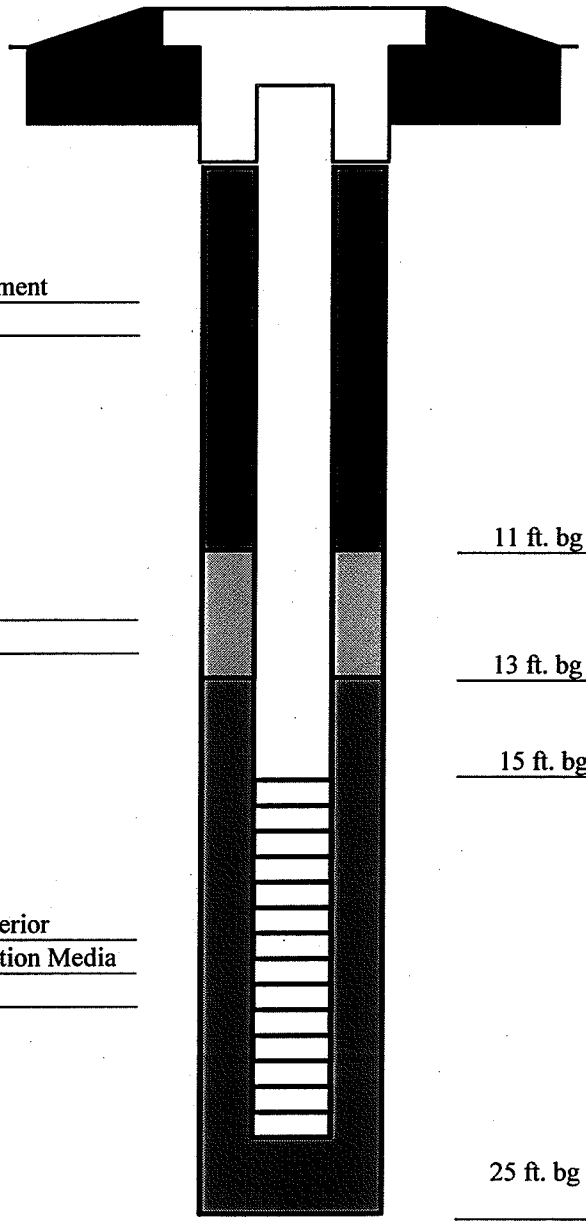
Site: East Garden City Former Stewart Avenue Holder Station | Job No. 3008-03 | Well No. EGCMW-05

Total Depth 27 ft. | Surface Elevation 75.27 | Top Riser Elevation 74.69

Water Level (Depth, Date, Time) 18.43', 6/8/2011 0940 | Date Installed 5/23/2011

Riser Dia. 1.5 in. | Material sch 40 PVC | Length 17 ft.
Screen Dia. 1.5 in. | Material sch 40 PVC | Length 10 ft. | Slot Size 0.020in

SCHEMATIC



Surface Seal Type: 9" Watertight Manhole

Ground Surface
Riser Elevation
Bottom Surface Seal

Grout Type: Bentonite / Cement Slurry

11 ft. bg — Top Seal

Seal Type: Bentonite

13 ft. bg — Top Sand Pack

15 ft. bg — Top Screen

Sand Pack Type: FilPro® Superior Quartz Filtration Media
Size: #2

25 ft. bg — Bottom of Screen (not inc. 2' sump)

35 ft. bg — Total Depth of Boring

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

Well Construction Log

Site: East Garden City Former Stewart Avenue Holder Station | Job No. 3008-03 | Well No. EGCMW-06

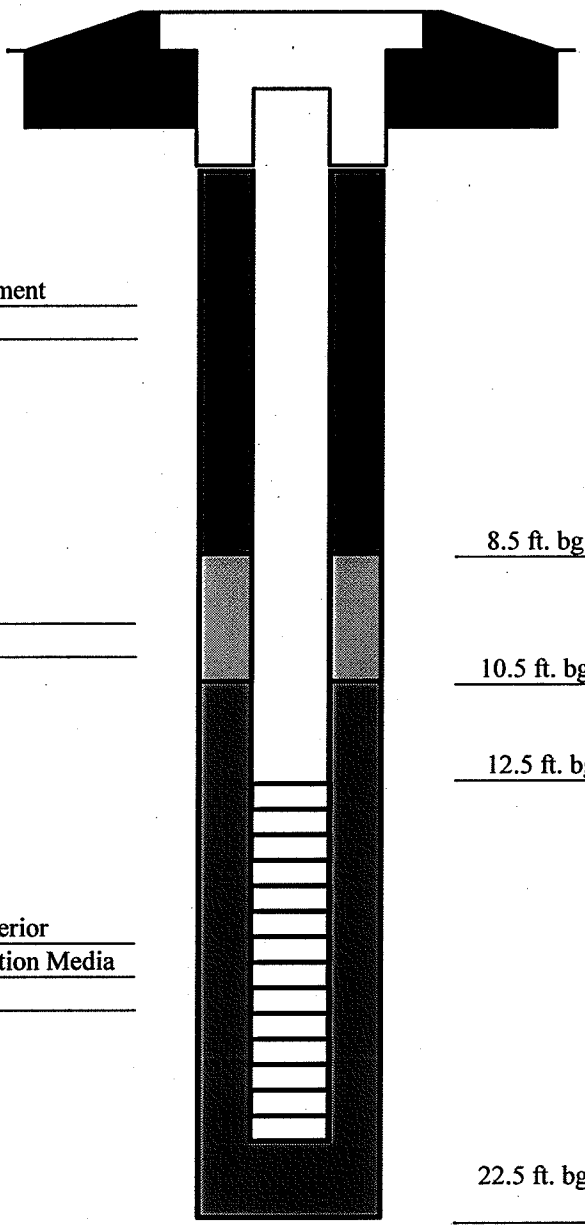
Total Depth: 24.5 ft. | Surface Elevation: 74.71 | Top Riser Elevation: 74.43

Water Level (Depth, Date, Time): 18.32', 6/8/2011 0945 | Date Installed: 5/25/2011

Riser Dia. 1.5 in. Material sch 40 PVC Length 14.5 ft.
Screen Dia. 1.5 in. Material sch 40 PVC Length 10 ft. Slot Size 0.020in

SCHEMATIC

Surface Seal Type: 9" Watertight Manhole



Ground Surface
Riser Elevation
Bottom Surface Seal

Grout Type: Bentonite / Cement Slurry

8.5 ft. bg — Top Seal

Seal Type: Bentonite

10.5 ft. bg — Top Sand Pack

12.5 ft. bg — Top Screen

Sand Pack Type: FilPro® Superior Quartz Filtration Media
Size: #2

22.5 ft. bg — Bottom of Screen (not inc. 2' sump)

35 ft. bg — Total Depth of Boring

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

Well Construction Log

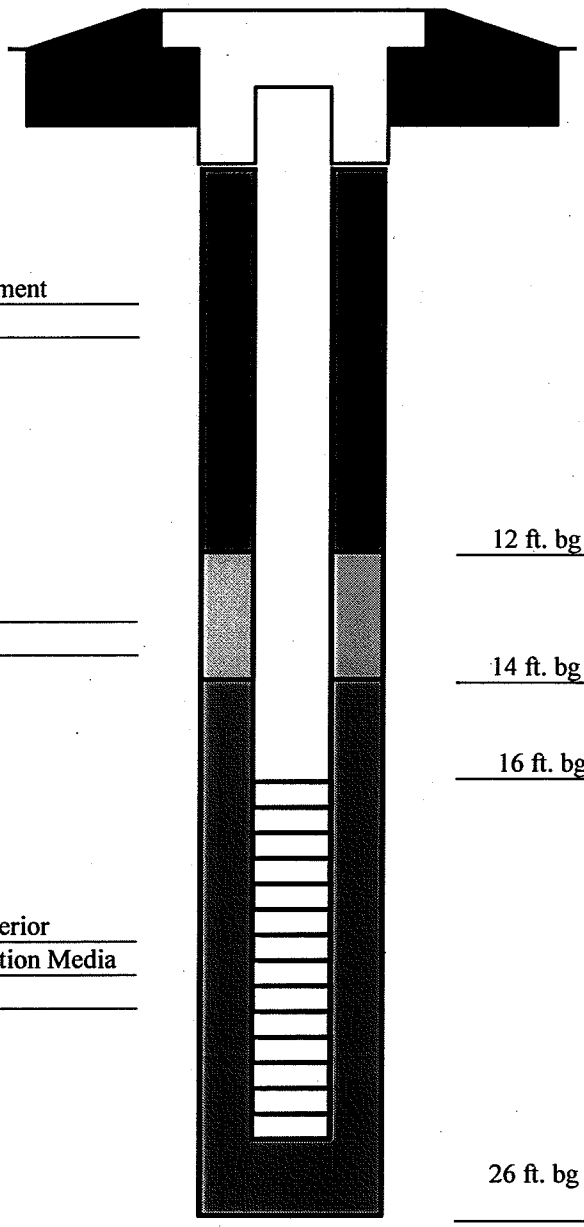
Site: East Garden City Former Stewart Avenue Holder Station | Job No. 3008-03 | Well No. EGCMW-07

Total Depth 28 ft. | Surface Elevation 76.68 | Top Riser Elevation 75.94

Water Level (Depth, Date, Time) 20.05', 6/8/2011 0952 | Date Installed 5/19/2011

Riser Dia. 1.5 in. Material sch 40 PVC Length 18 ft.
Screen Dia. 1.5 in. Material sch 40 PVC Length 10ft. Slot Size 0.020in

SCHEMATIC



Surface Seal Type: 9" Watertight Manhole

Ground Surface
Riser Elevation
Bottom Surface Seal

Grout Type: Bentonite / Cement Slurry

12 ft. bg Top Seal

Seal Type: Bentonite

14 ft. bg Top Sand Pack

16 ft. bg Top Screen

Sand Pack Type: FilPro® Superior Quartz Filtration Media
Size: #2

26 ft. bg Bottom of Screen (not inc. 2' sump)

35 ft. bg Total Depth of Boring

APPENDIX F

CHEMICAL DATA TABLES

TABLE F-1
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
SURFACE SOIL SAMPLE RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

CONSTITUENT in mg/kg	Sample ID Date Collected	EGCSS-01 4/25/2011	EGCSS-02 4/25/2011	EGCSS-03 4/25/2011	EGCSS-04 4/25/2011	EGCSS-05 4/25/2011	EGCSS-06 4/25/2011	EGCSS-07 4/25/2011
	Part 375 Industrial Use Soil Cleanup Objectives							
1,2,4,5-Tetrachlorobenzene	--	U	UJ	U	U	UJ	U	U
2,3,4,6-Tetrachlorophenol	--	U	U	U	U	U	U	U
2,4,5-Trichlorophenol	--	U	U	U	U	U	U	U
2,4,6-Trichlorophenol	--	U	U	U	U	U	U	U
2,4-Dichlorophenol	--	U	UJ	U	U	UJ	U	U
2,4-Dimethylphenol	--	U	UJ	U	U	UJ	U	U
2,4-Dinitrophenol	--	U	U	U	U	U	U	U
2,4-Dinitrotoluene	--	U	U	U	U	U	U	U
2,6-Dinitrotoluene	--	U	U	U	U	U	U	U
2-Chloronaphthalene	--	U	U	U	U	U	U	U
2-Chlorophenol	--	U	U	U	U	U	U	U
2-Methylnaphthalene	--	U	UJ	U	U	UJ	U	U
2-Methylphenol (o-Cresol)	1000	U	U	U	U	U	U	U
2-Nitroaniline	--	U	U	U	U	U	U	U
2-Nitrophenol	--	U	UJ	U	U	UJ	U	U
3,3'-Dichlorobenzidine	--	U	U	U	U	U	U	U
3-Nitroaniline	--	U	U	U	U	U	U	U
4,6-Dinitro-2-Methylphenol	--	U	U	U	U	U	U	U
4-Bromophenyl Phenyl Ether	--	U	U	U	U	U	U	U
4-Chloro-3-Methylphenol	--	U	UJ	U	U	UJ	U	U
4-Chloroaniline	--	U	UJ	U	U	UJ	U	U
4-Chlorophenyl Phenyl Ether	--	U	U	U	U	U	U	U
4-Nitroaniline	--	U	U	U	U	U	U	U
4-Nitrophenol	--	U	U	U	U	U	U	U
Acenaphthene	1000	U	U	U	U	U	U	U
Acenaphthylene	1000	U	U	U	U	U	U	U
Acetophenone	--	U	U	U	U	U	U	U
Anthracene	1000	U	0.31 J	U	U	U	U	U
Atrazine	--	U	U	U	U	U	U	U
Benzaldehyde	--	UJ	UJ	UJ	UJ	UJ	UJ	UJ
Benzo(a)Anthracene	11	U	1.9	U	0.26 J	U	0.18 J	0.12 J
Benzo(a)Pyrene	1.1	0.1 J	***2.1***	U	0.3 J	U	0.2 J	0.14 J
Benzo(b)Fluoranthene	11	0.16 J	3.1	U	0.46 J	0.069 J	0.34 J	0.22 J
Benzo(g,h,i)Perylene	1000	U	1.1	U	0.25 J	U	0.17 J	0.11 J
Benzo(k)Fluoranthene	110	U	1.2	U	0.14 J	U	0.13 J	0.095 J
Benzyl Butyl Phthalate	--	U	U	U	U	U	U	U
Biphenyl (Diphenyl)	--	U	U	U	U	U	U	U
Bis(2-Chloroethoxy) Methane	--	U	UJ	U	U	UJ	U	U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	U	U	U	U	U	U	U
Bis(2-Chloroisopropyl) Ether	--	U	U	U	U	U	U	U
Bis(2-Ethylhexyl) Phthalate	--	U	0.17 J	U	U	U	0.11 J	U
Caprolactam	--	U	UJ	U	U	UJ	U	U
Carbazole	--	U	0.3 J	U	U	U	U	U
Chrysene	110	0.12 J	2.5	U	0.35 J	0.067 J	0.26 J	0.15 J
Cresols, m & p	--	U	U	U	U	U	U	U
Dibenz(a,h)Anthracene	1.1	U	0.29 J	U	U	U	U	U
Dibenzofuran	1000	U	U	U	U	U	U	U
Diethyl Phthalate	--	U	U	U	U	U	U	U
Dimethyl Phthalate	--	U	U	U	U	U	U	U
Di-N-Butyl Phthalate	--	U	U	U	U	U	U	U
Di-N-Octylphthalate	--	U	U	U	U	U	U	U
Fluoranthene	1000	0.2 J	4	0.13 J	0.54 J	0.1 J	0.39 J	0.23 J
Fluorene	1000	U	U	U	U	U	U	U
Hexachlorobenzene	12	U	U	U	U	U	U	U
Hexachlorobutadiene	--	U	UJ	U	U	UJ	U	U
Hexachlorocyclopentadiene	--	U	UJ	U	U	UJ	U	U
Hexachloroethane	--	U	U	U	U	U	U	U
Indeno(1,2,3-c,d)Pyrene	11	U	1.1	U	0.21 J	U	0.14 J	U
Isophorone	--	U	UJ	U	U	UJ	U	U
Naphthalene	1000	U	UJ	U	U	UJ	U	U
Nitrobenzene	--	U	UJ	U	U	UJ	U	U
N-Nitrosodi-N-Propylamine	--	U	U	U	U	U	U	U
N-Nitrosodiphenylamine	--	U	U	U	U	U	U	U
Pentachlorophenol	55	U	U	U	U	U	U	U
Phenanthrene	1000	U		U	0.21 J	0.045 J	0.11 J	U
Phenol	1000	U	U	U	U	U	U	U
Pyrene	1000	0.2 J	4.1	0.15 J	0.51 J	0.086 J	0.35 J	0.21 J
Total PAHs	--	0.8	22	0.28	3.2	0.4	2.3	1.28
Total SVOCs	--	0.8	22	0.28	3.2	0.4	2.4	1.28

mg/kg: Milligrams per kilogram
U: Not detected
J: Estimated value or limit
--: Not available
Exceeds Part 375 Industrial Use SCOs

TABLE F-1
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
SURFACE SOIL SAMPLE RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

CONSTITUENT in mg/kg	Sample ID Date Collected	EGCSS-08 4/25/2011	EGCSS-09 4/25/2011	EGCSS-10 4/25/2011	EGCSS-11 4/25/2011	EGCSS-12 4/25/2011	EGCSS-13 4/25/2011
	Part 375 Industrial Use Soil Cleanup Objectives						
1,2,4,5-Tetrachlorobenzene	--	U	U	U	U	U	U
2,3,4,6-Tetrachlorophenol	--	U	U	U	U	U	U
2,4,5-Trichlorophenol	--	U	U	U	U	U	U
2,4,6-Trichlorophenol	--	U	U	U	U	U	U
2,4-Dichlorophenol	--	U	U	U	U	U	U
2,4-Dimethylphenol	--	U	U	U	U	U	U
2,4-Dinitrophenol	--	U	U	U	U	U	U
2,4-Dinitrotoluene	--	U	U	U	U	U	U
2,6-Dinitrotoluene	--	U	U	U	U	U	U
2-Chloronaphthalene	--	U	U	U	U	U	U
2-Chlorophenol	--	U	U	U	U	U	U
2-Methylnaphthalene	--	U	U	U	U	U	U
2-Methylphenol (o-Cresol)	1000	U	U	U	U	U	U
2-Nitroaniline	--	U	U	U	U	U	U
2-Nitrophenol	--	U	U	U	U	U	U
3,3'-Dichlorobenzidine	--	U	U	U	U	U	U
3-Nitroaniline	--	U	U	U	U	U	U
4,6-Dinitro-2-Methylphenol	--	U	U	U	U	U	U
4-Bromophenyl Phenyl Ether	--	U	U	U	U	U	U
4-Chloro-3-Methylphenol	--	U	U	U	U	U	U
4-Chloroaniline	--	U	U	U	U	U	U
4-Chlorophenyl Phenyl Ether	--	U	U	U	U	U	U
4-Nitroaniline	--	U	U	U	U	U	U
4-Nitrophenol	--	U	U	U	U	U	U
Acenaphthene	1000	U	U	U	U	U	U
Acenaphthylene	1000	U	U	U	U	U	U
Acetophenone	--	U	U	U	U	U	U
Anthracene	1000	U	0.09 J	U	U	U	U
Atrazine	--	U	U	U	U	U	U
Benzaldehyde	--	UJ	UJ	UJ	UJ	UJ	UJ
Benzo(a)Anthracene	11	0.13 J	0.28 J	0.16 J	0.092 J	U	0.16 J
Benzo(a)Pyrene	1.1	0.16 J	0.23 J	0.14 J	0.1 J	U	0.17 J
Benzo(b)Fluoranthene	11	0.29 J	0.33 J	0.21 J	0.17 J	U	0.26 J
Benzo(g,h,i)Perylene	1000	0.14 J	0.18 J	0.094 J	0.088 J	U	0.14 J
Benzo(k)Fluoranthene	110	0.1 J	0.13 J	0.096 J	U	U	U
Benzyl Butyl Phthalate	--	U	U	U	U	U	U
Biphenyl (Diphenyl)	--	U	U	U	U	U	U
Bis(2-Chloroethoxy) Methane	--	U	U	U	U	U	U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	U	U	U	U	U	U
Bis(2-Chloroisopropyl) Ether	--	U	U	U	U	U	U
Bis(2-Ethylhexyl) Phthalate	--	U	0.18 J	U	U	U	0.091 J
Caprolactam	--	U	U	U	U	U	U
Carbazole	--	U	U	U	U	U	U
Chrysene	110	0.22 J	0.33 J	0.22 J	0.13 J	U	0.23 J
Cresols, m & p	--	U	U	U	U	U	U
Dibenz(a,h)Anthracene	1.1	U	U	U	U	U	U
Dibenzofuran	1000	U	U	U	U	U	U
Diethyl Phthalate	--	U	U	U	U	U	U
Dimethyl Phthalate	--	U	U	U	U	U	U
Di-N-Butyl Phthalate	--	U	U	U	U	U	U
Di-N-Octylphthalate	--	U	U	U	U	U	U
Fluoranthene	1000	0.35 J	0.55 J	0.49 J	0.18 J	0.054 J	0.33 J
Fluorene	1000	U	U	U	U	U	U
Hexachlorobenzene	12	U	U	U	U	U	U
Hexachlorobutadiene	--	U	U	U	U	U	U
Hexachlorocyclopentadiene	--	U	U	U	U	U	U
Hexachloroethane	--	U	U	U	U	U	U
Indeno(1,2,3-c,d)Pyrene	11	0.11 J	0.15 J	U	U	U	0.11 J
Isophorone	--	U	U	U	U	U	U
Naphthalene	1000	U	U	U	U	U	U
Nitrobenzene	--	U	U	U	U	U	U
N-Nitrosodi-N-Propylamine	--	U	U	U	U	U	U
N-Nitrosodiphenylamine	--	U	U	U	U	U	U
Pentachlorophenol	55	U	U	U	U	U	U
Phenanthrene	1000	0.11 J	0.51 J	0.42 J	U	U	0.15 J
Phenol	1000	U	U	U	U	U	U
Pyrene	1000	0.31 J	0.42 J	0.39 J	0.18 J	0.043 J	0.35 J
Total PAHs	--	1.9	3.20	2.22	0.9	0.097	1.90
Total SVOCs	--	1.9	3.38	2.22	0.9	0.097	1.99

mg/kg: Milligrams per kilogram
U: Not detected
J: Estimated value or limit
--: Not available
Exceeds Part 375 Industrial Use SCOs

TABLE F-2
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
SURFACE SOIL SAMPLE RESULTS
TARGET ANALYTE LIST (TAL) METALS + CYANIDE

CONSTITUENT in mg/kg	Sample ID Date Collected	EGCSS-01 4/25/2011	EGCSS-02 4/25/2011	EGCSS-03 4/25/2011	EGCSS-04 4/25/2011	EGCSS-05 4/25/2011	EGCSS-06 4/25/2011	EGCSS-07 4/25/2011	EGCSS-08 4/25/2011	EGCSS-09 4/25/2011	EGCSS-10 4/25/2011	EGCSS-11 4/25/2011	EGCSS-12 4/25/2011	EGCSS-13 4/25/2011
	Part 375 Industrial Use Soil Cleanup Objectives													
Aluminum	--	4,850	10,700	9,970	4,370	1,340	2,270	6,740	630	3,170	6,010	2,070	1,180	3,920
Antimony	--	0.517 J	1.94 J	1.97 J	U	U	30.5	2.64	U	0.78 J	0.66 J	0.422 J	U	0.545 J
Arsenic	16	4.74	13.2	11.6	2.89	1.31	4.85	3.52	1.18	3.34	3.73	1.3	0.499 J	3.96
Barium	10,000	23.7	57.5	58.7	21.7	5.99	41.1	38	4.97	16.3	17.9	8.03	4.21 J	19.1
Beryllium	2,700	0.237 J	0.431	0.928	0.282	0.067 J	0.237 J	0.368	0.068 J	0.252	0.304	0.132 J	0.08 J	0.229 J
Cadmium	60	0.182 J	4.51	1.29	0.153 J	U	0.873	0.83	0.083 J	0.151 J	0.071 J	0.12 J	U	0.071 J
Calcium	--	2260	3,020	2,090	10,800	401	84,300	14,800	12,600	43,400	897	452	198	3240
Chromium, Total	800	8.97	28.3	30.8	8.25	4.62	12.5	9.79	2.66	7.36 J	11.2 J	5.79 J	2.55 J	6.14 J
Cobalt	--	2.46	4.68	6.67	3.01	1.27	2.44	4.7	0.534 J	3.29	3.29	1.93	0.905 J	2.67
Copper	10,000	17.2	35.3	110	13.7	3.87	74.9	61.4	5.74	16.9	29.5	18.5	3.02	13.7
Iron	--	7,430	14,800	17,100	8,930	3,140	7,070	10,800	1,880	7,940	9,970	5,040	2,080	8,920
Lead	3,900	47.7	168	346	33.8	4.85	821	128	19.2	36	20.4	21.7	2.24	15.1
Magnesium	--	1,320	1,440	1,410	5,070	448	48,600	8,110	7,160	25,600	1,060	428	274	2,160
Manganese	10,000	109 J	281 J	224 J	127 J	49.6 J	108 J	157 J	29.4 J	107	123	69.6	43.8	134
Mercury	5.7	0.243	1.99 D	0.418	0.418	0.008 J	0.106	0.25	0.066	1.3 J	0.104 J	0.239 J	0.045 J	0.225 J
Nickel	10,000	5.51	14	18.3	5.9	2.5	8.68	10	1.42 J	6.92	6.1	2.91	1.52 J	6.24
Potassium	--	238	482	505	319	113	264	330	54.9 J	418	288	151	82.4 J	267
Selenium	6,800	0.474 J	0.997 J	1.24	0.679 J	0.45 J	U	0.437 J	U	U	0.607 J	U	U	0.439 J
Silver	6,800	U	U	U	U	U	0.322 J	U	U	U	U	U	U	U
Sodium	--	192 J	218 J	296 J	299 J	77 J	181 J	142 J	115 J	200 J	181 J	119 J	134 J	192 J
Thallium	--	U	U	U	U	U	U	U	U	U	U	U	U	U
Vanadium	--	11	24.7	22.3	13.5	4.29	14.9	17.3	2.72	10.3	12.8	8.07	3.49	10.5
Zinc	10,000	56.7	448	835	41.6	40.3	255	357	26	41.8	58.6	26.7	14.4	44
Cyanide	10,000	U	0.383	U	U	U	U	U	0.433	0.489	0.494	U	U	1.09

mg/kg: Milligrams per kilogram
U: Not detected
J: Estimated value or limit
D: Detected at a secondary dilution
--: Not available

TABLE F-3
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
SURFACE SOIL SAMPLE RESULTS
POLYCHLORINATED BIPHENYLS (PCBs)

CONSTITUENT in mg/kg	Sample ID Date Collected	EGCSS-01 4/25/2011	EGCSS-02 4/25/2011	EGCSS-03 4/25/2011	EGCSS-04 4/25/2011	EGCSS-05 4/25/2011	EGCSS-06 4/25/2011	EGCSS-07 4/25/2011	EGCSS-08 4/25/2011	EGCSS-09 4/25/2011	EGCSS-10 4/25/2011	EGCSS-11 4/25/2011	EGCSS-12 4/25/2011	EGCSS-13 4/25/2011
	Part 375 Industrial Use Soil Cleanup Objectives													
PCB-1016 (Aroclor 1016)	25	U	U	UJ	U	U	U	U	U	U	U	U	U	U
PCB-1221 (Aroclor 1221)	25	U	U	UJ	U	U	U	U	U	U	U	U	U	U
PCB-1232 (Aroclor 1232)	25	U	U	UJ	U	U	U	U	U	U	U	U	U	U
PCB-1242 (Aroclor 1242)	25	U	U	UJ	U	U	U	U	U	U	U	U	U	U
PCB-1248 (Aroclor 1248)	25	U	U	UJ	U	U	U	U	U	U	U	U	U	U
PCB-1254 (Aroclor 1254)	25	U	U	UJ	U	U	U	U	U	U	U	U	U	U
PCB-1260 (Aroclor 1260)	25	U	U	UJ	U	U	0.46	0.04 J	U	U	U	U	0.012 J	U
PCB-1262 (Aroclor 1262)	25	U	U	UJ	U	U	U	U	U	U	U	U	U	U
PCB-1268 (Aroclor 1268)	25	U	U	UJ	U	U	U	U	U	U	U	U	U	U
Total PCBs	25	0	0	0	0	0	0.46	0.04	0	0	0	0	0.012	0

mg/kg: Milligrams per kilogram
U: Not detected
J: Estimated value or limit

TABLE E-4
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
SURFACE SOIL SAMPLE RESULTS
TOTAL PETROLEUM HYDROCARBONS (TPHs)

CONSTITUENT / Sample ID / in mg/kg / Date Collected	EGCSS-01 4/25/2011	EGCSS-02 4/25/2011	EGCSS-03 4/25/2011	EGCSS-04 4/25/2011	EGCSS-05 4/25/2011	EGCSS-06 4/25/2011	EGCSS-07 4/25/2011	EGCSS-08 4/25/2011	EGCSS-09 4/25/2011	EGCSS-10 4/25/2011	EGCSS-11 4/25/2011	EGCSS-12 4/25/2011	EGCSS-13 4/25/2011
Total Petroleum Hydrocarbons	23	100	22 J	58 J	13	32	19	41	4,617	27	25	9	55 J

mg/kg: Milligrams per kilogram
J: Estimated value or limit

TABLE F-5
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
FOUNDATION DISTRIBUTION PIPE SAMPLE RESULTS
VOLATILE ORGANIC COMPOUNDS

CONSTITUENT in mg/kg	Sample ID Start Depth (feet) End Depth (feet) Date Collected	EGCHFD-01 0 1 4/27/2011
	Part 375 Industrial Use Soil Cleanup Objectives	
1,1,1-Trichloroethane	1000	U
1,1,2,2-Tetrachloroethane	--	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	U
1,1,2-Trichloroethane	--	U
1,1-Dichloroethane	480	U
1,1-Dichloroethene	1000	U
1,2,3-Trichlorobenzene	--	U
1,2,4-Trichlorobenzene	--	U
1,2-Dibromo-3-Chloropropane	--	U
1,2-Dibromoethane (Ethylene Dibromide)	--	U
1,2-Dichlorobenzene	1000	U
1,2-Dichloroethane	60	U
1,2-Dichloropropane	--	U
1,3-Dichlorobenzene	560	U
1,4-Dichlorobenzene	250	U
1,4-Dioxane (P-Dioxane)	250	U
2-Hexanone	--	U
Acetone	1000	0.033
Benzene	89	0.047
Bromochloromethane	--	UJ
Bromodichloromethane	--	U
Bromoform	--	U
Bromomethane	--	U
Carbon Disulfide	--	U
Carbon Tetrachloride	44	U
Chlorobenzene	1000	U
Chloroethane	--	U
Chloroform	700	U
Chloromethane	--	U
Cis-1,2-Dichloroethylene	1000	U
Cis-1,3-Dichloropropene	--	U
Cyclohexane	--	0.02
Dibromochloromethane	--	U
Dichlorodifluoromethane	--	U
Ethylbenzene	780	0.012
Isopropylbenzene (Cumene)	--	0.002 J
M,P-Xylene (Sum Of Isomers)	--	0.057
Methyl Acetate	--	U
Methyl Ethyl Ketone (2-Butanone)	1000	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	U
Methylcyclohexane	--	0.035
Methylene Chloride	1000	U
o-Xylene (1,2-Dimethylbenzene)	1000	0.035
Styrene	--	0.064
Tert-Butyl Methyl Ether	1000	U
Tetrachloroethylene(PCE)	300	U
Toluene	1000	0.073
Trans-1,2-Dichloroethene	1000	U
Trans-1,3-Dichloropropene	--	U
Trichloroethylene (TCE)	400	0.0018 J
Trichlorofluoromethane	--	U
Vinyl Chloride	27	U
Total BTEX	--	0.22
Total VOCs	--	0.38

mg/kg: Milligrams per kilogram
U: Not detected
J: Estimated value or limit
--: Not available

TABLE F-6
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
FOUNDATION DISTRIBUTION PIPE SAMPLE RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

CONSTITUENT in mg/kg	Sample ID Start Depth (feet) End Depth (feet) Date Collected	EGCHFD-01 0 1 4/27/2011
	Part 375 Industrial Use Soil Cleanup Objectives	
1,2,4,5-Tetrachlorobenzene	--	U
2,3,4,6-Tetrachlorophenol	--	U
2,4,5-Trichlorophenol	--	U
2,4,6-Trichlorophenol	--	U
2,4-Dichlorophenol	--	U
2,4-Dimethylphenol	--	U
2,4-Dinitrophenol	--	U
2,4-Dinitrotoluene	--	U
2,6-Dinitrotoluene	--	U
2-Chloronaphthalene	--	U
2-Chlorophenol	--	U
2-Methylnaphthalene	--	330
2-Methylphenol (o-Cresol)	1000	U
2-Nitroaniline	--	U
2-Nitrophenol	--	U
3,3'-Dichlorobenzidine	--	U
3-Nitroaniline	--	U
4,6-Dinitro-2-Methylphenol	--	U
4-Bromophenyl Phenyl Ether	--	U
4-Chloro-3-Methylphenol	--	U
4-Chloroaniline	--	U
4-Chlorophenyl Phenyl Ether	--	U
4-Nitroaniline	--	U
4-Nitrophenol	--	U
Acenaphthene	1000	50 J
Acenaphthylene	1000	120
Acetophenone	--	U
Anthracene	1000	240
Atrazine	--	U
Benzaldehyde	--	UJ
Benzo(a)Anthracene	11	***200***
Benzo(a)Pyrene	1.1	***130***
Benzo(b)Fluoranthene	11	***100***
Benzo(g,h,i)Perylene	1000	50 J
Benzo(k)Fluoranthene	110	31 J
Benzyl Butyl Phthalate	--	U
Biphenyl (Diphenyl)	--	55 J
Bis(2-Chloroethoxy) Methane	--	U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	U
Bis(2-Chloroisopropyl) Ether	--	U
Bis(2-Ethylhexyl) Phthalate	--	U
Caprolactam	--	U
Carbazole	--	U
Chrysene	110	***200***
Cresols, m & p	--	U
Dibenz(a,h)Anthracene	1.1	***14 J***
Dibenzofuran	1000	29 J
Diethyl Phthalate	--	U
Dimethyl Phthalate	--	U
Di-N-Butyl Phthalate	--	U
Di-N-Octylphthalate	--	U
Fluoranthene	1000	290
Fluorene	1000	280
Hexachlorobenzene	12	U
Hexachlorobutadiene	--	U
Hexachlorocyclopentadiene	--	U
Hexachloroethane	--	U
Indeno(1,2,3-c,d)Pyrene	11	***37 J***
Isophorone	--	U
Naphthalene	1000	85
Nitrobenzene	--	U
N-Nitrosodi-N-Propylamine	--	U
N-Nitrosodiphenylamine	--	U
Pentachlorophenol	55	U
Phenanthrene	1000	***2000 DJ***
Phenol	1000	U
Pyrene	1000	550
Total PAHs	--	4,292
Total SVOCs	--	4,791

mg/kg: Milligrams per kilogram
U: Not detected
J: Estimated value or limit
D: Detected at a secondary dilution
--: Not available
Exceeds Part 375 Industrial Use SCOs

TABLE F-7
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
FOUNDATION DISTRIBUTION PIPE SAMPLE RESULTS
TARGET ANALYTE LIST (TAL) METALS + CYANIDE

CONSTITUENT in mg/kg	Sample ID Start Depth (feet) End Depth (feet) Date Collected	EGCHFD-01 0 1 4/27/2011
	Part 375 Industrial Use Soil Cleanup Objectives	
Aluminum	--	5,100
Antimony	--	0.531 J
Arsenic	16	6.33
Barium	10,000	26.5
Beryllium	2,700	0.269
Cadmium	60	0.142 J
Calcium	--	216
Chromium, Total	800	8.33
Cobalt	--	1.65
Copper	10,000	6.41
Iron	--	6,720
Lead	3,900	60.7
Magnesium	--	543
Manganese	10,000	39
Mercury	5.7	0.137
Nickel	10,000	4.1
Potassium	--	277
Selenium	6,800	0.632 J
Silver	6,800	U
Sodium	--	210
Thallium	--	U
Vanadium	--	11
Zinc	10,000	33.3
Cyanide	10,000	8.03

mg/kg: Milligrams per kilogram
U: Not detected
J: Estimated value or limit
--: Not available

TABLE F-8
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
FOUNDATION DISTRIBUTION PIPE SAMPLE RESULTS
POLYCHLORINATED BIPHENYLS (PCBs)

CONSTITUENT in mg/kg	Part 375 Industrial Use Soil Cleanup Objectives	Sample ID: EGCHFD-01 Start Depth (feet): 0 End Depth (feet): 1 Date Collected: 4/27/2011
PCB-1016 (Aroclor 1016)	25	U
PCB-1221 (Aroclor 1221)	25	U
PCB-1232 (Aroclor 1232)	25	U
PCB-1242 (Aroclor 1242)	25	U
PCB-1248 (Aroclor 1248)	25	U
PCB-1254 (Aroclor 1254)	25	U
PCB-1260 (Aroclor 1260)	25	U
PCB-1262 (Aroclor 1262)	25	U
PCB-1268 (Aroclor 1268)	25	U
Total PCBs	25	0

mg/kg: Milligrams per kilogram
U: Not detected

TABLE F-9
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
FOUNDATION DISTRIBUTION PIPE SAMPLE RESULTS
TOTAL PETROLEUM HYDROCARBONS (TPHs)

	Sample ID	EGCHFD-01
	Start Depth (feet)	0
CONSTITUENT	End Depth (feet)	1
in mg/kg	Date Collected	4/27/2011
Total Petroleum Hydrocarbons		4,042

mg/kg: Milligrams per kilogram

TABLE F-10
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
SUBSURFACE SOIL SAMPLE RESULTS
VOLATILE ORGANIC COMPOUNDS

	Sample ID	EGCMW-03	EGCMW-03	EGCMW-05	EGCMW-05	EGCMW-07	EGCMW-07	EGCSB-01	EGCSB-01
	Start Depth (feet)	15.5	8.5	8	15	9.5	16	8	18
CONSTITUENT	End Depth (feet)	17.5	10.5	10	17	11.5	18	10	20
in mg/kg	Date Collected	5/26/2011	5/26/2011	5/23/2011	5/23/2011	5/19/2011	5/19/2011	5/17/2011	5/17/2011
	Part 375 Industrial Use Soil Cleanup Objectives								
1,1,1-Trichloroethane	1000	U	U	U	U	U	U	U	U
1,1,2,2-Tetrachloroethane	--	U	U	U	U	U	U	U	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	U	U	U	U	U	U	U	U
1,1,2-Trichloroethane	--	U	U	U	U	U	U	U	U
1,1-Dichloroethane	480	U	U	U	U	U	U	U	U
1,1-Dichloroethene	1000	U	U	U	U	U	U	U	U
1,2,3-Trichlorobenzene	--	U	U	U	U	U	U	U	U
1,2,4-Trichlorobenzene	--	U	U	U	U	U	U	U	U
1,2-Dibromo-3-Chloropropane	--	U	U	U	U	U	U	U	U
1,2-Dibromoethane (Ethylene Dibromide)	--	U	U	U	U	U	U	U	U
1,2-Dichlorobenzene	1000	U	U	U	U	U	U	U	U
1,2-Dichloroethane	60	U	U	U	U	U	U	U	U
1,2-Dichloropropane	--	U	U	U	U	U	U	U	U
1,3-Dichlorobenzene	560	U	U	U	U	U	U	U	U
1,4-Dichlorobenzene	250	U	U	U	U	U	U	U	U
1,4-Dioxane (P-Dioxane)	250	U	U	U	U	U	U	U	U
2-Hexanone	--	U	U	U	U	U	U	U	U
Acetone	1000	U	U	U	U	U	U	U	U
Benzene	89	U	U	U	U	U	U	U	U
Bromochloromethane	--	U	U	U	U	U	U	U	U
Bromodichloromethane	--	U	U	U	U	U	U	U	U
Bromoform	--	U	U	U	U	U	U	U	U
Bromomethane	--	U	U	U	U	U	U	U	U
Carbon Disulfide	--	U	U	U	U	U	U	U	U
Carbon Tetrachloride	44	U	U	U	U	U	U	U	U
Chlorobenzene	1000	U	U	U	U	U	U	U	U
Chloroethane	--	U	U	U	U	U	U	U	U
Chloroform	700	U	U	U	U	U	U	U	U
Chloromethane	--	U	U	U	U	U	U	U	U
Cis-1,2-Dichloroethylene	1000	U	U	U	U	U	U	U	U
Cis-1,3-Dichloropropene	--	U	U	U	U	U	U	U	U
Cyclohexane	--	U	U	U	U	U	U	U	U
Dibromochloromethane	--	U	U	U	U	U	U	U	U
Dichlorodifluoromethane	--	U	U	U	U	U	U	U	U
Ethylbenzene	780	U	U	U	U	U	U	U	U
Isopropylbenzene (Cumene)	--	U	U	U	U	U	U	U	U
M,P-Xylene (Sum Of Isomers)	--	U	U	U	U	U	U	U	U
Methyl Acetate	--	U	U	U	U	U	U	U	U
Methyl Ethyl Ketone (2-Butanone)	1000	U	U	U	U	U	U	U	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	U	U	U	U	U	U	U	U
Methylcyclohexane	--	U	U	U	U	U	U	U	U
Methylene Chloride	1000	U	0.089	0.043	0.032	U	U	U	0.038 J
o-Xylene (1,2-Dimethylbenzene)	1000	U	U	U	U	U	U	U	U
Styrene	--	U	U	U	U	U	U	U	U
Tert-Butyl Methyl Ether	1000	U	U	U	U	U	U	U	U
Tetrachloroethylene(PCE)	300	U	U	U	U	U	U	U	U
Toluene	1000	U	U	U	U	U	U	U	U
Trans-1,2-Dichloroethene	1000	U	U	U	U	U	U	U	U
Trans-1,3-Dichloropropene	--	U	U	U	U	U	U	U	U
Trichloroethylene (TCE)	400	U	U	U	U	U	U	U	U
Trichlorofluoromethane	--	U	U	U	U	U	U	U	U
Vinyl Chloride	27	U	U	U	U	U	U	U	U
Total BTEX	--	0	0	0	0	0	0	0	0
Total VOCs	--	0	0.089	0.043	0.032	0	0	0	0.038

mg/kg: Milligrams per kilogram
U: Not detected
J: Estimated value or limit
B: Detected in associated blank
--: Not available

TABLE F-10
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
SUBSURFACE SOIL SAMPLE RESULTS
VOLATILE ORGANIC COMPOUNDS

CONSTITUENT in mg/kg	Sample ID / Start Depth (feet) / End Depth (feet) / Date Collected	Part 375 Industrial Use Soil Cleanup Objectives	EGCSB-02 9 11 5/18/2011	EGCSB-02 15.5 17.5 5/18/2011	EGCSB-03 14 16 5/12/2011	EGCSB-03 23 25 5/12/2011	EGCSB-04 12 14 5/12/2011	EGCSB-04 14 16 5/12/2011	EGCSB-05 12 14 5/13/2011	EGCSB-05 14 16 5/13/2011
1,1,1-Trichloroethane		1000	U	U	U	U	U	U	U	U
1,1,2,2-Tetrachloroethane		--	U	U	U	U	U	U	U	U
1,1,2-Trichloro-1,2,2-Trifluoroethane		--	U	U	U	U	U	U	U	U
1,1,2-Trichloroethane		--	U	U	U	U	U	U	U	U
1,1-Dichloroethane		480	U	U	U	U	U	U	U	U
1,1-Dichloroethene		1000	U	U	U	U	U	U	U	U
1,2,3-Trichlorobenzene		--	U	U	U	U	U	U	U	U
1,2,4-Trichlorobenzene		--	U	U	U	U	U	U	U	U
1,2-Dibromo-3-Chloropropane		--	U	U	U	U	U	U	U	U
1,2-Dibromoethane (Ethylene Dibromide)		--	U	U	U	U	U	U	U	U
1,2-Dichlorobenzene		1000	U	U	U	U	U	U	U	U
1,2-Dichloroethane		60	U	U	U	U	U	U	U	U
1,2-Dichloropropane		--	U	U	U	U	U	U	U	U
1,3-Dichlorobenzene		560	U	U	U	U	U	U	U	U
1,4-Dichlorobenzene		250	U	U	U	U	U	U	U	U
1,4-Dioxane (P-Dioxane)		250	U	U	U	U	U	U	U	U
2-Hexanone		--	U	U	U	U	U	U	U	U
Acetone		1000	U	U	U	U	U	U	U	U
Benzene		89	U	U	U	U	U	U	U	U
Bromochloromethane		--	U	U	U	U	U	U	U	U
Bromodichloromethane		--	U	U	U	U	U	U	U	U
Bromoform		--	U	U	U	U	U	U	U	U
Bromomethane		--	U	U	U	U	U	U	U	U
Carbon Disulfide		--	U	U	U	U	U	U	U	U
Carbon Tetrachloride		44	U	U	U	U	U	U	U	U
Chlorobenzene		1000	U	U	U	U	U	U	U	U
Chloroethane		--	U	U	U	U	U	U	U	U
Chloroform		700	U	U	U	U	U	U	U	U
Chloromethane		--	U	U	U	U	U	U	U	U
Cis-1,2-Dichloroethylene		1000	U	U	U	U	U	U	U	U
Cis-1,3-Dichloropropene		--	U	U	U	U	U	U	U	U
Cyclohexane		--	U	U	U	U	U	U	U	U
Dibromochloromethane		--	U	U	U	U	U	U	U	U
Dichlorodifluoromethane		--	U	U	U	U	U	U	U	U
Ethylbenzene		780	U	U	U	U	U	U	U	U
Isopropylbenzene (Cumene)		--	U	U	U	U	U	U	U	U
M,P-Xylene (Sum Of Isomers)		--	U	U	U	U	U	U	U	U
Methyl Acetate		--	U	U	U	U	U	U	U	U
Methyl Ethyl Ketone (2-Butanone)		1000	U	U	U	U	U	U	U	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)		--	U	U	U	U	U	U	U	U
Methylcyclohexane		--	U	U	U	U	U	U	U	U
Methylene Chloride		1000	0.0032 J	0.0034 J	0.0033 J	0.0023 J	U	U	0.0016 J	0.0027 J
o-Xylene (1,2-Dimethylbenzene)		1000	U	U	U	U	U	U	U	U
Styrene		--	U	U	U	U	U	U	U	U
Tert-Butyl Methyl Ether		1000	U	U	U	U	U	U	U	U
Tetrachloroethylene(PCE)		300	U	U	U	U	U	U	U	0.009
Toluene		1000	U	U	U	U	U	U	U	U
Trans-1,2-Dichloroethene		1000	U	U	U	U	U	U	U	U
Trans-1,3-Dichloropropene		--	U	U	U	U	U	U	U	U
Trichloroethylene (TCE)		400	U	U	U	U	U	U	U	U
Trichlorofluoromethane		--	U	U	U	U	U	U	U	U
Vinyl Chloride		27	U	U	U	U	U	U	U	U
Total BTEX		--	0	0	0	0	0	0	0	0
Total VOCs		--	0.0032	0.0034	0.0033	0.0023	0	0	0.0016	0.0117

mg/kg: Milligrams per kilogram
U: Not detected
J: Estimated value or limit
B: Detected in associated blank
--: Not available

TABLE F-10
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
SUBSURFACE SOIL SAMPLE RESULTS
VOLATILE ORGANIC COMPOUNDS

	Sample ID	EGCSB-07	EGCSB-07	EGCSB-08	EGCSB-08	EGCSB-09	EGCSB-09	EGCSB-10	EGCSB-10
	Start Depth (feet)	10	14.5	8	15	8	15	8	17.5
CONSTITUENT	End Depth (feet)	12	16.5	10	17	10	17	10	19.5
in mg/kg	Date Collected	5/13/2011	5/13/2011	5/20/2011	5/20/2011	5/20/2011	5/20/2011	5/17/2011	5/17/2011
	Part 375 Industrial Use Soil Cleanup Objectives								
1,1,1-Trichloroethane	1000	U	U	U	U	U	U	U	U
1,1,2,2-Tetrachloroethane	--	U	U	U	U	U	U	U	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	U	U	U	U	U	U	U	U
1,1,2-Trichloroethane	--	U	U	U	U	U	U	U	U
1,1-Dichloroethane	480	U	U	U	U	U	U	U	U
1,1-Dichloroethene	1000	U	U	U	U	U	U	U	U
1,2,3-Trichlorobenzene	--	U	U	U	U	U	U	U	U
1,2,4-Trichlorobenzene	--	U	U	U	U	U	U	U	U
1,2-Dibromo-3-Chloropropane	--	U	U	U	U	U	U	U	U
1,2-Dibromoethane (Ethylene Dibromide)	--	U	U	U	U	U	U	U	U
1,2-Dichlorobenzene	1000	U	U	U	U	U	U	U	U
1,2-Dichloroethane	60	U	U	U	U	U	U	U	U
1,2-Dichloropropane	--	U	U	U	U	U	U	U	U
1,3-Dichlorobenzene	560	U	U	U	U	U	U	U	U
1,4-Dichlorobenzene	250	U	U	U	U	U	U	U	U
1,4-Dioxane (P-Dioxane)	250	U	U	U	U	U	U	U	U
2-Hexanone	--	U	U	U	U	U	U	U	U
Acetone	1000	U	U	U	U	U	U	U	U
Benzene	89	U	U	U	U	U	U	U	U
Bromochloromethane	--	U	U	U	U	U	U	U	U
Bromodichloromethane	--	U	U	U	U	U	U	U	U
Bromoform	--	U	U	U	U	U	U	U	U
Bromomethane	--	U	U	U	U	U	U	U	U
Carbon Disulfide	--	U	U	U	U	U	U	U	U
Carbon Tetrachloride	44	U	U	U	U	U	U	U	U
Chlorobenzene	1000	U	U	U	U	U	U	U	U
Chloroethane	--	U	U	U	U	U	U	U	U
Chloroform	700	U	U	U	U	U	U	U	U
Chloromethane	--	U	U	U	U	U	U	U	U
Cis-1,2-Dichloroethylene	1000	U	U	U	U	U	U	U	U
Cis-1,3-Dichloropropene	--	U	U	U	U	U	U	U	U
Cyclohexane	--	U	U	U	U	U	U	U	U
Dibromochloromethane	--	U	U	U	U	U	U	U	U
Dichlorodifluoromethane	--	U	U	U	U	U	U	U	U
Ethylbenzene	780	U	U	U	U	U	U	U	U
Isopropylbenzene (Cumene)	--	U	U	U	U	U	U	U	U
M,P-Xylene (Sum Of Isomers)	--	U	U	U	U	U	U	U	U
Methyl Acetate	--	U	U	U	U	U	U	U	U
Methyl Ethyl Ketone (2-Butanone)	1000	U	U	U	U	U	U	U	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	U	U	U	U	U	U	U	U
Methylcyclohexane	--	U	U	U	U	U	U	U	U
Methylene Chloride	1000	0.0029 J	U	U	U	U	U	0.04 J	0.032 J
o-Xylene (1,2-Dimethylbenzene)	1000	U	U	U	U	U	U	U	U
Styrene	--	U	U	U	U	U	U	U	U
Tert-Butyl Methyl Ether	1000	U	U	U	U	U	U	U	U
Tetrachloroethylene(PCE)	300	U	U	U	U	U	U	U	U
Toluene	1000	U	U	U	U	U	U	U	U
Trans-1,2-Dichloroethene	1000	U	U	U	U	U	U	U	U
Trans-1,3-Dichloropropene	--	U	U	U	U	U	U	U	U
Trichloroethylene (TCE)	400	U	U	U	U	U	U	U	U
Trichlorofluoromethane	--	U	U	U	U	U	U	U	U
Vinyl Chloride	27	U	U	U	U	U	U	U	U
Total BTEX	--	0	0	0	0	0	0	0	0
Total VOCs	--	0.0029	0	0	0	0	0	0.04	0.032

mg/kg: Milligrams per kilogram
U: Not detected
J: Estimated value or limit
B: Detected in associated blank
--: Not available

TABLE F-10
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
SUBSURFACE SOIL SAMPLE RESULTS
VOLATILE ORGANIC COMPOUNDS

CONSTITUENT	Sample ID	EGCSB-11	EGCSB-11	EGCSB-13	EGCSB-13	EGCSB-14	EGCSB-14	EGCSB-15	EGCSB-15
	Start Depth (feet)	8	14.5	8	16	8.5	14	8.5	14.5
	End Depth (feet)	10	16.5	10	18	10.5	16	10.5	16.5
in mg/kg	Date Collected	5/23/2011	5/23/2011	5/20/2011	5/20/2011	5/25/2011	5/25/2011	5/24/2011	5/24/2011
	Part 375 Industrial Use Soil Cleanup Objectives								
1,1,1-Trichloroethane	1000	U	U	U	U	U	U	U	U
1,1,2,2-Tetrachloroethane	--	U	U	U	U	U	U	U	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	U	U	U	U	U	U	U	U
1,1,2-Trichloroethane	--	U	U	U	U	U	U	U	U
1,1-Dichloroethane	480	U	U	U	U	U	U	U	U
1,1-Dichloroethene	1000	U	U	U	U	U	U	U	U
1,2,3-Trichlorobenzene	--	U	U	U	U	U	U	U	U
1,2,4-Trichlorobenzene	--	U	U	U	U	U	U	U	U
1,2-Dibromo-3-Chloropropane	--	U	U	U	U	U	U	U	U
1,2-Dibromoethane (Ethylene Dibromide)	--	U	U	U	U	U	U	U	U
1,2-Dichlorobenzene	1000	U	U	U	U	U	U	U	U
1,2-Dichloroethane	60	U	U	U	U	U	U	U	U
1,2-Dichloropropane	--	U	U	U	U	U	U	U	U
1,3-Dichlorobenzene	560	U	U	U	U	U	U	U	U
1,4-Dichlorobenzene	250	U	U	U	U	U	U	U	U
1,4-Dioxane (P-Dioxane)	250	U	U	U	U	U	U	U	U
2-Hexanone	--	U	U	U	U	U	U	U	U
Acetone	1000	U	U	U	U	U	U	U	U
Benzene	89	U	U	U	U	U	U	U	U
Bromochloromethane	--	U	U	U	U	U	U	U	U
Bromodichloromethane	--	U	U	U	U	U	U	U	U
Bromoform	--	U	U	U	U	U	U	U	U
Bromomethane	--	U	U	U	U	U	U	U	U
Carbon Disulfide	--	U	U	U	U	U	U	U	U
Carbon Tetrachloride	44	U	U	U	U	U	U	U	U
Chlorobenzene	1000	U	U	U	U	U	U	U	U
Chloroethane	--	U	U	U	U	U	U	U	U
Chloroform	700	U	U	U	U	U	U	U	U
Chloromethane	--	U	U	U	U	U	U	U	U
Cis-1,2-Dichloroethylene	1000	U	U	U	U	U	U	U	U
Cis-1,3-Dichloropropene	--	U	U	U	U	U	U	U	U
Cyclohexane	--	U	U	U	U	U	U	U	U
Dibromochloromethane	--	U	U	U	U	U	U	U	U
Dichlorodifluoromethane	--	U	U	U	U	U	U	U	U
Ethylbenzene	780	U	U	U	U	U	U	U	U
Isopropylbenzene (Cumene)	--	U	U	U	U	U	U	U	U
M,P-Xylene (Sum Of Isomers)	--	U	U	U	U	U	U	U	U
Methyl Acetate	--	U	U	U	U	U	U	U	U
Methyl Ethyl Ketone (2-Butanone)	1000	U	U	U	U	U	U	U	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	U	U	U	U	U	U	U	U
Methylcyclohexane	--	U	U	U	U	U	U	U	U
Methylene Chloride	1000	0.034	0.033	0.014	0.014	0.0024 J	0.0039 J	0.006	0.0054 J
o-Xylene (1,2-Dimethylbenzene)	1000	U	U	U	U	U	U	U	U
Styrene	--	U	U	U	U	U	U	U	U
Tert-Butyl Methyl Ether	1000	U	U	U	U	U	U	U	U
Tetrachloroethylene(PCE)	300	U	U	U	U	U	U	U	U
Toluene	1000	U	U	U	U	U	U	U	U
Trans-1,2-Dichloroethene	1000	U	U	U	U	U	U	U	U
Trans-1,3-Dichloropropene	--	U	U	U	U	U	U	U	U
Trichloroethylene (TCE)	400	U	U	U	U	U	U	U	U
Trichlorofluoromethane	--	U	U	U	U	U	U	U	U
Vinyl Chloride	27	U	U	U	U	U	U	U	U
Total BTEX	--	0	0	0	0	0	0	0	0
Total VOCs	--	0.034	0.033	0.014	0.014	0.0024	0.0039	0.006	0.0054

mg/kg: Milligrams per kilogram
U: Not detected
J: Estimated value or limit
B: Detected in associated blank
--: Not available

TABLE F-10
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
SUBSURFACE SOIL SAMPLE RESULTS
VOLATILE ORGANIC COMPOUNDS

CONSTITUENT in mg/kg	Sample ID / Start Depth (feet) / End Depth (feet) / Date Collected	Part 375 Industrial Use Soil Cleanup Objectives	EGCSB-16 8 10 5/24/2011	EGCSB-16 15 17 5/24/2011	EGCSB-17 9 11 5/24/2011	EGCSB-17 14 16 5/24/2011	EGCSB-18 8 10 5/19/2011	EGCSB-18 16 18 5/19/2011	EGCSB-19 8 10 5/20/2011	EGCSB-19 16 18 5/20/2011
1,1,1-Trichloroethane		1000	U	U	U	U	U	U	U	U
1,1,2,2-Tetrachloroethane		--	U	U	U	U	U	U	U	U
1,1,2-Trichloro-1,2,2-Trifluoroethane		--	U	U	U	U	U	U	U	U
1,1,2-Trichloroethane		--	U	U	U	U	U	U	U	U
1,1-Dichloroethane		480	U	U	U	U	U	U	U	U
1,1-Dichloroethene		1000	U	U	U	U	U	U	U	U
1,2,3-Trichlorobenzene		--	U	U	U	U	U	U	U	U
1,2,4-Trichlorobenzene		--	U	U	U	U	U	U	U	U
1,2-Dibromo-3-Chloropropane		--	U	U	U	U	U	U	U	U
1,2-Dibromoethane (Ethylene Dibromide)		--	U	U	U	U	U	U	U	U
1,2-Dichlorobenzene		1000	U	U	U	U	U	U	U	U
1,2-Dichloroethane		60	U	U	U	U	U	U	U	U
1,2-Dichloropropane		--	U	U	U	U	U	U	U	U
1,3-Dichlorobenzene		560	U	U	U	U	U	U	U	U
1,4-Dichlorobenzene		250	U	U	U	U	U	U	U	U
1,4-Dioxane (P-Dioxane)		250	U	U	U	U	U	U	U	U
2-Hexanone		--	U	U	U	U	U	U	U	U
Acetone		1000	U	U	U	U	U	U	U	U
Benzene		89	U	U	U	U	U	U	U	U
Bromochloromethane		--	U	U	U	U	U	U	U	U
Bromodichloromethane		--	U	U	U	U	U	U	U	U
Bromoform		--	U	U	U	U	U	U	U	U
Bromomethane		--	U	U	U	U	U	U	U	U
Carbon Disulfide		--	U	U	U	U	U	U	U	U
Carbon Tetrachloride		44	U	U	U	U	U	U	U	U
Chlorobenzene		1000	U	U	U	U	U	U	U	U
Chloroethane		--	U	U	U	U	U	U	U	U
Chloroform		700	U	U	U	U	U	U	U	U
Chloromethane		--	U	U	U	U	U	U	U	U
Cis-1,2-Dichloroethylene		1000	U	U	U	U	U	U	U	U
Cis-1,3-Dichloropropene		--	U	U	U	U	U	U	U	U
Cyclohexane		--	U	U	U	U	U	U	U	U
Dibromochloromethane		--	U	U	U	U	U	U	U	U
Dichlorodifluoromethane		--	U	U	U	U	U	U	U	U
Ethylbenzene		780	U	U	U	U	U	U	U	U
Isopropylbenzene (Cumene)		--	U	U	U	U	U	U	U	U
M,P-Xylene (Sum Of Isomers)		--	U	U	U	U	U	U	U	U
Methyl Acetate		--	U	U	U	U	U	U	U	U
Methyl Ethyl Ketone (2-Butanone)		1000	U	U	U	U	U	U	U	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)		--	U	U	U	U	U	U	U	U
Methylcyclohexane		--	U	U	U	U	U	U	U	U
Methylene Chloride		1000	0.0055	0.0081	0.0042 J	U	U	U	0.013	U
o-Xylene (1,2-Dimethylbenzene)		1000	U	U	U	U	U	U	U	U
Styrene		--	U	U	U	U	U	U	U	U
Tert-Butyl Methyl Ether		1000	U	U	U	U	U	U	U	U
Tetrachloroethylene(PCE)		300	U	U	U	U	U	U	U	U
Toluene		1000	U	U	U	U	U	U	U	U
Trans-1,2-Dichloroethene		1000	U	U	U	U	U	U	U	U
Trans-1,3-Dichloropropene		--	U	U	U	U	U	U	U	U
Trichloroethylene (TCE)		400	U	U	U	U	U	U	U	U
Trichlorofluoromethane		--	U	U	U	U	U	U	U	U
Vinyl Chloride		27	U	U	U	U	U	U	U	U
Total BTEX		--	0	0	0	0	0	0	0	0
Total VOCs		--	0.0055	0.0081	0.0042	0	0	0	0.013	0

mg/kg: Milligrams per kilogram
U: Not detected
J: Estimated value or limit
B: Detected in associated blank
--: Not available

TABLE F-10
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
SUBSURFACE SOIL SAMPLE RESULTS
VOLATILE ORGANIC COMPOUNDS

CONSTITUENT in mg/kg	Sample ID / Start Depth (feet) / End Depth (feet) / Date Collected	EGCTP-01 1 2 4/27/2011	EGCTP-02 1 2 5/10/2011
	Part 375 Industrial Use Soil Cleanup Objectives		
1,1,1-Trichloroethane	1000	U	U
1,1,2,2-Tetrachloroethane	--	U	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	--	U	U
1,1,2-Trichloroethane	--	U	U
1,1-Dichloroethane	480	U	U
1,1-Dichloroethene	1000	U	U
1,2,3-Trichlorobenzene	--	U	U
1,2,4-Trichlorobenzene	--	U	U
1,2-Dibromo-3-Chloropropane	--	U	U
1,2-Dibromoethane (Ethylene Dibromide)	--	U	U
1,2-Dichlorobenzene	1000	U	U
1,2-Dichloroethane	60	U	U
1,2-Dichloropropane	--	U	U
1,3-Dichlorobenzene	560	U	U
1,4-Dichlorobenzene	250	U	U
1,4-Dioxane (P-Dioxane)	250	U	U
2-Hexanone	--	U	U
Acetone	1000	U	U
Benzene	89	U	0.0055 J
Bromochloromethane	--	UJ	U
Bromodichloromethane	--	U	U
Bromoform	--	U	U
Bromomethane	--	U	U
Carbon Disulfide	--	U	U
Carbon Tetrachloride	44	U	U
Chlorobenzene	1000	U	U
Chloroethane	--	U	U
Chloroform	700	U	U
Chloromethane	--	U	U
Cis-1,2-Dichloroethylene	1000	U	U
Cis-1,3-Dichloropropene	--	U	U
Cyclohexane	--	U	U
Dibromochloromethane	--	U	U
Dichlorodifluoromethane	--	U	U
Ethylbenzene	780	U	U
Isopropylbenzene (Cumene)	--	U	U
M,P-Xylene (Sum Of Isomers)	--	U	U
Methyl Acetate	--	U	U
Methyl Ethyl Ketone (2-Butanone)	1000	U	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	U	U
Methylcyclohexane	--	U	U
Methylene Chloride	1000	U	U
o-Xylene (1,2-Dimethylbenzene)	1000	U	0.0012 J
Styrene	--	U	0.0035 J
Tert-Butyl Methyl Ether	1000	U	U
Tetrachloroethylene(PCE)	300	U	U
Toluene	1000	U	0.0052 J
Trans-1,2-Dichloroethene	1000	U	U
Trans-1,3-Dichloropropene	--	U	U
Trichloroethylene (TCE)	400	U	U
Trichlorofluoromethane	--	U	U
Vinyl Chloride	27	U	U
Total BTEX	--	0	0.0119
Total VOCs	--	0	0.0154

mg/kg: Milligrams per kilogram
U: Not detected
J: Estimated value or limit
B: Detected in associated blank
--: Not available

TABLE F-11
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
SUBSURFACE SOIL SAMPLE RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

CONSTITUENT in mg/kg	Sample ID	EGCMW-03	EGCMW-03	EGCMW-05	EGCMW-05	EGCMW-07	EGCMW-07	EGCSB-01	EGCSB-01	EGCSB-02	EGCSB-02
	Start Depth (feet)	15.5	8.5	8	15	9.5	16	8	18	9	15.5
	End Depth (feet)	17.5	10.5	10	17	11.5	18	10	20	11	17.5
	Date Collected	5/26/2011	5/26/2011	5/23/2011	5/23/2011	5/19/2011	5/19/2011	5/17/2011	5/17/2011	5/18/2011	5/18/2011
	Part 375 Industrial Use Soil Cleanup Objectives										
1,2,4,5-Tetrachlorobenzene	--	U	U	U	U	U	U	U	U	U	U
2,3,4,6-Tetrachlorophenol	--	U	U	U	U	U	U	U	U	U	U
2,4,5-Trichlorophenol	--	U	U	U	U	U	U	U	U	U	U
2,4,6-Trichlorophenol	--	U	U	U	U	U	U	U	U	U	U
2,4-Dichlorophenol	--	U	U	U	U	U	U	U	U	U	U
2,4-Dimethylphenol	--	U	U	U	U	U	U	U	U	U	U
2,4-Dinitrophenol	--	U	U	U	U	U	U	U	U	U	U
2,4-Dinitrotoluene	--	U	U	U	U	U	U	U	U	U	U
2,6-Dinitrotoluene	--	U	U	U	U	U	U	U	U	U	U
2-Chloronaphthalene	--	U	U	U	U	U	U	U	U	U	U
2-Chlorophenol	--	U	U	U	U	U	U	U	U	U	U
2-Methylnaphthalene	--	U	U	U	U	U	U	U	U	U	U
2-Methylphenol (o-Cresol)	1000	U	U	U	U	U	U	U	U	U	U
2-Nitroaniline	--	U	U	U	U	U	U	U	U	U	U
2-Nitrophenol	--	U	U	U	U	U	U	U	U	U	U
3,3'-Dichlorobenzidine	--	U	U	U	U	U	U	U	U	U	U
3-Nitroaniline	--	U	U	U	U	U	U	U	U	U	U
4,6-Dinitro-2-Methylphenol	--	U	U	U	U	U	U	U	U	U	U
4-Bromophenyl Phenyl Ether	--	U	U	U	U	U	U	U	U	U	U
4-Chloro-3-Methylphenol	--	U	U	U	U	U	U	U	U	U	U
4-Chloroaniline	--	U	U	U	U	U	U	U	U	U	U
4-Chlorophenyl Phenyl Ether	--	U	U	U	U	U	U	U	U	U	U
4-Nitroaniline	--	U	U	U	U	U	U	U	U	U	U
4-Nitrophenol	--	U	U	U	U	U	U	U	U	U	U
Acenaphthene	1000	U	U	U	U	U	U	U	U	U	U
Acenaphthylene	1000	U	U	U	U	U	U	U	U	U	U
Acetophenone	--	U	U	U	U	U	U	U	U	U	U
Anthracene	1000	U	U	U	U	U	U	U	U	U	U
Atrazine	--	U	U	U	U	U	U	U	U	U	U
Benzaldehyde	--	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ
Benzo(a)Anthracene	11	U	U	U	U	U	U	U	U	U	U
Benzo(a)Pyrene	1.1	U	U	U	U	U	U	U	U	U	U
Benzo(b)Fluoranthene	11	U	U	U	U	U	U	U	U	U	U
Benzo(g,h,i)Perylene	1000	U	U	U	U	U	U	U	U	U	U
Benzo(k)Fluoranthene	110	U	U	U	U	U	U	U	U	U	U
Benzyl Butyl Phthalate	--	U	U	U	U	U	U	U	U	U	U
Biphenyl (Diphenyl)	--	U	U	U	U	U	U	U	U	U	U
Bis(2-Chloroethoxy) Methane	--	U	U	U	U	U	U	U	U	U	U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	U	U	U	U	U	U	U	U	U	U
Bis(2-Chloroisopropyl) Ether	--	U	U	U	U	U	U	U	U	U	U
Bis(2-Ethylhexyl) Phthalate	--	U	0.06 J	U	0.06 J	U	U	U	U	U	U
Caprolactam	--	U	U	U	U	U	U	U	U	U	U
Carbazole	--	U	U	U	U	U	U	U	U	U	U
Chrysene	110	U	U	U	U	U	U	U	U	U	U
Cresols, m & p	--	U	U	U	U	U	U	U	U	U	U
Dibenz(a,h)Anthracene	1.1	U	U	U	U	U	U	U	U	U	U
Dibenzofuran	1000	U	U	U	U	U	U	U	U	U	U
Diethyl Phthalate	--	U	U	U	U	U	U	U	U	U	U
Dimethyl Phthalate	--	U	U	U	U	U	U	U	U	U	U
Di-N-Butyl Phthalate	--	U	U	U	U	U	U	U	U	U	U
Di-N-Octylphthalate	--	U	U	U	U	U	U	U	U	U	U
Fluoranthene	1000	U	U	U	U	U	U	U	U	U	U
Fluorene	1000	U	U	U	U	U	U	U	U	U	U
Hexachlorobenzene	12	U	U	U	U	U	U	U	U	U	U
Hexachlorobutadiene	--	U	U	U	U	U	U	U	U	U	U
Hexachlorocyclopentadiene	--	U	U	U	U	U	U	U	U	U	U
Hexachloroethane	--	U	U	U	U	U	U	U	U	U	U
Indeno(1,2,3-c,d)Pyrene	11	U	U	U	U	U	U	U	U	U	U
Isophorone	--	U	U	U	U	U	U	U	U	U	U
Naphthalene	1000	U	U	U	U	U	U	U	U	U	U
Nitrobenzene	--	U	U	U	U	U	U	U	U	U	U
N-Nitrosodi-N-Propylamine	--	U	U	U	U	U	U	U	U	U	U
N-Nitrosodiphenylamine	--	U	U	U	U	U	U	U	U	U	U
Pentachlorophenol	55	U	U	U	U	U	U	U	U	U	U
Phenanthrene	1000	U	U	U	U	U	U	U	U	U	U
Phenol	1000	U	U	U	U	U	U	U	U	U	U
Pyrene	1000	U	U	U	U	U	U	U	U	U	U
Total PAHs	--	0	0	0	0	0	0	0	0	0	0
Total SVOCs	--	0	0.06	0	0.06	0	0	0	0	0	0

mg/kg: Milligrams per kilogram
U: Not detected
J: Estimated value or limit
D: Detected at a secondary dilution
--: Not available
Exceeds Part 375 Industrial Use SCOs

TABLE F-11
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
SUBSURFACE SOIL SAMPLE RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

CONSTITUENT in mg/kg	Sample ID Start Depth (feet) End Depth (feet) Date Collected	EGCSB-03 14 16 5/12/2011	EGCSB-03 23 25 5/12/2011	EGCSB-04 12 14 5/12/2011	EGCSB-04 14 16 5/12/2011	EGCSB-05 12 14 5/13/2011	EGCSB-05 14 16 5/13/2011	EGCSB-07 10 12 5/13/2011	EGCSB-07 14.5 16.5 5/13/2011	EGCSB-08 8 10 5/20/2011	EGCSB-08 15 17 5/20/2011
	Part 375 Industrial Use Soil Cleanup Objectives										
1,2,4,5-Tetrachlorobenzene	--	U	U	U	U	U	U	U	U	U	U
2,3,4,6-Tetrachlorophenol	--	U	U	U	U	U	U	U	U	U	U
2,4,5-Trichlorophenol	--	U	U	U	U	U	U	U	U	U	U
2,4,6-Trichlorophenol	--	U	U	U	U	U	U	U	U	U	U
2,4-Dichlorophenol	--	U	U	U	U	U	U	U	U	U	U
2,4-Dimethylphenol	--	U	U	U	U	U	U	U	U	U	U
2,4-Dinitrophenol	--	U	U	U	U	U	U	U	U	U	U
2,4-Dinitrotoluene	--	U	U	U	U	U	U	U	U	U	U
2,6-Dinitrotoluene	--	U	U	U	U	U	U	U	U	U	U
2-Chloronaphthalene	--	U	U	U	U	U	U	U	U	U	U
2-Chlorophenol	--	U	U	U	U	U	U	U	U	U	U
2-Methylnaphthalene	--	U	U	U	U	U	U	U	U	U	U
2-Methylphenol (o-Cresol)	1000	U	U	U	U	U	U	U	U	U	U
2-Nitroaniline	--	U	U	U	U	U	U	U	U	U	U
2-Nitrophenol	--	U	U	U	U	U	U	U	U	U	U
3,3'-Dichlorobenzidine	--	U	U	U	U	U	U	U	U	U	U
3-Nitroaniline	--	U	U	U	U	U	U	U	U	U	U
4,6-Dinitro-2-Methylphenol	--	U	U	U	U	U	U	U	U	U	U
4-Bromophenyl Phenyl Ether	--	U	U	U	U	U	U	U	U	U	U
4-Chloro-3-Methylphenol	--	U	U	U	U	U	U	U	U	U	U
4-Chloroaniline	--	U	U	U	U	U	U	U	U	U	U
4-Chlorophenyl Phenyl Ether	--	U	U	U	U	U	U	U	U	U	U
4-Nitroaniline	--	U	U	U	U	U	U	U	U	U	U
4-Nitrophenol	--	U	U	U	U	U	U	U	U	U	U
Acenaphthene	1000	U	U	U	U	U	U	0.18 J	U	U	U
Acenaphthylene	1000	U	U	U	U	U	U	U	U	U	U
Acetophenone	--	U	U	U	U	U	U	U	U	U	U
Anthracene	1000	U	U	U	U	U	U	0.52	U	U	U
Atrazine	--	U	U	U	U	U	U	U	U	U	U
Benzaldehyde	--	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ
Benzo(a)Anthracene	11	U	U	U	U	U	U	1.2	0.06 J	U	U
Benzo(a)Pyrene	1.1	U	U	U	U	U	U	0.7	0.06 J	U	U
Benzo(b)Fluoranthene	11	U	U	U	U	U	U	1.1	0.09 J	U	U
Benzo(g,h,i)Perylene	1000	U	U	U	U	U	U	0.39	0.06 J	U	U
Benzo(k)Fluoranthene	110	U	U	U	U	U	U	0.33 J	U	U	U
Benzyl Butyl Phthalate	--	U	U	U	U	U	U	U	U	U	U
Biphenyl (Diphenyl)	--	U	U	U	U	U	U	U	U	U	U
Bis(2-Chloroethoxy) Methane	--	U	U	U	U	U	U	U	U	U	U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	U	U	U	U	U	U	U	U	U	U
Bis(2-Chloroisopropyl) Ether	--	U	U	U	U	U	U	U	U	U	U
Bis(2-Ethylhexyl) Phthalate	--	U	0.07 J	0.05 J	0.05 J	0.098 J	0.19 J	0.058 J	0.05 J	U	U
Caprolactam	--	U	U	U	U	U	U	U	U	U	U
Carbazole	--	U	U	U	U	U	U	0.25 J	U	U	U
Chrysene	110	U	U	U	U	U	U	1.3	0.07 J	U	U
Cresols, m & p	--	U	U	U	U	U	U	U	U	U	U
Dibenz(a,h)Anthracene	1.1	U	U	U	U	U	U	0.11 J	U	U	U
Dibenzofuran	1000	U	U	U	U	U	U	0.093 J	U	U	U
Diethyl Phthalate	--	U	U	U	U	0.14 J	0.31 J	0.39	U	U	U
Dimethyl Phthalate	--	0.81	0.52	0.36	0.52	U	U	U	U	U	U
Di-N-Butyl Phthalate	--	U	U	U	U	U	U	U	U	U	U
Di-N-Octylphthalate	--	U	U	U	U	U	U	U	U	U	U
Fluoranthene	1000	U	U	U	U	0.13 J	U	3.5 D	0.11 J	U	U
Fluorene	1000	U	U	U	U	U	U	0.2 J	U	U	U
Hexachlorobenzene	12	U	U	U	U	U	U	U	U	U	U
Hexachlorobutadiene	--	U	U	U	U	U	U	U	U	U	U
Hexachlorocyclopentadiene	--	U	U	U	U	U	U	U	U	U	U
Hexachloroethane	--	U	U	U	U	U	U	U	U	U	U
Indeno(1,2,3-c,d)Pyrene	11	U	U	U	U	U	U	0.39	U	U	U
Isophorone	--	U	U	U	U	U	U	U	U	U	U
Naphthalene	1000	U	U	U	U	U	U	U	U	U	U
Nitrobenzene	--	U	U	U	U	U	U	U	U	U	U
N-Nitrosodi-N-Propylamine	--	U	U	U	U	U	U	U	U	U	U
N-Nitrosodiphenylamine	--	U	U	U	U	U	U	U	U	U	U
Pentachlorophenol	55	U	U	U	U	U	U	U	U	U	U
Phenanthrene	1000	U	U	U	U	U	U	2.6	U	U	U
Phenol	1000	U	U	U	U	U	U	U	U	U	U
Pyrene	1000	U	U	U	U	0.11 J	U	2.5	0.12 J	U	U
Total PAHs	--	0	0	0	0	0.24	0	15.0	0.57	0	0
Total SVOCs	--	0.81	0.59	0.41	0.57	0.48	0.50	15.8	0.62	0	0

mg/kg: Milligrams per kilogram
U: Not detected
J: Estimated value or limit
D: Detected at a secondary dilution
--: Not available
Exceeds Part 375 Industrial Use SCOs

TABLE F-11
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
SUBSURFACE SOIL SAMPLE RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

CONSTITUENT in mg/kg	Sample ID Start Depth (feet) End Depth (feet) Date Collected	EGCSB-09 8 10 5/20/2011	EGCSB-09 15 17 5/20/2011	EGCSB-10 8 10 5/17/2011	EGCSB-10 17.5 19.5 5/17/2011	EGCSB-11 8 10 5/23/2011	EGCSB-11 14.5 16.5 5/23/2011	EGCSB-13 8 10 5/20/2011	EGCSB-13 16 18 5/20/2011	EGCSB-14 8.5 10.5 5/25/2011	EGCSB-14 14 16 5/25/2011
	Part 375 Industrial Use Soil Cleanup Objectives										
1,2,4,5-Tetrachlorobenzene	--	U	U	U	U	U	U	U	U	U	U
2,3,4,6-Tetrachlorophenol	--	U	U	U	U	U	U	U	U	U	U
2,4,5-Trichlorophenol	--	U	U	U	U	U	U	U	U	U	U
2,4,6-Trichlorophenol	--	U	U	U	U	U	U	U	U	U	U
2,4-Dichlorophenol	--	U	U	U	U	U	U	U	U	U	U
2,4-Dimethylphenol	--	U	U	U	U	U	U	U	U	U	U
2,4-Dinitrophenol	--	U	U	U	U	U	U	U	U	U	U
2,4-Dinitrotoluene	--	U	U	U	U	U	U	U	U	U	U
2,6-Dinitrotoluene	--	U	U	U	U	U	U	U	U	U	U
2-Chloronaphthalene	--	U	U	U	U	U	U	U	U	U	U
2-Chlorophenol	--	U	U	U	U	U	U	U	U	U	U
2-Methylnaphthalene	--	U	U	U	U	U	U	U	U	U	U
2-Methylphenol (o-Cresol)	1000	U	U	U	U	U	U	U	U	U	U
2-Nitroaniline	--	U	U	U	U	U	U	U	U	U	U
2-Nitrophenol	--	U	U	U	U	U	U	U	U	U	U
3,3'-Dichlorobenzidine	--	U	U	U	U	U	U	U	U	U	U
3-Nitroaniline	--	U	U	U	U	U	U	U	U	U	U
4,6-Dinitro-2-Methylphenol	--	U	U	U	U	U	U	U	U	U	U
4-Bromophenyl Phenyl Ether	--	U	U	U	U	U	U	U	U	U	U
4-Chloro-3-Methylphenol	--	U	U	U	U	U	U	U	U	U	U
4-Chloroaniline	--	U	U	U	U	U	U	U	U	U	U
4-Chlorophenyl Phenyl Ether	--	U	U	U	U	U	U	U	U	U	U
4-Nitroaniline	--	U	U	U	U	U	U	U	U	U	U
4-Nitrophenol	--	U	U	U	U	U	U	U	U	U	U
Acenaphthene	1000	U	U	U	U	U	U	U	U	U	U
Acenaphthylene	1000	U	U	U	U	U	U	U	U	U	U
Acetophenone	--	U	U	U	U	U	U	U	U	U	U
Anthracene	1000	U	U	U	U	U	U	U	U	U	U
Atrazine	--	U	U	U	U	U	U	U	U	U	U
Benzaldehyde	--	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ
Benzo(a)Anthracene	11	U	U	U	U	U	U	U	U	U	U
Benzo(a)Pyrene	1.1	U	U	U	U	U	U	U	U	U	U
Benzo(b)Fluoranthene	11	U	U	U	U	U	U	U	U	U	U
Benzo(g,h,i)Perylene	1000	U	U	U	U	U	U	U	U	U	U
Benzo(k)Fluoranthene	110	U	U	U	U	U	U	U	U	U	U
Benzyl Butyl Phthalate	--	U	U	U	U	U	U	U	U	U	U
Biphenyl (Diphenyl)	--	U	U	U	U	U	U	U	U	U	U
Bis(2-Chloroethoxy) Methane	--	U	U	U	U	U	U	U	U	U	U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	U	U	U	U	U	U	U	U	U	U
Bis(2-Chloroisopropyl) Ether	--	U	U	U	U	U	U	U	U	U	U
Bis(2-Ethylhexyl) Phthalate	--	U	U	U	U	0.07 J	U	U	U	0.06 J	U
Caprolactam	--	U	U	U	U	U	U	U	U	U	U
Carbazole	--	U	U	U	U	U	U	U	U	U	U
Chrysene	110	U	U	U	U	U	U	U	U	U	U
Cresols, m & p	--	U	U	U	U	U	U	U	U	U	U
Dibenz(a,h)Anthracene	1.1	U	U	U	U	U	U	U	U	U	U
Dibenzofuran	1000	U	U	U	U	U	U	U	U	U	U
Diethyl Phthalate	--	U	U	U	U	U	U	U	U	U	U
Dimethyl Phthalate	--	U	U	U	U	0.12 J	0.07 J	U	U	U	U
Di-N-Butyl Phthalate	--	U	U	U	U	U	U	U	U	U	U
Di-N-Octylphthalate	--	U	U	U	U	U	U	U	U	U	U
Fluoranthene	1000	U	U	U	U	0.04 J	U	U	U	U	U
Fluorene	1000	U	U	U	U	U	U	U	U	U	U
Hexachlorobenzene	12	U	U	U	U	U	U	U	U	U	U
Hexachlorobutadiene	--	U	U	U	U	U	U	U	U	U	U
Hexachlorocyclopentadiene	--	U	U	U	U	U	U	U	U	U	U
Hexachloroethane	--	U	U	U	U	U	U	U	U	U	U
Indeno(1,2,3-c,d)Pyrene	11	U	U	U	U	U	U	U	U	U	U
Isophorone	--	U	U	U	U	U	U	U	U	U	U
Naphthalene	1000	U	U	U	U	U	U	U	U	U	U
Nitrobenzene	--	U	U	U	U	U	U	U	U	U	U
N-Nitrosodi-N-Propylamine	--	U	U	U	U	U	U	U	U	U	U
N-Nitrosodiphenylamine	--	U	U	U	U	U	U	U	U	U	U
Pentachlorophenol	55	U	U	U	U	U	U	U	U	U	U
Phenanthrene	1000	U	U	U	U	U	U	U	U	U	U
Phenol	1000	U	U	U	U	U	U	U	U	U	U
Pyrene	1000	U	U	U	U	0.09 J	U	U	U	U	U
Total PAHs	--	0	0	0	0	0.13	0	0	0	0	0
Total SVOCs	--	0	0	0	0	0.33	0.07	0	0	0.06	0

mg/kg: Milligrams per kilogram
U: Not detected
J: Estimated value or limit
D: Detected at a secondary dilution
--: Not available
Exceeds Part 375 Industrial Use SCOs

TABLE F-11
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
SUBSURFACE SOIL SAMPLE RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

CONSTITUENT in mg/kg	Sample ID	EGCSB-15	EGCSB-15	EGCSB-16	EGCSB-16	EGCSB-17	EGCSB-17	EGCSB-18	EGCSB-18	EGCSB-19	EGCSB-19
	Start Depth (feet)	8.5	14.5	8	15	9	14	8	16	8	16
	End Depth (feet)	10.5	16.5	10	17	11	16	10	18	10	18
	Date Collected	5/24/2011	5/24/2011	5/24/2011	5/24/2011	5/24/2011	5/24/2011	5/19/2011	5/19/2011	5/20/2011	5/20/2011
	Part 375 Industrial Use Soil Cleanup Objectives										
1,2,4,5-Tetrachlorobenzene	--	U	U	U	U	U	U	U	U	U	U
2,3,4,6-Tetrachlorophenol	--	U	U	U	U	U	U	U	U	U	U
2,4,5-Trichlorophenol	--	U	U	U	U	U	U	U	U	U	U
2,4,6-Trichlorophenol	--	U	U	U	U	U	U	U	U	U	U
2,4-Dichlorophenol	--	U	U	U	U	U	U	U	U	U	U
2,4-Dimethylphenol	--	U	U	U	U	U	U	U	U	U	U
2,4-Dinitrophenol	--	U	U	U	U	U	U	U	U	U	U
2,4-Dinitrotoluene	--	U	U	U	U	U	U	U	U	U	U
2,6-Dinitrotoluene	--	U	U	U	U	U	U	U	U	U	U
2-Chloronaphthalene	--	U	U	U	U	U	U	U	U	U	U
2-Chlorophenol	--	U	U	U	U	U	U	U	U	U	U
2-Methylnaphthalene	--	U	U	0.094 J	U	U	U	U	U	U	U
2-Methylphenol (o-Cresol)	1000	U	U	U	U	U	U	U	U	U	U
2-Nitroaniline	--	U	U	U	U	U	U	U	U	U	U
2-Nitrophenol	--	U	U	U	U	U	U	U	U	U	U
3,3'-Dichlorobenzidine	--	U	U	U	U	U	U	U	U	U	U
3-Nitroaniline	--	U	U	U	U	U	U	U	U	U	U
4,6-Dinitro-2-Methylphenol	--	U	U	U	U	U	U	U	U	U	U
4-Bromophenyl Phenyl Ether	--	U	U	U	U	U	U	U	U	U	U
4-Chloro-3-Methylphenol	--	U	U	U	U	U	U	U	U	U	U
4-Chloroaniline	--	U	U	U	U	U	U	U	U	U	U
4-Chlorophenyl Phenyl Ether	--	U	U	U	U	U	U	U	U	U	U
4-Nitroaniline	--	U	U	U	U	U	U	U	U	U	U
4-Nitrophenol	--	U	U	U	U	U	U	U	U	U	U
Acenaphthene	1000	U	U	0.53	U	U	U	U	U	U	U
Acenaphthylene	1000	0.059 J	U	U	U	U	U	U	U	U	U
Acetophenone	--	U	U	U	U	U	U	U	U	U	U
Anthracene	1000	U	U	1.1	U	U	U	U	U	U	U
Atrazine	--	U	U	U	U	U	U	U	U	U	U
Benzaldehyde	--	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ	UJ
Benzo(a)Anthracene	11	0.32 J	U	1.8	U	U	U	U	U	U	U
Benzo(a)Pyrene	1.1	0.22 J	U	***1.5***	U	U	U	U	U	U	U
Benzo(b)Fluoranthene	11	0.3 J	U	1.8	U	U	U	U	U	U	U
Benzo(g,h,i)Perylene	1000	0.11 J	U	0.55	U	U	U	U	U	U	U
Benzo(k)Fluoranthene	110	0.11 J	U	0.67	U	U	U	U	U	U	U
Benzyl Butyl Phthalate	--	U	U	U	U	U	U	U	U	U	U
Biphenyl (Diphenyl)	--	U	U	U	U	U	U	U	U	U	U
Bis(2-Chloroethoxy) Methane	--	U	U	U	U	U	U	U	U	U	U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	U	U	U	U	U	U	U	U	U	U
Bis(2-Chloroisopropyl) Ether	--	U	U	U	U	U	U	U	U	U	U
Bis(2-Ethylhexyl) Phthalate	--	U	U	U	U	U	U	U	U	U	U
Caprolactam	--	U	U	U	U	U	U	U	U	U	U
Carbazole	--	U	U	0.72	U	U	U	U	U	U	U
Chrysene	110	0.3 J	U	1.5	U	U	U	U	U	U	U
Cresols, m & p	--	U	U	U	U	U	U	U	U	U	U
Dibenz(a,h)Anthracene	1.1	U	U	0.16 J	U	U	U	U	U	U	U
Dibenzofuran	1000	U	U	0.3 J	U	U	U	U	U	U	U
Diethyl Phthalate	--	U	U	U	U	U	U	U	U	U	U
Dimethyl Phthalate	--	U	U	U	U	U	U	U	U	U	U
Di-N-Butyl Phthalate	--	U	U	U	U	U	U	U	U	U	U
Di-N-Octylphthalate	--	U	U	U	U	U	U	U	U	U	U
Fluoranthene	1000	0.45	U	4.5 D	U	U	U	U	U	U	U
Fluorene	1000	U	U	0.62	U	U	U	U	U	U	U
Hexachlorobenzene	12	U	U	U	U	U	U	U	U	U	U
Hexachlorobutadiene	--	U	U	U	U	U	U	U	U	U	U
Hexachlorocyclopentadiene	--	U	U	U	U	U	U	U	U	U	U
Hexachloroethane	--	U	U	U	U	U	U	U	U	U	U
Indeno(1,2,3-c,d)Pyrene	11	0.1 J	U	0.51	U	U	U	U	U	U	U
Isophorone	--	U	U	U	U	U	U	U	U	U	U
Naphthalene	1000	U	U	0.09 J	U	U	U	U	U	U	U
Nitrobenzene	--	U	U	U	U	U	U	U	U	U	U
N-Nitrosodi-N-Propylamine	--	U	U	U	U	U	U	U	U	U	U
N-Nitrosodiphenylamine	--	U	U	U	U	U	U	U	U	U	U
Pentachlorophenol	55	U	U	U	U	U	U	U	U	U	U
Phenanthrene	1000	0.1 J	U	5 D	U	U	U	U	U	U	U
Phenol	1000	U	U	U	U	U	U	U	U	U	U
Pyrene	1000	0.54	U	4.3 D	U	U	U	U	U	U	U
Total PAHs	--	2.6	0	25	0	0	0	0	0	0	0
Total SVOCs	--	2.6	0	26	0	0	0	0	0	0	0

mg/kg: Milligrams per kilogram
U: Not detected
J: Estimated value or limit
D: Detected at a secondary dilution
--: Not available
Exceeds Part 375 Industrial Use SCOs

TABLE F-11
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
SUBSURFACE SOIL SAMPLE RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

CONSTITUENT in mg/kg	Sample ID Start Depth (feet) End Depth (feet) Date Collected	EGCTP-01 1 2 4/27/2011	EGCTP-02 1 2 5/10/2011
	Part 375 Industrial Use Soil Cleanup Objectives		
1,2,4,5-Tetrachlorobenzene	--	U	U
2,3,4,6-Tetrachlorophenol	--	U	U
2,4,5-Trichlorophenol	--	U	U
2,4,6-Trichlorophenol	--	U	U
2,4-Dichlorophenol	--	U	U
2,4-Dimethylphenol	--	U	U
2,4-Dinitrophenol	--	U	U
2,4-Dinitrotoluene	--	U	U
2,6-Dinitrotoluene	--	U	U
2-Chloronaphthalene	--	U	U
2-Chlorophenol	--	U	U
2-Methylnaphthalene	--	U	0.46 J
2-Methylphenol (o-Cresol)	1000	U	U
2-Nitroaniline	--	U	U
2-Nitrophenol	--	U	U
3,3'-Dichlorobenzidine	--	U	U
3-Nitroaniline	--	U	U
4,6-Dinitro-2-Methylphenol	--	U	U
4-Bromophenyl Phenyl Ether	--	U	U
4-Chloro-3-Methylphenol	--	U	U
4-Chloroaniline	--	U	U
4-Chlorophenyl Phenyl Ether	--	U	U
4-Nitroaniline	--	U	U
4-Nitrophenol	--	U	U
Acenaphthene	1000	U	0.32 J
Acenaphthylene	1000	U	3.9
Acetophenone	--	U	U
Anthracene	1000	U	2.2
Atrazine	--	U	U
Benzaldehyde	--	UJ	UJ
Benzo(a)Anthracene	11	0.13 J	8.6
Benzo(a)Pyrene	1.1	0.16 J	***6.5***
Benzo(b)Fluoranthene	11	0.23 J	6.6
Benzo(g,h,i)Perylene	1000	0.13 J	3.8
Benzo(k)Fluoranthene	110	U	2
Benzyl Butyl Phthalate	--	U	U
Biphenyl (Diphenyl)	--	U	U
Bis(2-Chloroethoxy) Methane	--	U	U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	--	U	U
Bis(2-Chloroisopropyl) Ether	--	U	U
Bis(2-Ethylhexyl) Phthalate	--	U	U
Caprolactam	--	U	U
Carbazole	--	U	U
Chrysene	110	0.17 J	11
Cresols, m & p	--	U	U
Dibenz(a,h)Anthracene	1.1	U	1 J
Dibenzofuran	1000	U	U
Diethyl Phthalate	--	U	U
Dimethyl Phthalate	--	U	U
Di-N-Butyl Phthalate	--	U	U
Di-N-Octylphthalate	--	U	U
Fluoranthene	1000	0.15 J	10 J
Fluorene	1000	U	2
Hexachlorobenzene	12	U	U
Hexachlorobutadiene	--	U	U
Hexachlorocyclopentadiene	--	U	U
Hexachloroethane	--	U	U
Indeno(1,2,3-c,d)Pyrene	11	0.11 J	3.4
Isophorone	--	U	U
Naphthalene	1000	U	0.31 J
Nitrobenzene	--	U	U
N-Nitrosodi-N-Propylamine	--	U	U
N-Nitrosodiphenylamine	--	U	U
Pentachlorophenol	55	U	U
Phenanthrene	1000	0.1 J	15
Phenol	1000	U	U
Pyrene	1000	0.24 J	24 D
Total PAHs	--	1.4	100
Total SVOCs	--	1.4	101

mg/kg: Milligrams per kilogram
U: Not detected
J: Estimated value or limit
D: Detected at a secondary dilution
--: Not available
Exceeds Part 375 Industrial Use SCOs

TABLE F-12
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
SUBSURFACE SOIL SAMPLE RESULTS
TARGET ANALYTE LIST (TAL) METALS + CYANIDE

	Sample ID	EGCMW-03	EGCMW-03	EGCMW-05	EGCMW-05	EGCMW-07	EGCMW-07	EGCSB-01	EGCSB-01	EGCSB-02	EGCSB-02	EGCSB-03	EGCSB-03	EGCSB-04	EGCSB-04
	Start Depth (feet)	15.5	8.5	8	15	9.5	16	8	18	9	15.5	14	23	12	14
CONSTITUENT	End Depth (feet)	17.5	10.5	10	17	11.5	18	10	20	11	17.5	16	25	14	16
in mg/kg	Date Collected	5/26/2011	5/26/2011	5/23/2011	5/23/2011	5/19/2011	5/19/2011	5/17/2011	5/17/2011	5/18/2011	5/18/2011	5/12/2011	5/12/2011	5/12/2011	5/12/2011
	Part 375 Industrial Use Soil Cleanup Objectives														
Aluminum	--	1,520	2,200	1,470	663	716	2,630	1,140	857	2,200	1,270	1,760	695	1,720	881
Antimony	--	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Arsenic	16	0.67 J	U	U	U	0.97 J	1.31 J	0.46 J	U	0.582 J	0.754 J	1.31	U	U	0.709 J
Barium	10,000	3.57 J	26.7	3.8 J	3.14 J	5.78	7.77	3.54 J	1.63 J	2.62 J	1.57 J	3.03 J	3.1 J	3.68 J	3.87 J
Beryllium	2,700	0.13 J	0.14 J	0.13 J	0.11 J	0.1 J	0.29	0.09 J	0.07 J	0.077 J	0.089 J	0.112 J	0.06 J	0.12 J	0.084 J
Cadmium	60	U	U	U	U	U	0.14 J	U	U	UJ	UJ	U	U	U	U
Calcium	--	113	160	37.7 J	9.65 J	28.7 J	U	27 J	31.8 J	94.1 J	109 J	112	89.6 J	77.1 J	82.8
Chromium, Total	800	3.62 J	5.63 J	2.68	3.6	2.33	9.73	2.53 J	0.94 J	1.97 J	3.18 J	4.55 J	1.18 J	2.02 J	2.15 J
Cobalt	--	0.67 J	1.55	0.89 J	0.59 J	0.82 J	2.46	0.93 J	U	0.564 J	U	0.482 J	U	U	0.49 J
Copper	10,000	2	3.11	2.65	1.28	2.12	2.23	3.38	1.61	0.659 J	1.07 J	10.7 J	1.86 J	2.75 J	1.73 J
Iron	--	4,590	4,280	3,770	3,290	3,440	11,300	2,220	1,560	1,950 J	3,390 J	2,760	1,210	2,370	2,130
Lead	3,900	1.03	0.9	2.97	0.68	0.81	2.94	0.62	0.39 J	0.925 J	1.37 J	1.36	0.87	1.27	1.03
Magnesium	--	80.5 J	978	111	43 J	210	201	121	53.9 J	97.7	52.6 J	85.3	82.3 J	96.4	72.9 J
Manganese	10,000	79.9	119	71.6	8.75	45.5	143	10.2	6.54	25.3 J	15.4 J	7.54	5.06	10.5	8.01
Mercury	5.7	UD	UD	UD	UD	U	0.009 J	0.002 J	U	U	U	U	UD	UD	0.024 JD
Nickel	10,000	1.35 J	3.16	1.38 J	0.8 J	3.79 J	2.58 J	0.9 J	U	1.04 J	0.721 J	1.29 J	0.88 J	0.85 J	1.12 J
Potassium	--	47.8 J	854	69.6 J	39 J	155	88.4	121	43.6 J	54.2 J	37.8 J	60.1 J	68 J	71.1 J	49.6 J
Selenium	6,800	0.84 J	0.64 J	0.89	1.03	1 J	1.47 J	0.45 J	0.54 J	U	U	0.425 J	U	U	U
Silver	6,800	0.23 J	0.17 J	U	U	U	U	U	U	U	U	U	U	U	U
Sodium	--	127	125	242	258	92.9 J	65.3 J	148	154	118 J	160 J	130 J	338 J	179 J	116 J
Thallium	--	U	U	U	U	U	U	UJ	UJ	U	U	U	U	U	U
Vanadium	--	4.26	7.82	3.27	2.47	2.22	7.29	2.37	1.45 J	2.06 J	2.69 J	3.46	1.62 J	3.2	2.16
Zinc	10,000	5.5 J	11.7 J	18.1	8.03	5.97	6.16	5.12	5.03	5.57 J	7.68 J	13.1	4.92	5.27	5.6
Cyanide	10,000	U	0.097 J	U	U	U	U	U	U	U	U	U	U	U	U

mg/kg: Milligrams per kilogram
U: Not detected
J: Estimated value or limit
D: Detected at secondary dilution
--: Not available

TABLE F-12
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
SUBSURFACE SOIL SAMPLE RESULTS
TARGET ANALYTE LIST (TAL) METALS + CYANIDE

CONSTITUENT in mg/kg	Sample ID	EGCSB-05	EGCSB-05	EGCSB-07	EGCSB-07	EGCSB-08	EGCSB-08	EGCSB-09	EGCSB-09	EGCSB-10	EGCSB-10	EGCSB-11	EGCSB-11	EGCSB-13	EGCSB-13
	Start Depth (feet)	12	14	10	14.5	8	15	8	15	8	17.5	8	14.5	8	16
	End Depth (feet)	14	16	12	16.5	10	17	10	17	10	19.5	10	16.5	10	18
	Date Collected	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/20/2011	5/20/2011	5/20/2011	5/20/2011	5/17/2011	5/17/2011	5/23/2011	5/23/2011	5/20/2011	5/20/2011
	Part 375 Industrial Use Soil Cleanup Objectives														
Aluminum	--	3,940	2,800	4,220	5,190	1,540	1,730	723	647	1,580	954	1,390	869	1,890	1,020
Antimony	--	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Arsenic	16	0.74 J	0.8 J	1.32	1.89	0.83 J	0.54 J	0.4 J	0.63 J	0.61 J	0.73 J	0.3 J	U	1.01 J	0.62 J
Barium	10,000	13.4	9.04	7.88	10.7	3.76 J	6.75	2.66 J	1.78 J	4.61	2.14 J	3.83 J	2.15 J	3.45 J	3.92 J
Beryllium	2,700	0.29	0.24 J	0.152 J	0.222 J	0.14 J	0.17 J	0.12 J	0.07 J	0.1 J	0.08 J	0.13 J	0.1 J	0.12 J	0.08 J
Cadmium	60	U	U	U	0.091 J	U	U	U	U	U	U	U	U	U	U
Calcium	--	5,740	4,670	276	708	24.1 J	34.1 J	53.7 J	29.3 J	29.6 J	26 J	16.9 J	33.4 J	71.9 J	85.5 J
Chromium, Total	800	9.36 J	31.8 J	28.2 J	8.54 J	2.76	2.28	1.68	5.77	2.61 J	6.87 J	5.2	3.89	3.06	2.22
Cobalt	--	2.14	1.46	1.52	2.18	0.69 J	0.89 J	U	U	0.49 J	U	U	U	U	U
Copper	10,000	9.73 J	11.2 J	5.74 J	3.97 J	1.23	1.78	1.23	1.15	2.68	2.42	2.44	1.47	1.33	1.43
Iron	--	8,540	7180	6,210	7,530	4,510	4,020	2,160	1740	2,660	1790	5,150	2,700	2410	1970
Lead	3,900	11.6	7.96	3.57	6.12	1.33	1.58	1.52	1.19	0.56	0.37 J	1.95	0.8	1.48	1.24
Magnesium	--	3,760	2,630	248	447	77.2 J	286	58.4 J	46.9 J	97.9	48.8 J	246	55.4 J	98.6	139
Manganese	10,000	122	86.4	66.4	71.9	41.6	17.3	7.25	5.51	23.6	7.07	47.1	9.31	34.4	22.2
Mercury	5.7	0.064 JD	0.029 JD	UD	UD	UD	UD	0.035 JD	UD	0.006 J	U	UD	UD	UD	UD
Nickel	10,000	5.29	4.52	4.25	4.66	0.69 J	1.14 J	0.66 J	0.45 J	0.9 J	0.55 J	0.92 J	1.08 J	1.2 J	0.86 J
Potassium	--	339	226	171	199	52.3 J	84.3 J	44.5 J	30.2 J	73.4 J	51.5 J	127	46.1 J	67.5 J	78.7 J
Selenium	6,800	0.92	0.45 J	0.69 J	0.904	0.61 J	0.97 J	0.66 J	0.48 J	0.51 J	0.6 J	1.2	0.76 J	0.52 J	0.6 J
Silver	6,800	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Sodium	--	113 J	109 J	163 J	695 J	116 J	196 J	68.9 J	87.1 J	138	124	150	362	115 J	79 J
Thallium	--	U	U	U	U	U	U	U	U	UJ	UJ	U	U	U	U
Vanadium	--	10.7	7.43	6.13	7.32	3.15	4.44	1.65 J	1.8	2.4	2.16	5.2	2.64	2.5	2.18
Zinc	10,000	20.3	12.9	16	24.3	5.72	11	6	5.58	4.5	4.15	8.11	7.45	4.44	4.9
Cyanide	10,000	U	U	U	U	U	U	U	U	U	U	U	U	U	U

mg/kg: Milligrams per kilogram
U: Not detected
J: Estimated value or limit
D: Detected at secondary dilution
--: Not available

TABLE F-12
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
SUBSURFACE SOIL SAMPLE RESULTS
TARGET ANALYTE LIST (TAL) METALS + CYANIDE

	Sample ID	EGCSB-14	EGCSB-14	EGCSB-15	EGCSB-15	EGCSB-16	EGCSB-16	EGCSB-17	EGCSB-17	EGCSB-18	EGCSB-18	EGCSB-19	EGCSB-19	EGCTP-01	EGCTP-02
	Start Depth (feet)	8.5	14	8.5	14.5	8	15	9	14	8	16	8	16	1	1
CONSTITUENT	End Depth (feet)	10.5	16	10.5	16.5	10	17	11	16	10	18	10	18	2	2
in mg/kg	Date Collected	5/25/2011	5/25/2011	5/24/2011	5/24/2011	5/24/2011	5/24/2011	5/24/2011	5/24/2011	5/19/2011	5/19/2011	5/20/2011	5/20/2011	4/27/2011	5/10/2011
	Part 375 Industrial Use Soil Cleanup Objectives														
Aluminum	--	1,290	429	863	503	2,180	715	1,960	1,250	2,680	2,180	2,490	1,090	3,690	7,140
Antimony	--	U	U	U	U	U	U	U	U	U	U	U	U	0.721 J	U
Arsenic	16	1.82	0.38 J	3.1	0.56 J	1.93	0.44 J	0.96	0.78	0.95 J	1.8 J	0.9 J	1.09 J	6.11	2.72 J
Barium	10,000	8.73	1.59 J	3.81 J	2.04 J	8.94	1.89 J	7.29	1.58 J	4.86	3.97 J	7.17	6.06	19.3	27.7
Beryllium	2,700	0.16 J	U	0.13 J	0.1 J	0.17 J	U	0.15 J	0.15 J	0.16 J	0.17 J	0.17 J	0.24 J	0.354	0.33 J
Cadmium	60	U	U	U	U	U	U	U	U	U	U	U	U	1.19	0.63
Calcium	--	793	U	62.8 J	U	1,080	65.1 J	625	U	67.9 J	33.2 J	65 J	20.8 J	559	1320
Chromium, Total	800	7.23	2.27	3.9	3.38	6.93	2.55	10	3.23	3.01	17.2	3.26	3.68	24.6	11.7
Cobalt	--	0.58 J	U	U	U	0.83 J	U	0.91 J	U	1.18 J	0.75 J	0.6 J	1.16 J	3.28	2.7
Copper	10,000	6.98	0.68 J	3.91	2.44	9.15	1.15	7.02	1.27	2.1	3.58	1.55	2.67	14.1	11.8
Iron	--	5,350	1,100	6,090	2,980	5,270	2,110	4,060	4,620	4,350	4,400	3,750	7,210	13,600	10,500
Lead	3,900	9.5	0.47	3.03	0.56	22.9	0.85	10	0.97	1.03	1.01	1.57	1.66	128	172
Magnesium	--	420	35.8 J	119	50.5 J	675	63.2 J	236	140	120	134	279	270	513	1210
Manganese	10,000	30.6	2.07	13.9	6.69	29.3	6.79	41.2	9.73	44.5	37.7	29.1	60.7	195	96.8
Mercury	5.7	0.141	U	0.66 D	UD	UD	UD	UD	UD	0.007 J	0.005 J	UD	UD	0.505 D	0.236
Nickel	10,000	1.79	0.36 J	0.87 J	0.53 J	4.18	U	2.13	1.05 J	1.38 J	1.73 J	1.58 J	4.39	7.62	6.05
Potassium	--	126	60.8 J	88.4	33.6 J	85.5	44.6 J	65.5 J	48.6 J	69.7 J	92.4	198	166	155	293
Selenium	6,800	U	U	U	U	U	U	U	U	0.6 J	1.08 J	1.02 J	1.55 J	0.545 J	2.25
Silver	6,800	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Sodium	--	261	355	189	198	131	240	105	177	114 J	159 J	88.9 J	122 J	185	47.2 J
Thallium	--	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Vanadium	--	5.13	1.27 J	4.36	2.07	4.31	2.17 J	3.87	3.35	4.72	4.32	4.04	3.36	9.84	15.2
Zinc	10,000	13.9	7.93	8.62	6.48	41	6.93	13.3	6.99	4.19	4.87	6.83	8.17	190	242
Cyanide	10,000	U	0.826	9.03	1.05	3.01	U	1.22	U	U	U	U	U	0.1 J	1.47

mg/kg: Milligrams per kilogram
U: Not detected
J: Estimated value or limit
D: Detected at secondary dilution
--: Not available

TABLE F-13
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
SUBSURFACE SOIL SAMPLE RESULTS
POLYCHLORINATED BIPHENYLS (PCBs)

	Sample ID	EGCMW-03	EGCMW-03	EGCMW-05	EGCMW-05	EGCMW-07	EGCMW-07	EGCSB-01	EGCSB-01	EGCSB-02	EGCSB-02	EGCSB-03	EGCSB-03	EGCSB-04	EGCSB-04
	Start Depth (feet)	8.5	15.5	8	15	9.5	16	8	18	9	15.5	14	23	12	14
CONSTITUENT	End Depth (feet)	10.5	17.5	10	17	11.5	18	10	20	11	17.5	16	25	14	16
in mg/kg	Date Collected	5/26/2011	5/26/2011	5/23/2011	5/23/2011	5/19/2011	5/19/2011	5/17/2011	5/17/2011	5/18/2011	5/18/2011	5/12/2011	5/12/2011	5/12/2011	5/12/2011
	Part 375 Industrial Use Soil Cleanup Objectives														
PCB-1016 (Aroclor 1016)	25	U	U	U	U	U	U	U	U	U	U	U	U	U	U
PCB-1221 (Aroclor 1221)	25	U	U	U	U	U	U	U	U	U	U	U	U	U	U
PCB-1232 (Aroclor 1232)	25	U	U	U	U	U	U	U	U	U	U	U	U	U	U
PCB-1242 (Aroclor 1242)	25	U	U	U	U	U	U	U	U	U	U	U	U	U	U
PCB-1248 (Aroclor 1248)	25	U	U	U	U	U	U	U	U	U	U	U	U	U	U
PCB-1254 (Aroclor 1254)	25	U	U	U	U	U	U	U	U	U	U	U	U	U	U
PCB-1260 (Aroclor 1260)	25	U	U	U	U	U	U	U	U	U	U	U	U	U	U
PCB-1262 (Aroclor 1262)	25	U	U	U	U	U	U	U	U	U	U	U	U	U	U
PCB-1268 (Aroclor 1268)	25	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Total PCBs	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0

mg/kg: Milligrams per kilogram
U: Not detected
J: Estimated value or limit

TABLE F-13
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
SUBSURFACE SOIL SAMPLE RESULTS
POLYCHLORINATED BIPHENYLS (PCBs)

	Sample ID	EGCSB-05	EGCSB-05	EGCSB-07	EGCSB-07	EGCSB-08	EGCSB-08	EGCSB-09	EGCSB-09	EGCSB-10	EGCSB-10	EGCSB-11	EGCSB-11	EGCSB-13	EGCSB-13
	Start Depth (feet)	12	14	10	14.5	8	15	8	15	8	17.5	8	14.5	8	16
CONSTITUENT	End Depth (feet)	14	16	12	16.5	10	17	10	17	10	19.5	10	16.5	10	18
in mg/kg	Date Collected	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/20/2011	5/20/2011	5/20/2011	5/20/2011	5/17/2011	5/17/2011	5/23/2011	5/23/2011	5/20/2011	5/20/2011
	Part 375 Industrial Use Soil Cleanup Objectives														
PCB-1016 (Aroclor 1016)	25	U	U	U	U	U	U	U	U	U	U	UJ	U	U	U
PCB-1221 (Aroclor 1221)	25	U	U	U	U	U	U	U	U	U	U	UJ	U	U	U
PCB-1232 (Aroclor 1232)	25	U	U	U	U	U	U	U	U	U	U	UJ	U	U	U
PCB-1242 (Aroclor 1242)	25	U	U	U	U	U	U	U	U	U	U	UJ	U	U	U
PCB-1248 (Aroclor 1248)	25	U	U	U	U	U	U	U	U	U	U	UJ	U	U	U
PCB-1254 (Aroclor 1254)	25	U	U	U	U	U	U	U	0.05	U	U	UJ	U	U	U
PCB-1260 (Aroclor 1260)	25	U	U	U	U	U	U	U	U	U	U	UJ	U	U	U
PCB-1262 (Aroclor 1262)	25	U	U	U	U	U	U	U	U	U	U	UJ	U	U	U
PCB-1268 (Aroclor 1268)	25	U	U	U	U	U	U	U	U	U	U	UJ	U	U	U
Total PCBs	25	0	0	0	0	0	0	0	0.05	0	0	0	0	0	0

mg/kg: Milligrams per kilogram
U: Not detected
J: Estimated value or limit

TABLE F-13
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
SUBSURFACE SOIL SAMPLE RESULTS
POLYCHLORINATED BIPHENYLS (PCBs)

CONSTITUENT in mg/kg		Sample ID	EGCSB-14	EGCSB-14	EGCSB-15	EGCSB-15	EGCSB-16	EGCSB-16	EGCSB-17	EGCSB-17	EGCSB-18	EGCSB-18	EGCSB-19	EGCSB-19	EGCTP-01	EGCTP-02
		Start Depth (feet)	8.5	14	8.5	14.5	8	15	9	14	8	16	8	16	1	1
		End Depth (feet)	10.5	16	10.5	16.5	10	17	11	16	10	18	10	18	2	2
		Date Collected	5/25/2011	5/25/2011	5/24/2011	5/24/2011	5/24/2011	5/24/2011	5/24/2011	5/24/2011	5/19/2011	5/19/2011	5/20/2011	5/20/2011	4/27/2011	5/10/2011
	Part 375 Industrial Use Soil Cleanup Objectives															
PCB-1016 (Aroclor 1016)	25		U	U	U	U	U	U	U	U	U	U	U	U	U	U
PCB-1221 (Aroclor 1221)	25		U	U	U	U	U	U	U	U	U	U	U	U	U	U
PCB-1232 (Aroclor 1232)	25		U	U	U	U	U	U	U	U	U	U	U	U	U	U
PCB-1242 (Aroclor 1242)	25		U	U	U	U	U	U	U	U	U	U	U	U	U	U
PCB-1248 (Aroclor 1248)	25		U	U	U	U	U	U	U	U	U	U	U	U	U	U
PCB-1254 (Aroclor 1254)	25		U	U	U	U	U	U	U	U	U	U	U	U	U	U
PCB-1260 (Aroclor 1260)	25		U	U	U	U	U	U	U	U	U	U	U	U	U	U
PCB-1262 (Aroclor 1262)	25		U	U	U	U	U	U	U	U	U	U	U	U	U	U
PCB-1268 (Aroclor 1268)	25		U	U	U	U	U	U	U	U	U	U	U	U	U	U
Total PCBs	25		0	0	0	0	0	0	0	0	0	0	0	0	0	0

mg/kg: Milligrams per kilogram
U: Not detected
J: Estimated value or limit

TABLE F-14
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
SUBSURFACE SOIL SAMPLE RESULTS
TOTAL PETROLEUM HYDROCARBONS (TPHs)

	Sample ID	EGCMW-03	EGCMW-03	EGCMW-05	EGCMW-05	EGCMW-07	EGCMW-07	EGCSB-01	EGCSB-01	EGCSB-02	EGCSB-02	EGCSB-03	EGCSB-03	EGCSB-04	EGCSB-04
	Start Depth (feet)	15.5	8.5	8	15	9.5	16	8	18	9	15.5	14	23	12	14
CONSTITUENT	End Depth (feet)	17.5	10.5	10	17	11.5	18	10	20	11	17.5	16	25	14	16
in mg/kg	Date Collected	5/26/2011	5/26/2011	5/23/2011	5/23/2011	5/19/2011	5/19/2011	5/17/2011	5/17/2011	5/18/2011	5/18/2011	5/12/2011	5/12/2011	5/12/2011	5/12/2011
Total Petroleum Hydrocarbons		7	3	25 J	5 J	4	5	2 J	3 J	3	3 J	3 J	3 J	3	2 J

	Sample ID	EGCSB-05	EGCSB-05	EGCSB-07	EGCSB-07	EGCSB-08	EGCSB-08	EGCSB-09	EGCSB-09	EGCSB-10	EGCSB-10	EGCSB-11	EGCSB-11	EGCSB-13	EGCSB-13
	Start Depth (feet)	12	14	10	14.5	8	15	8	15	8	17.5	8	14.5	8	16
CONSTITUENT	End Depth (feet)	14	16	12	16.5	10	17	10	17	10	19.5	10	16.5	10	18
in mg/kg	Date Collected	5/13/2011	5/13/2011	5/13/2011	5/13/2011	5/20/2011	5/20/2011	5/20/2011	5/20/2011	5/17/2011	5/17/2011	5/23/2011	5/23/2011	5/20/2011	5/20/2011
Total Petroleum Hydrocarbons		77	43 J	17 J	14 J	6 J	4 J	28 J	4 J	2 J	2 J	43 J	11 J	5 J	3 J

	Sample ID	EGCSB-14	EGCSB-14	EGCSB-15	EGCSB-15	EGCSB-16	EGCSB-16	EGCSB-17	EGCSB-17	EGCSB-18	EGCSB-18	EGCSB-19	EGCSB-19	EGCTP-01	EGCTP-02
	Start Depth (feet)	8.5	14	8.5	14.5	8	15	9	14	8	16	8	16	1	1
CONSTITUENT	End Depth (feet)	10.5	16	10.5	16.5	10	17	11	16	10	18	10	18	2	2
in mg/kg	Date Collected	5/25/2011	5/25/2011	5/24/2011	5/24/2011	5/24/2011	5/24/2011	5/24/2011	5/24/2011	5/19/2011	5/19/2011	5/20/2011	5/20/2011	4/27/2011	5/10/2011
Total Petroleum Hydrocarbons		23	4	230	6	32	7	9	5	7	8	4 J	4 J	29	1501

mg/kg: Milligrams per kilogram
J: Estimated value or limit

TABLE F-15
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
GROUNDWATER SAMPLE RESULTS
VOLATILE ORGANIC COMPOUNDS

CONSTITUENT in ug/l	Sample ID Date Collected	EGCMW-01 6/8/2011	EGCMW-02 6/6/2011	EGCMW-03 6/7/2011	EGCMW-04 6/6/2011	EGCMW-05 6/6/2011	EGCMW-06 6/6/2011	EGCMW-07 6/7/2011
	New York State Class GA Groundwater Standards and Guidance Values							
1,1,1-Trichloroethane	5	U	U	U	U	U	U	U
1,1,2,2-Tetrachloroethane	5	U	U	U	U	U	U	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	5	U	U	U	U	U	U	U
1,1,2-Trichloroethane	1	U	U	U	U	U	U	U
1,1-Dichloroethane	5	U	U	U	U	U	U	U
1,1-Dichloroethene	5	U	U	U	U	U	U	U
1,2,3-Trichlorobenzene	5	U	U	U	U	U	U	U
1,2,4-Trichlorobenzene	5	U	U	U	U	U	U	U
1,2-Dibromo-3-Chloropropane	0.04	U	U	U	U	U	U	U
1,2-Dibromoethane (Ethylene Dibromide)	0.0006	U	U	U	U	U	U	U
1,2-Dichlorobenzene	3	U	U	U	U	U	U	U
1,2-Dichloroethane	0.6	U	U	U	U	U	U	U
1,2-Dichloropropane	1	U	U	U	U	U	U	U
1,3-Dichlorobenzene	3	U	U	U	U	U	U	U
1,4-Dichlorobenzene	3	U	U	U	U	U	U	U
1,4-Dioxane (p-Dioxane)	--	U	U	UJ	U	U	U	UJ
2-Hexanone	50	U	U	U	U	U	U	U
Acetone	50	U	U	UJ	U	U	U	UJ
Benzene	1	U	U	U	U	U	U	U
Bromochloromethane	5	U	U	U	U	U	U	U
Bromodichloromethane	50	U	U	U	U	U	U	U
Bromoform	50	U	U	U	U	U	U	U
Bromomethane	5	U	U	U	U	U	U	U
Carbon Disulfide	60	U	U	U	U	U	U	U
Carbon Tetrachloride	5	U	U	U	U	U	U	U
Chlorobenzene	5	U	U	U	U	U	U	U
Chloroethane	5	U	U	U	U	U	U	U
Chloroform	7	U	U	U	U	U	U	U
Chloromethane	5	U	U	U	U	U	U	U
cis-1,2-Dichloroethylene	5	U	U	U	U	U	U	U
cis-1,3-Dichloropropene	0.4	U	U	U	U	U	U	U
Cyclohexane	--	U	U	U	U	U	U	U
Dibromochloromethane	50	U	U	U	U	U	U	U
Dichlorodifluoromethane	5	U	U	U	U	U	U	U
Ethylbenzene	5	U	0.58 J	U	U	U	U	U
Isopropylbenzene (Cumene)	5	U	1.6	U	U	U	U	U
m,p-Xylene (Sum Of Isomers)	5	U	1.1 J	U	U	U	U	U
Methyl Acetate	50	U	U	U	U	U	U	U
Methyl Ethyl Ketone (2-Butanone)	50	U	U	U	U	U	U	U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	--	U	U	U	U	U	U	U
Methylcyclohexane	--	U	U	U	U	U	U	U
Methylene Chloride	5	U	U	U	U	U	U	U
o-Xylene (1,2-Dimethylbenzene)	5	U	U	U	U	U	U	U
Styrene	5	U	U	U	U	U	U	U
Tert-Butyl Methyl Ether	10	U	U	U	U	U	U	U
Tetrachloroethylene(PCE)	5	***6.1***	0.65 J	U	0.76 J	0.62 J	U	U
Toluene	5	U	U	U	U	U	U	U
Trans-1,2-Dichloroethene	5	U	U	U	U	U	U	U
Trans-1,3-Dichloropropene	0.4	U	U	U	U	U	U	U
Trichloroethylene (TCE)	5	3	U	0.98 J	U	U	U	U
Trichlorofluoromethane	5	U	U	U	U	U	1.2	U
Vinyl Chloride	2	U	U	U	U	U	U	U
Total BTEX	--	0	1.7	0	0	0	0	0
Total VOCs		9	3.9	0.98	0.76	0.62	1.2	0

ug/l: Micrograms per liter
U: Not detected
J: Estimated value or limit
--: Not available
Exceeds Class GA Groundwater Standards and Guidance Values

TABLE F-16
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
GROUNDWATER SAMPLE RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS

CONSTITUENT in ug/l	Sample ID Date Collected	EGCMW-01 6/8/2011	EGCMW-02 6/6/2011	EGCMW-03 6/7/2011	EGCMW-04 6/6/2011	EGCMW-05 6/6/2011	EGCMW-06 6/6/2011	EGCMW-07 6/7/2011
	New York State Class GA Groundwater Standards and Guidance Values							
1,2,4,5-Tetrachlorobenzene	5	U	UJ	UJ	UJ	UJ	UJ	UJ
2,3,4,6-Tetrachlorophenol	--	U	UJ	UJ	UJ	UJ	UJ	UJ
2,4,5-Trichlorophenol	1	U	U	U	U	U	U	U
2,4,6-Trichlorophenol	1	U	U	U	U	U	U	U
2,4-Dichlorophenol	5	U	U	U	U	U	U	U
2,4-Dimethylphenol	50	U	U	U	U	U	U	U
2,4-Dinitrophenol	10	UJ	U	U	U	U	U	U
2,4-Dinitrotoluene	5	U	U	U	U	U	U	U
2,6-Dinitrotoluene	5	U	U	U	U	U	U	U
2-Chloronaphthalene	10	U	U	U	U	U	U	U
2-Chlorophenol	1	U	U	U	U	U	U	U
2-Methylnaphthalene	--	U	U	U	U	U	U	U
2-Methylphenol (o-Cresol)	1	U	U	U	U	U	U	U
2-Nitroaniline	5	U	U	U	U	U	U	U
2-Nitrophenol	1	U	U	U	U	U	U	U
3,3'-Dichlorobenzidine	5	U	U	U	U	U	U	U
3-Nitroaniline	5	U	U	U	U	U	U	U
4,6-Dinitro-2-Methylphenol	--	UJ	U	U	U	U	U	U
4-Bromophenyl Phenyl Ether	--	U	U	U	U	U	U	U
4-Chloro-3-Methylphenol	1	U	U	U	U	U	U	U
4-Chloroaniline	5	U	U	U	U	U	U	U
4-Nitroaniline	5	U	U	U	U	U	U	U
4-Nitrophenol	1	U	U	U	U	U	U	U
Acenaphthene	20	U	U	U	U	U	U	U
Acenaphthylene	--	U	U	U	U	U	U	U
Acetophenone	--	U	U	U	U	U	U	U
Anthracene	50	U	U	U	U	U	U	U
Atrazine	7.5	U	U	U	U	U	U	U
Benzaldehyde	--	U	UJ	UJ	UJ	UJ	UJ	UJ
Benzo(a)Anthracene	0.002	U	U	U	U	U	U	U
Benzo(a)Pyrene	--	U	U	U	U	U	U	U
Benzo(b)Fluoranthene	0.002	U	U	U	U	U	U	U
Benzo(g,h,i)Perylene	--	U	U	U	U	U	U	U
Benzo(k)Fluoranthene	0.002	U	U	U	U	U	U	U
Benzyl Butyl Phthalate	50	U	U	U	U	U	U	U
Biphenyl (Diphenyl)	5	U	U	U	U	U	U	U
Bis(2-Chloroethoxy) Methane	5	U	U	U	U	U	U	U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Ether)	1	U	U	U	U	U	U	U
Bis(2-Chloroisopropyl) Ether	--	U	U	U	U	U	U	U
Bis(2-Ethylhexyl) Phthalate	5	U	U	U	U	U	U	U
Caprolactam	--	U	U	U	U	U	U	U
Carbazole	--	U	U	U	U	U	U	U
Chrysene	0.002	U	U	U	U	U	U	U
Cresols, m & p	--	U	U	U	U	U	U	U
Dibenz(a,h)Anthracene	--	U	U	U	U	U	U	U
Dibenzofuran	--	U	U	U	U	U	U	U
Diethyl Phthalate	50	U	U	U	U	U	U	U
Dimethyl Phthalate	50	U	U	U	U	U	U	U
Di-N-Butyl Phthalate	50	U	U	U	U	U	U	U
Di-N-Octylphthalate	50	U	U	U	U	U	U	U
Fluoranthene	50	U	U	U	U	U	U	U
Fluorene	50	U	U	U	U	U	U	U
Hexachlorobutadiene	0.5	U	U	U	U	U	U	U
Hexachlorocyclopentadiene	5	U	U	U	U	U	U	U
Hexachloroethane	5	U	U	U	U	U	U	U
Indeno(1,2,3-c,d)Pyrene	0.002	U	U	U	U	U	U	U
Isophorone	50	U	U	U	U	U	U	U
Naphthalene	10	U	U	U	U	U	U	U
Nitrobenzene	0.4	U	U	U	U	U	U	U
N-Nitrosodi-N-Propylamine	--	U	U	U	U	U	U	U
N-Nitrosodiphenylamine	50	U	U	U	U	U	U	U
Pentachlorophenol	1	U	U	U	U	U	U	U
Phenanthrene	50	U	U	U	U	U	U	U
Phenol	1	U	U	U	U	U	U	U
Pyrene	50	U	U	U	U	U	U	U
Total PAHs	--	0	0	0	0	0	0	0
Total SVOCs	--	0	0	0	0	0	0	0

ug/l: Micrograms per liter
U: Not detected
--: Not available

TABLE F-17
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
GROUNDWATER SAMPLE RESULTS
TARGET ANALYTE LIST (TAL) METALS + CYANIDE

CONSTITUENT in ug/l	Sample ID Date Collected	EGCMW-01 6/8/2011	EGCMW-02 6/6/2011	EGCMW-02 9/9/2011	EGCMW-03 6/7/2011	EGCMW-04 6/6/2011	EGCMW-05 6/6/2011	EGCMW-06 6/6/2011	EGCMW-06 9/9/2011	EGCMW-07 6/7/2011	EGCMW-07 9/9/2011
	New York State Class GA Groundwater Standards and Guidance Values										
Aluminum	--	1,210	192	--	368	1,460 J	2,170 J	177 J	--	2,080	--
Antimony	3	U	U	--	U	U	U	U	--	U	--
Arsenic	25	U	4.41 J	--	U	4.53 J	U	U	--	U	--
Barium	1,000	32.2 J	248	--	31.8 J	201	103	24.3 J	--	23.5 J	--
Beryllium	3	U	U	--	U	U	U	U	--	U	--
Cadmium	5	U	U	--	U	U	U	U	--	U	--
Calcium	--	27,600	58,100	--	36,700	122,000	21,600	63,800	--	15,600	--
Chromium, Total	50	2.6 J	U	--	U	2.12 J	U	U	--	U	--
Cobalt	--	U	U	--	U	U	U	U	--	U	--
Copper	200	2.07 J	U	--	2.69 J	U	U	U	--	4.15 J	--
Iron	300	***1,170***	***442***	--	***607***	***1,460***	***1,600***	***999***	--	***3,260***	--
Lead	25	3.55 J	4.77 J	--	U	3.53 J	5.09 J	5.44 J	--	U	--
Magnesium	35,000	4,120	6,060 J	--	6,240	23,700 J	5,130 J	10,600 J	--	3,600	--
Manganese	300	15.5	***354 J***	--	125	26.2 J	103 J	21.4 J	--	***345***	--
Mercury	0.7	U	0.14 J	--	0.16 J	U	U	U	--	U	--
Nickel	100	5.77 J	7.55 J	--	U	7.06 J	U	U	--	U	--
Potassium	--	2,490	7,180	--	2,020	17,100	3,280	2,440	--	1,260	--
Selenium	10	6.46 J	U	--	5.24 J	U	U	U	--	UJ	--
Silver	50	U	U	--	U	U	U	U	--	U	--
Sodium	20,000	***58,700 J***	***227,000***	--	5,450 J	***300,000***	***51,700***	U	--	7,080 J	--
Thallium	0.5	U	U	--	U	U	U	U	--	U	--
Vanadium	--	U	U	--	U	U	U	U	--	U	--
Zinc	2,000	9.28 J	UJ	--	9.94 J	UJ	UJ	UJ	--	24.3	--
Total Cyanide	200	U	U	U	14	6	13	***972 D***	***1,590***	17	27
Free Cyanide	--	--	--	5.68 J	--	--	--	--	46.4	--	5.94

ug/l: Micrograms per liter
U: Not detected
J: Estimated value
D: Detected at a secondary dilution
--: Not available or not analyzed
Exceeds Glass GA Groundwater Standards and Guidance Values

TABLE F-18
NATIONAL GRID
EAST GARDEN CITY FORMER HOLDER STATION
SITE CHARACTERIZATION
GROUNDWATER SAMPLE RESULTS
POLYCHLORINATED BIPHENYLS (PCBs)

CONSTITUENT in ug/l	Sample ID Date Collected	EGCMW-01 6/8/2011	EGCMW-02 6/6/2011	EGCMW-03 6/7/2011	EGCMW-04 6/6/2011	EGCMW-05 6/6/2011	EGCMW-06 6/6/2011	EGCMW-07 6/7/2011
	New York State Class GA Groundwater Standards and Guidance Values							
PCB-1016 (Aroclor 1016)	0.09	U	U	U	U	U	U	U
PCB-1221 (Aroclor 1221)	0.09	U	U	U	U	U	U	U
PCB-1232 (Aroclor 1232)	0.09	U	U	U	U	U	U	U
PCB-1242 (Aroclor 1242)	0.09	U	U	U	U	U	U	U
PCB-1248 (Aroclor 1248)	0.09	U	U	U	U	U	U	U
PCB-1254 (Aroclor 1254)	0.09	U	U	U	U	U	U	U
PCB-1260 (Aroclor 1260)	0.09	U	U	U	U	U	U	U
PCB-1262 (Aroclor 1262)	0.09	U	U	U	U	U	U	U
PCB-1268 (Aroclor 1268)	0.09	U	U	U	U	U	U	U
Total PCBs	0.09	0	0	0	0	0	0	0

ug/l: Micrograms per liter
U: Not detected
--: Not available

APPENDIX G

DATA VALIDATION CHECKLISTS

DATA VALIDATION CHECKLIST

Project Name:	National Grid- East Garden City
Project Number:	3008-C04
Sample Date(s):	September 9, 2011
Sample Team:	Paul Barusich
Matrix/Number of Samples:	Water: 3 Field Duplicates/ 0 Trip Blanks / 0 Field Blanks/ 0
Analyzing Laboratory:	META Environmental, Inc,Watertown, MA.
Analyses:	Free and Total Cyanide by SW846 Method 9016C
Laboratory Report No:	DB110913 Date:9/20/2011

ANALYTICAL DATA PACKAGE DOCUMENTATION GENERAL INFORMATION

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Sample results		X		X	
2. Parameters analyzed		X		X	
3. Method of analysis		X		X	
4. Sample collection date		X		X	
5. Laboratory sample received date		X		X	
6. Sample analysis date		X		X	
7. Copy of chain-of-custody form signed by Lab sample custodian		X		X	
8. Narrative summary of QA or sample problems provided		X		X	

QA - quality assurance

Comments:

The data packages have been reviewed in accordance with the NYSDEC 6/05 ASP Quality Assurance/ Quality Control (QA/QC) requirements. A validation was conducted on the data package and any applicable qualification of the data was determined using the USEPA National Functional Guidelines of Inorganic Data Review, January 2010, method performance criteria, and Dvirka and Bartilucci Consulting Engineers, a Division of William F. Cosulich Associates, P.C. professional judgment. The qualification of data discussed within this data validation checklist did not impact the usability of the sample results.

Custody Numbers: DB110913
SAMPLE AND ANALYSIS LIST

Sample ID	Lab ID	Sample Collection Date	Parent Sample	Analysis				
				Cyanide	SVOC	PCB	MET	TPH
EGCMW-06	DB110913-01	9/9/2011		X				
EGCMW-07	DB110913-02	9/9/2011		X				
EGCMW-02	DB110913-03	9/9/2011		X				

INORGANIC ANALYSES
Metals & Cyanide

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Preparation and calibration blanks		X		X	
B. Field blanks					X
3. Spike sample %R		X		X	
4. Duplicate %RPD		X	X		

%R - percent recovery %D - percent difference RPD - relative percent difference

Comments:
Performance was acceptable, with the following exception:

10. The free cyanide RPD was above QC limits in the duplicate sample associated with sample EGCMW-02 and was qualified as estimated (J) in the sample.

DATA VALIDATION AND QUALIFICATION SUMMARY

Laboratory Numbers:DB110913

Sample ID	Analyte(s)	Qualifier	Reason(s)
Cyanide			
EGCMW-02	Free Cyanide	J	RPD was above QC limits in the duplicate sample

VALIDATION PERFORMED BY & DATE:	Donna M. Brown 06/30/2011
VALIDATION PERFORMED BY SIGNATURE:	

DATA VALIDATION CHECKLIST

Project Name:	National Grid- East Garden City
Project Number:	3008-C04
Sample Date(s):	April 25, 2011
Sample Team:	Paul Barusich
Matrix/Number of Samples:	Soil/ 13 Field Duplicates/ 1 Trip Blanks / 0 Field Blanks/ 1
Analyzing Laboratory:	Chemtech, Mountainside, New Jersey
Analyses:	Semi volatile organic compounds (SVOCs), by USEPA method SW846 8270C Polychlorinated biphenyl (PCBs) by USEPA SW846 Method 8082 Total petroleum hydrocarbons (TPH) by USEPA SW846 Method 8100 Metals by SW846 Method 6010B and mercury (Hg) by Method 7470A/7471A Cyanide by SW846 Method 9012
Laboratory Report No:	C1993 Date:5/11/2011

ANALYTICAL DATA PACKAGE DOCUMENTATION GENERAL INFORMATION

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Sample results		X		X	
2. Parameters analyzed		X		X	
3. Method of analysis		X		X	
4. Sample collection date		X		X	
5. Laboratory sample received date		X		X	
6. Sample analysis date		X		X	
7. Copy of chain-of-custody form signed by Lab sample custodian		X		X	
8. Narrative summary of QA or sample problems provided		X		X	

QA - quality assurance

Comments:

The data packages have been reviewed in accordance with the NYSDEC 6/05 ASP Quality Assurance/ Quality Control (QA/QC) requirements. A validation was conducted on the data package and any applicable qualification of the data was determined using the USEPA National Functional Guidelines of June 2008, or USEPA National Functional Guidelines of Inorganic Data Review, January 2010, method performance criteria, and Dvirka and Bartilucci Consulting Engineers, a Division of William F. Cosulich Associates, P.C. professional judgment. The qualification of data discussed within this data validation checklist did not impact the usability of the sample results.

Custody Numbers:C1993
SAMPLE AND ANALYSIS LIST

Sample ID	Lab ID	Sample Collection Date	Parent Sample	Analysis				
				VOC	SVOC	PCB	MET	TPH
EGCSS-01	C1993-01	4/25/2011			x	x	x	x
EGCSS-02	C1993-02	4/25/2011			x	x	x	x
EGCSS-03	C1993-05	4/25/2011			x	x	x	x
FIELD BLANK	C1993-06	4/25/2011			x	x	x	x
EGCSS-04	C1993-07	4/25/2011			x	x	x	x
EGCSS-05	C1993-08	4/25/2011			x	x	x	x
EGCSS-06	C1993-09	4/25/2011			x	x	x	x
EGCSS-07	C1993-10	4/25/2011			x	x	x	x
EGCSS-08	C1993-11	4/25/2011			x	x	x	x
FIELD DUPLICATE	C1993-12	4/25/2011	EGCSS-03		x	x	x	x
EGCSS-13	C1993-13	4/25/2011			x	x	x	x
EGCSS-09	C1993-14	4/25/2011			x	x	x	x
EGCSS-11	C1993-15	4/25/2011			x	x	x	x
EGCSS-10	C1993-16	4/25/2011			x	x	x	x
EGCSS-12	C1993-17	4/25/2011			x	x	x	x

ORGANIC ANALYSES
SVOCS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X	X		
B. Field blanks		X		X	
3. Matrix spike (MS) %R		X	X		
4. Matrix spike duplicate (MSD) %R		X	X		
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X	X		
7. Surrogate spike recoveries		X	X		
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD		X		X	
14. Tentatively Identified Compounds (TICs)		X		X	

SVOCs –Semi- volatile organic compounds %D - percent difference RRF - relative response factor
%R - percent recovery %RSD - percent relative standard deviation RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

2A. Dimethylphthalate was detected in the method blank associated with all samples. Dimethylphthalate was qualified as non-detect (U) in samples EGCSS-07 and EGCSS-12 (reanalysis).

3-6. The benzaldehyde %R was below the QC limit in the MS, MSD and laboratory control sample associated with all samples and the RPD was above the QC limit in the MS/MSD. The %Rs for 1,2,4,5-tetrachlorobenzene and 2,3,4,6-tetrachlorophenol and naphthalene were above the QC limit in the MS and /or MSD associated with all samples. Benzaldehyde was qualified as estimated (UJ) in all samples.

7. The following samples had surrogates below QC limits: EGCSS-02 (Nitrobenzene-d5), EGCSS-05(2-Fluorophenol and Nitrobenzene-d5) and EGCSS-12 (2-Fluorophenol, Nitrobenzene-d5, and Phenol-d5). Sample EGCSS-12 was reanalyzed and all surrogates were within QC limit, therefore, the reanalysis was reported. The following compounds were qualified as estimated (J/UJ) in EGCSS-02 and EGCSS-05: nitrobenzene, isophorone 2-nitrophenol, 2,4-dimethylphenol, bis(2-chloroethoxy)methane, 2,4-dichlorophenol, naphthalene, 4-chloroaniline, hexachlorobutadiene, caprolactam, 4-chloro-3-methylphenol, 2-methylnaphthalene, 1,2,4,5-tetrachlorobenzene and hexachlorocyclopentadiene.

ORGANIC ANALYSES
PCBs

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Field blanks		X		X	
3. Matrix spike (MS) %R		X		X	
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X		X	
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X	X		
8. GC Surrogate retention time summary		X		X	
9. Initial calibration %RSD's		X		X	
10. Continuing calibration %D's		X		X	
11. Transcriptions – quant report vs. Form I		X		X	
12. Identification summary		X	X		
13. Field duplicates RPD		X		X	

PCBs – Polychlorinated Biphenyls
%R - percent recovery
%D - percent difference
%RSD - percent relative standard deviation
RRF - relative response factor
RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

7. A surrogate %R was below QC limits associated with sample EGCSS-03. PCBs were qualified as estimated (UJ) in sample EGCSS-03.

12. Duel column conformation %D for Aroclor-1260 was above 25% and qualified by the laboratory with a "P" in sample EGCSS-12. Aroclor-1260 was qualified as estimated (J) in sample EGCSS-12.

ORGANIC ANALYSES
TPH

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Field blank		X		X	
3. Matrix spike (MS) %R					X
4. Matrix spike duplicate (MSD) %R					X
5. MS/MSD precision (RPD)					X
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X		X	
8. Initial calibration RRF's and %RSD's		X		X	
9. Continuing calibration RRF's and %D's		X		X	
10. Transcriptions – quant report vs. Form I		X		X	
11. Field duplicates RPD		X	X		

%D - percent difference
%R - percent recovery
RRF - relative response factor
%RSD - percent relative standard deviation
RPD - relative percent difference

Comments:
Performance was acceptable, with the following exception:

11. Sample EGCSS-03 was field duplicated and labeled FIELD DUPLICATE. TPH was qualified as estimated (J) in samples EGCSS-03 and FIELD DUPLICATE due a high RPD.

INORGANIC ANALYSES
Metals & Cyanide

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Preparation and calibration blanks		X	X		
B. Field blanks		X		X	
3. Initial calibration verification %R		X		X	
4. Continuing calibration verification %R		X		X	
5. CRDL standard %R		X		X	
6. Interference check sample %R		X		X	
7. Laboratory control sample %R		X		X	
8. Spike sample %R		X		X	
9. Post digestive spike sample %R					X
10. Duplicate %RPD		X	X		
11. Serial dilution check %D		X	X		
12. Total verse dissolved results					X
13. Field duplicates RPD		X		X	

%R - percent recovery %D - percent difference RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

2A. Cyanide was detected in the preparation blanks. Cyanide was detected at less than ten times the concentration found in the blanks and less than the contract required detection limit, therefore, qualified as non-detect (U) in samples EGCSS-01, EGCSS-03, EGCSS-04, EGCSS-05, EGCSS-07, EGCSS-11 and EGCSS-12.

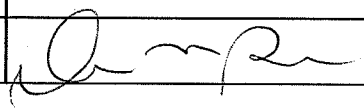
10. The mercury RPD was above QC limits in the duplicate sample associated with samples EGCSS-10 and EGCSS-12. The sodium RPD was above QC limits in the duplicate sample associated with all samples. These metals were qualified as estimated (J/UJ) in associated samples.

11. Chromium and mercury were above the QC limit of 10 % for the serial dilution check sample associated with samples EGCSS-09, EGCSS-10, EGCSS-11, EGCSS-12 and EGCSS-13. Manganese was above the QC limit of 10 % for the serial dilution check sample associated with samples EGCSS-01, EGCSS-02, EGCSS-03, EGCSS-04, EGCSS-05, EGCSS-06, EGCSS-07, EGCSS-08 and FIELD DUPLICATE. These metals were qualified as estimated (J/UJ) in associated samples.

DATA VALIDATION AND QUALIFICATION SUMMARY **Laboratory Numbers:C1993**

Sample ID	Analyte(s)	Qualifier	Reason(s)
SVOCs			
EGCSS-07 and EGCSS-12 (reanalysis).	Dimethylphthalate	U	Detected in the method blank
All samples	Benzaldehyde	UJ	%R was below the QC limit in the MS, MSD and laboratory control sample
EGCSS-12	All SVOCs report from reanalysis		Surrogate below in original analysis all good in reanalysis.
EGCSS-02 and EGCSS-05	Nitrobenzene, isophorone 2-nitrophenol, 2,4-dimethylphenol, bis(2-chloroethoxy)methane, 2,4-dichlorophenol, naphthalene, 4-chloroaniline, hexachlorobutadiene, caprolactam, 4-chloro-3-methylphenol, 2-methylnaphthalene, 1,2,4,5-tetrachlorobenzene and hexachlorocyclopentadiene	J/UJ	Surrogates below QC limits
PCBs			
EGCSS-03	All PCBs	UJ	Surrogates below QC limits
EGCSS-12	Aroclor-1260 with "P" qualifier	J	Duel column conformation %D was above 25%
TPH			
EGCSS-03 and FIELD DUPLICATE	TPH	J	Field duplicated high RPD
Metals & Cyanide			
EGCSS-01, EGCSS-03, EGCSS-04, EGCSS-05, EGCSS-07, EGCSS-11 and EGCSS-12.	Cyanide	U	Detected in the preparation blanks
EGCSS-10 and EGCSS-12	Mercury	J/UJ	RPD was above QC limits in the duplicate sample

Sample ID	Analyte(s)	Qualifier	Reason(s)
Metals & Cyanide continued			
All samples	Sodium	J/UJ	RPD was above QC limits in the duplicate sample
EGCSS-09, EGCSS-10, EGCSS-11, EGCSS-12 and EGCSS-13	Chromium and mercury	J/UJ	%Ds were above the QC limit of 10% for the serial dilution check sample
EGCSS-01, EGCSS-02, EGCSS-03, EGCSS-04, EGCSS-05, EGCSS-06, EGCSS-07, EGCSS-08 and FIELD DUPLICATE	Manganese	J/UJ	%Ds were above the QC limit of 10% for the serial dilution check sample

VALIDATION PERFORMED BY & DATE:	Donna M. Brown 06/30/2011
VALIDATION PERFORMED BY SIGNATURE:	

DATA VALIDATION CHECKLIST

Project Name:	National Grid- East Garden City
Project Number:	3008-C04
Sample Date(s):	April 27, 2011
Sample Team:	Paul Barusich
Matrix/Number of Samples:	Soil/ 2 Field Duplicates/ 0 Trip Blanks / 0 Field Blanks/ 0
Analyzing Laboratory:	Chemtech, Mountainside, New Jersey
Analyses:	Volatile organic compounds (VOCs), by USEPA method SW846 8260B Semi volatile organic compounds (SVOCs), by USEPA method SW846 8270C Polychlorinated biphenyl (PCBs) by USEPA SW846 Method 8082 Total petroleum hydrocarbons (TPH) by USEPA SW846 Method 8100 Metals by SW846 Method 6010B and mercury (Hg) by Method 7471A Cyanide by SW846 Method 9012
Laboratory Report No:	C2019 Date:5/13/2011

ANALYTICAL DATA PACKAGE DOCUMENTATION GENERAL INFORMATION

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Sample results		X		X	
2. Parameters analyzed		X		X	
3. Method of analysis		X		X	
4. Sample collection date		X		X	
5. Laboratory sample received date		X		X	
6. Sample analysis date		X		X	
7. Copy of chain-of-custody form signed by Lab sample custodian		X		X	
8. Narrative summary of QA or sample problems provided		X		X	

QA - quality assurance

Comments:

The data packages have been reviewed in accordance with the NYSDEC 6/05 ASP Quality Assurance/ Quality Control (QA/QC) requirements. A validation was conducted on the data package and any applicable qualification of the data was determined using the USEPA National Functional Guidelines of June 2008, or USEPA National Functional Guidelines of Inorganic Data Review, January 2010, method performance criteria, and Dvirka and Bartilucci Consulting Engineers, a Division of William F. Cosulich Associates, P.C. professional judgment. The qualification of data discussed within this data validation checklist did not impact the usability of the sample results.

Custody Numbers:C2019
SAMPLE AND ANALYSIS LIST

Sample ID	Lab ID	Sample Collection Date	Parent Sample	Analysis				
				VOC	SVOC	PCB	MET	TPH
EGCTP-01(1-2)	C2019-01	4/27/2011		x	x	x	x	x
EGCHFD-01(0-1)	C2019-02	4/27/2011		x	x	x	x	x

ORGANIC ANALYSES
VOCS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X	X		
B. Trip blanks					X
C. Field blanks					X
3. Matrix spike (MS) %R		X	X		
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X		X	
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X	X		
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD					X
14. Tentatively Identified Compounds (TICs)		X		X	

VOCs - volatile organic compounds %D - percent difference RRF - relative response factor
%R - percent recovery %RSD - percent relative standard deviation RPD - relative percent difference

Comments:
Performance was acceptable with the following exceptions:

2A. Methylene chloride was detected in the method blank associated with all samples. Methylene chloride was qualified as non-detect (U) in all samples.

3. 1,4-Dioxane had %R below the QC in the MS and was not detected in the associated samples, therefore, qualification of the data was not necessary

11. The bromochloromethane %D was above QC limits in the continuing calibration and qualified as estimated (UJ) in all samples.

ORGANIC ANALYSES
SVOCS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X	X		
B. Field blanks					X
3. Matrix spike (MS) %R		X	X		
4. Matrix spike duplicate (MSD) %R		X	X		
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X	X		
7. Surrogate spike recoveries		X	X		
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD					X
14. Tentatively Identified Compounds (TICs)		X		X	

SVOCs –Semi- volatile organic compounds %D - percent difference RRF - relative response factor
%R - percent recovery %RSD - percent relative standard deviation RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

2A. Dimethylphthalate were detected in the method blank and was not detected in the associated samples, therefore, qualification of the data was not necessary.

3-6. The benzaldehyde %R was below the QC limit in the MS, MSD and laboratory control sample associated with all samples and the RPD was above the QC limit in the MS/MSD. The RPD for 2,4-dinitrophenol was above the QC limit in the MS/MSD associated with all samples and not detected. Benzaldehyde was qualified as estimated (UJ) in all samples.

7. Numerous surrogates were above the QC limits in EGCHFD-01(0-1) dilution. Only phenanthrene was reported from sample EGCHFD-01(0-1) dilution and it was qualified as estimated (J).

12. Sample results associated with compound that exhibited a concentration greater than the linear range of the instrument calibration are summarized in the following table.

Sample ID	Compound	Original Analysis	Diluted Analysis	Reported Analysis
EGCHFD-01(0-1)	Phenanthrene	960000 E	2000000 D	2000000 D

ORGANIC ANALYSES
PCBs

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Field blanks					X
3. Matrix spike (MS) %R		X	X		
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X	X		
8. GC Surrogate retention time summary		X		X	
9. Initial calibration %RSD's		X		X	
10. Continuing calibration %D's		X		X	
11. Transcriptions – quant report vs. Form I		X		X	
12. Identification summary		X		X	
13. Field duplicates RPD					X

PCBs – Polychlorinated Biphenyls
%R - percent recovery
%D - percent difference
%RSD - percent relative standard deviation
RRF - relative response factor
RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

3&5. The Aroclor 1260 %R was below the QC limit in the MS and RPD was above the QC limits in the MS/MSD and was not detected in the associated samples, therefore, qualification of the data was not necessary.

7. A surrogate %R was above QC limits associated with sample EGCHDP-01(0-1) and the reanalysis. PCBs were not detected in either analysis for sample EGCHDP-01(0-1) and the original analysis was reported with no qualification of the data necessary.

ORGANIC ANALYSES
TPH

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Field blank					X
3. Matrix spike (MS) %R					X
4. Matrix spike duplicate (MSD) %R					X
5. MS/MSD precision (RPD)					X
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X		X	
8. Initial calibration RRF's and %RSD's		X		X	
9. Continuing calibration RRF's and %D's		X		X	
10. Transcriptions – quant report vs. Form I		X		X	
11. Field duplicates RPD					X

%D - percent difference
%R - percent recovery
RRF - relative response factor
%RSD - percent relative standard deviation
RPD - relative percent difference

Comments:
Performance was acceptable.

INORGANIC ANALYSES
Metals & Cyanide

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Preparation and calibration blanks		X		X	
B. Field blanks					X
3. Initial calibration verification %R		X		X	
4. Continuing calibration verification %R		X		X	
5. CRDL standard %R		X		X	
6. Interference check sample %R		X		X	
7. Laboratory control sample %R		X		X	
8. Spike sample %R		X		X	
9. Post digestive spike sample %R					X
10. Duplicate %RPD		X		X	
11. Serial dilution check %D		X		X	
12. Total verse dissolved results					X
13. Field duplicates RPD					X

%R - percent recovery %D - percent difference RPD - relative percent difference

Comments:
Performance was acceptable.

DATA VALIDATION AND QUALIFICATION SUMMARY

Laboratory Numbers:C2019

Sample ID	Analyte(s)	Qualifier	Reason(s)
VOCs			
All samples	Methylene chloride	U	Detected in the method blank
All samples	Bromochloromethane	UJ	%D was above QC limits in the continuing calibration
SVOCs			
All samples	Benzaldehyde	UJ	%R was below the QC limit in the MS, MSD and laboratory control sample
EGCHFD-01(0-1)	Phenanthrene	DJ	Report dilution and qualified (J) based on surrogates
PCBs			
No qualification of the data was necessary.			
TPH			
No qualification of the data was necessary.			
Metals & Cyanide			
No qualification of the data was necessary.			

VALIDATION PERFORMED BY & DATE:	Donna M. Brown 07/5/2011
VALIDATION PERFORMED BY SIGNATURE:	

DATA VALIDATION CHECKLIST

Project Name:	National Grid- East Garden City
Project Number:	3008-C04
Sample Date(s):	May 10, 2011
Sample Team:	Paul Barusich
Matrix/Number of Samples:	Soil/ 1 Field Duplicates/ 0 Trip Blanks / 0 Field Blanks/ 0
Analyzing Laboratory:	Chemtech, Mountainside, New Jersey
Analyses:	Volatile organic compounds (VOCs), by USEPA method SW846 8260B Semi volatile organic compounds (SVOCs), by USEPA method SW846 8270C Polychlorinated biphenyl (PCBs) by USEPA SW846 Method 8082 Total petroleum hydrocarbons (TPH) by USEPA SW846 Method 8100 Metals by SW846 Method 6010B and mercury (Hg) by Method 7470A/7471A Cyanide by SW846 Method 9012
Laboratory Report No:	C2201 Date:5/26/2011

ANALYTICAL DATA PACKAGE DOCUMENTATION GENERAL INFORMATION

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Sample results		X		X	
2. Parameters analyzed		X		X	
3. Method of analysis		X		X	
4. Sample collection date		X		X	
5. Laboratory sample received date		X		X	
6. Sample analysis date		X		X	
7. Copy of chain-of-custody form signed by Lab sample custodian		X		X	
8. Narrative summary of QA or sample problems provided		X		X	

QA - quality assurance

Comments:

The data packages have been reviewed in accordance with the NYSDEC 6/05 ASP Quality Assurance/ Quality Control (QA/QC) requirements. A validation was conducted on the data package and any applicable qualification of the data was determined using the USEPA National Functional Guidelines of June 2008, or USEPA National Functional Guidelines of Inorganic Data Review, January 2010, method performance criteria, and Dvirka and Bartilucci Consulting Engineers, a Division of William F. Cosulich Associates, P.C. professional judgment. The qualification of data discussed within this data validation checklist did not impact the usability of the sample results.

Custody Numbers:C2201
SAMPLE AND ANALYSIS LIST

Sample ID	Lab ID	Sample Collection Date	Parent Sample	Analysis				
				VOC	SVOC	PCB	MET	TPH
EGCTP-02(1-2)	C2201-01	5/10/2011		x	x	x	x	x

ORGANIC ANALYSES
VOCS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Trip blanks					X
C. Field blanks					X
3. Matrix spike (MS) %R		X		X	
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X		X	
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD					X
14. Tentatively Identified Compounds (TICs)		X		X	

VOCs - volatile organic compounds
%D - percent difference
RRF - relative response factor
%R - percent recovery
%RSD - percent relative standard deviation
RPD - relative percent difference

Comments:
Performance was acceptable.

ORGANIC ANALYSES
SVOCS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X	X		
B. Field blanks					X
3. Matrix spike (MS) %R		X	X		
4. Matrix spike duplicate (MSD) %R		X	X		
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X	X		
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD					X
14. Tentatively Identified Compounds (TICs)					X

SVOCs –Semi- volatile organic compounds %D - percent difference RRF - relative response factor
%R - percent recovery %RSD - percent relative standard deviation RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

2A. Dimethylphthalate was detected in the method blank associated with all samples. Dimethylphthalate was qualified as non-detect (U) in sample EGCTP-02(1-2).

3-6. The benzaldehyde %R was below the QC limit in the MS, MSD and laboratory control sample associated with all samples and the RPD was above the QC limit in the MS/MSD. The RPD for 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, 4-chloroaniline, benzaldehyde, fluoranthene and pyrene were above the QC limit in the MS/MSD associated with all samples and not detected. Benzaldehyde, fluoranthene and pyrene was qualified as estimated (J/UJ) in sample EGCTP-02(1-2).

12. Sample results associated with compound that exhibited a concentration greater than the linear range of the instrument calibration are summarized in the following table.

Sample ID	Compound	Original Analysis	Diluted Analysis	Reported Analysis
EGCTP-02(1-2)	Pyrene	21000 E	24000 D	24000 D

ORGANIC ANALYSES
PCBs

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Field blanks					X
3. Matrix spike (MS) %R		X		X	
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X	X		
8. GC Surrogate retention time summary		X		X	
9. Initial calibration %RSD's		X		X	
10. Continuing calibration %D's		X		X	
11. Transcriptions – quant report vs. Form I		X		X	
12. Identification summary		X		X	
13. Field duplicates RPD					X

PCBs – Polychlorinated Biphenyls
%R - percent recovery
%D - percent difference
%RSD - percent relative standard deviation
RRF - relative response factor
RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

5. The Aroclor 1016 RPD was above the QC limits in the MS/MSD and was not detected in the associated sample, therefore, qualification of the data was not necessary.

7. A surrogate %R was above QC limits associated with sample EGCTP-02(1-2). PCBs were not detected in sample EGCTP-02(1-2), therefore, no qualification of the data necessary.

ORGANIC ANALYSES
TPH

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Field blank					X
3. Matrix spike (MS) %R		X		X	
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X		X	
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X		X	
8. Initial calibration RRF's and %RSD's		X		X	
9. Continuing calibration RRF's and %D's		X		X	
10. Transcriptions – quant report vs. Form I		X		X	
11. Field duplicates RPD					X

%D - percent difference
%R - percent recovery
RRF - relative response factor
%RSD - percent relative standard deviation
RPD - relative percent difference

Comments:
Performance was acceptable.

INORGANIC ANALYSES
Metals & Cyanide

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Preparation and calibration blanks		X		X	
B. Field blanks					X
3. Initial calibration verification %R		X		X	
4. Continuing calibration verification %R		X		X	
5. CRDL standard %R		X	X		
6. Interference check sample %R		X		X	
7. Laboratory control sample %R		X		X	
8. Spike sample %R		X		X	
9. Post digestive spike sample %R					X
10. Duplicate %RPD		X	X		
11. Serial dilution check %D		X		X	
12. Total verse dissolved results					X
13. Field duplicates RPD					X

%R - percent recovery %D - percent difference RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

5. The arsenic %R was below and lead and selenium %Rs were above the QC limits in the CRDL standard. Arsenic was qualified as estimated (J) in sample EGCTP-02(1-2).

10. The sodium RPD was above the QC limit of 20% for the laboratory duplicate associated the sample. Sodium was qualified as estimated (J) in sample EGCTP-02(1-2).

DATA VALIDATION AND QUALIFICATION SUMMARY

Laboratory Numbers:C2201

Sample ID	Analyte(s)	Qualifier	Reason(s)
VOCs			
No qualification of the data was necessary.			
SVOCs			
EGCTP-02(1-2)	Dimethylphthalate	U	Detected in the method blank
EGCTP-02(1-2)	Fluoranthene and pyrene	J	RPDs were above the QC limit in the MS/MSD
EGCTP-02(1-2)	Benzaldehyde	UJ	%R was below the QC limit in the MS, MSD and laboratory control sample
EGCTP-02(1-2)	Pyrene	D	Report dilution
PCBs			
No qualification of the data was necessary.			
TPH			
No qualification of the data was necessary.			
Metals & Cyanide			
EGCTP-02(1-2)	Arsenic	J	%R was below in the CRDL standard
EGCTP-02(1-2)	Sodium	J	RPD was above the QC limit of 20% for the laboratory duplicate

VALIDATION PERFORMED BY & DATE:	Donna M. Brown 07/5/2011
VALIDATION PERFORMED BY SIGNATURE:	

DATA VALIDATION CHECKLIST

Project Name:	National Grid- East Garden City
Project Number:	3008-C04
Sample Date(s):	May 12, 2011
Sample Team:	Paul Barusich
Matrix/Number of Samples:	Soil/ 4 Field Duplicates/ 1 Trip Blanks / 0 Field Blanks/ 1
Analyzing Laboratory:	Chemtech, Mountainside, New Jersey
Analyses:	Volatile organic compounds (VOCs), by USEPA method SW846 8260B Semi volatile organic compounds (SVOCs), by USEPA method SW846 8270C Polychlorinated biphenyl (PCBs) by USEPA SW846 Method 8082 Total petroleum hydrocarbons (TPH) by USEPA SW846 Method 8015B and Fingerprint by USEPA SW846 Method 8015 Metals by SW846 Method 6010B and mercury (Hg) by Method 7470A/7471A Cyanide by SW846 Method 9012
Laboratory Report No:	C2222 Date:5/31/2011

ANALYTICAL DATA PACKAGE DOCUMENTATION GENERAL INFORMATION

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Sample results		X		X	
2. Parameters analyzed		X		X	
3. Method of analysis		X		X	
4. Sample collection date		X		X	
5. Laboratory sample received date		X		X	
6. Sample analysis date		X		X	
7. Copy of chain-of-custody form signed by Lab sample custodian		X		X	
8. Narrative summary of QA or sample problems provided		X		X	

QA - quality assurance

Comments:

The data packages have been reviewed in accordance with the NYSDEC 6/05 ASP Quality Assurance/ Quality Control (QA/QC) requirements. A validation was conducted on the data package and any applicable qualification of the data was determined using the USEPA National Functional Guidelines of June 2008, or USEPA National Functional Guidelines of Inorganic Data Review, January 2010, method performance criteria, and Dvirka and Bartilucci Consulting Engineers, a Division of William F. Cosulich Associates, P.C. professional judgment. The qualification of data discussed within this data validation checklist did not impact the usability of the sample results.

Custody Numbers:C2222
SAMPLE AND ANALYSIS LIST

Sample ID	Lab ID	Sample Collection Date	Parent Sample	Analysis				
				VOC	SVOC	PCB	MET	TPH
EGCSB-03(14-16)	C2222-01	5/12/2011		x	x	x	x	x
EGCSB-04(14-16)	C2222-02	5/12/2011		x	x	x	x	x
EGCSB-04(12-14)	C2222-03	5/12/2011		x	x	x	x	x
EGCSB-03(23-25)	C2222-04	5/12/2011		x	x	x	x	x
FIELDBLANK2	C2222-05	5/12/2011		x	x	x	x	x
FIELDDUPLICATE 2	C2222-06	5/12/2011	EGCSB-03(14-16)	x	x	x	x	x

ORGANIC ANALYSES
VOCS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Trip blanks					X
C. Field blanks		X		X	
3. Matrix spike (MS) %R		X		X	
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X	X		
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD		X		X	
14. Tentatively Identified Compounds (TICs)		X		X	

VOCs - volatile organic compounds %D - percent difference RRF - relative response factor
%R - percent recovery %RSD - percent relative standard deviation RPD - relative percent difference

Comments:
Performance was acceptable with the following exceptions:

5. The methyl acetate RPD was above the QC in the MS/MSD associated with the soil samples. The 1,1,2-trichlorotrifluoroethane, 1,2,3-trichlorobenzene, 1,4-dioxane, 2-butanone, acetone and methyl acetate RPD were above the QC in the MS/MSD associated with the field blank. They were not detected in the associated samples; therefore, qualification of the data was not necessary.

6. The 1,4-dioxane had %R above the QC in the laboratory control sample associated with the field blank and was not detected in the associated sample, therefore, qualification of the data was not necessary.

ORGANIC ANALYSES
SVOCS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Field blanks		X		X	
3. Matrix spike (MS) %R		X	X		
4. Matrix spike duplicate (MSD) %R		X	X		
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X	X		
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD		X		X	
14. Tentatively Identified Compounds (TICs)		X		X	

SVOCs –Semi- volatile organic compounds %D - percent difference RRF - relative response factor
%R - percent recovery %RSD - percent relative standard deviation RPD - relative percent difference

Comments:
Performance was acceptable, with the following exception:

3-6. The benzaldehyde %R was below the QC limit in the MS, MSD and laboratory control sample associated with all samples and the RPD was above the QC limit in the MS/MSD. Benzaldehyde was qualified as estimated (UJ) in all samples.

ORGANIC ANALYSES
PCBs

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Field blanks		X		X	
3. Matrix spike (MS) %R		X	X		
4. Matrix spike duplicate (MSD) %R		X	X		
5. MS/MSD precision (RPD)		X		X	
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X		X	
8. GC Surrogate retention time summary		X		X	
9. Initial calibration %RSD's		X		X	
10. Continuing calibration %D's		X		X	
11. Transcriptions – quant report vs. Form I		X		X	
12. Identification summary		X		X	
13. Field duplicates RPD		X		X	

PCBs – Polychlorinated Biphenyls
%R - percent recovery
%D - percent difference
%RSD - percent relative standard deviation
RRF - relative response factor
RPD - relative percent difference

Comments:
Performance was acceptable, with the following exception:

3&4. The %R for aroclor 1016 was above the QC limit in the MS and MSD associated with the field blank and was not detected in the associated sample, therefore, qualification of the data was not necessary.

ORGANIC ANALYSES
TPH &Fingerprint

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Field blank		X		X	
3. Matrix spike (MS) %R		X		X	
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X		X	
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X		X	
8. Initial calibration RRF's and %RSD's		X		X	
9. Continuing calibration RRF's and %D's		X		X	
10. Transcriptions – quant report vs. Form I		X		X	
11. Field duplicates RPD		X		X	

%D - percent difference
%R - percent recovery
RRF - relative response factor
%RSD - percent relative standard deviation
RPD - relative percent difference

Comments:
Performance was acceptable.

INORGANIC ANALYSES
Metals & Cyanide

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Preparation and calibration blanks		X	X		
B. Field blanks		X	X		
3. Initial calibration verification %R		X		X	
4. Continuing calibration verification %R		X		X	
5. CRDL standard %R		X	X		
6. Interference check sample %R		X		X	
7. Laboratory control sample %R		X		X	
8. Spike sample %R		X		X	
9. Post digestive spike sample %R					X
10. Duplicate %RPD		X	X		
11. Serial dilution check %D		X	X		
12. Total verse dissolved results					X
13. Field duplicates RPD		X		X	

%R - percent recovery %D - percent difference RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

2A&B. Aluminum, magnesium, thallium and zinc were detected in the preparation and/or field blank and were not detected in the associated samples; therefore, qualification of the data was not necessary.

5. The copper %R was below the QC limits in the CRDL standard. Copper was qualified as estimated (J) in all soil samples.

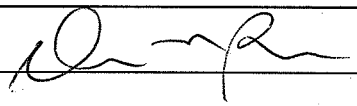
10. The chromium and sodium RPDs were above the QC limit of 20% for the laboratory duplicate associated with the soil samples. They were qualified as estimated (J) in the soil samples.

11. Copper was above the QC limit of 10 % for the serial dilution check sample associated with the soil samples and were qualified as estimated (J) in associated samples.

DATA VALIDATION AND QUALIFICATION SUMMARY

Laboratory Numbers:C2222

Sample ID	Analyte(s)	Qualifier	Reason(s)
VOCs			
No qualification of the data was necessary.			
SVOCs			
All soil samples	Benzaldehyde	UJ	%R was below the QC limit in the MS, MSD and laboratory control sample
PCBs			
No qualification of the data was necessary.			
TPH& Fingerprint			
No qualification of the data was necessary.			
Metals & Cyanide			
All soil samples	Copper	J	%R was below in the CRDL standard and serial dilution above QC limits
All soil samples	Chromium and sodium	J	RPD was above the QC limit of 20% for the laboratory duplicate

VALIDATION PERFORMED BY & DATE:	Donna M. Brown 07/11/2011
VALIDATION PERFORMED BY SIGNATURE:	

DATA VALIDATION CHECKLIST

Project Name:	National Grid- East Garden City
Project Number:	3008-C04
Sample Date(s):	May 13, 2011
Sample Team:	Paul Barusich
Matrix/Number of Samples:	Soil/ 4 Field Duplicates/ 0 Trip Blanks / 0 Field Blanks/ 0
Analyzing Laboratory:	Chemtech, Mountainside, New Jersey
Analyses:	Volatile organic compounds (VOCs), by USEPA method SW846 8260B Semi volatile organic compounds (SVOCs), by USEPA method SW846 8270C Polychlorinated biphenyl (PCBs) by USEPA SW846 Method 8082 Total petroleum hydrocarbons (TPH) by USEPA SW846 Method 8015B Metals by SW846 Method 6010B and mercury (Hg) by Method 7470A/7471A Cyanide by SW846 Method 9012
Laboratory Report No:	C2241 Date:6/01/2011

ANALYTICAL DATA PACKAGE DOCUMENTATION GENERAL INFORMATION

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Sample results		X		X	
2. Parameters analyzed		X		X	
3. Method of analysis		X		X	
4. Sample collection date		X		X	
5. Laboratory sample received date		X		X	
6. Sample analysis date		X		X	
7. Copy of chain-of-custody form signed by Lab sample custodian		X		X	
8. Narrative summary of QA or sample problems provided		X		X	

QA - quality assurance

Comments:

The data packages have been reviewed in accordance with the NYSDEC 6/05 ASP Quality Assurance/ Quality Control (QA/QC) requirements. A validation was conducted on the data package and any applicable qualification of the data was determined using the USEPA National Functional Guidelines of June 2008, or USEPA National Functional Guidelines of Inorganic Data Review, January 2010, method performance criteria, and Dvirka and Bartilucci Consulting Engineers, a Division of William F. Cosulich Associates, P.C. professional judgment. The qualification of data discussed within this data validation checklist did not impact the usability of the sample results.

Custody Numbers:C2241
SAMPLE AND ANALYSIS LIST

Sample ID	Lab ID	Sample Collection Date	Parent Sample	Analysis				
				VOC	SVOC	Pest	MET	TPH
EGCSB-05(14-16)	C2241-01	5/13/2011		x	x	x	x	x
EGCSB-05(12-14)	C2241-02	5/13/2011		x	x	x	x	x
EGCSB-07(14.5-16.5)	C2241-03	5/13/2011		x	x	x	x	x
EGCSB-07(10-12)	C2241-04	5/13/2011		x	x	x	x	x

ORGANIC ANALYSES
VOCS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Trip blanks					X
C. Field blanks					X
3. Matrix spike (MS) %R		X		X	
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD					X
14. Tentatively Identified Compounds (TICs)		X		X	

VOCs - volatile organic compounds
%R - percent recovery
%D - percent difference
%RSD - percent relative standard deviation
RRF - relative response factor
RPD - relative percent difference

Comments:
Performance was acceptable with the following exception:

5. The acetone RPD was above the QC in the MS/MSD associated with all the samples and was not detected in the associated samples; therefore, qualification of the data was not necessary.

ORGANIC ANALYSES
SVOCS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X	X		
B. Field blanks					X
3. Matrix spike (MS) %R		X	X		
4. Matrix spike duplicate (MSD) %R		X	X		
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X	X		
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD					X
14. Tentatively Identified Compounds (TICs)		X		X	

SVOCs –Semi- volatile organic compounds %D - percent difference RRF - relative response factor
%R - percent recovery %RSD - percent relative standard deviation RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

2A. Dimethylphthalate was detected in the method blank associated with all samples. Dimethylphthalate was qualified as non-detect (U) in all samples.

3-6. The benzaldehyde %R was below the QC limit in the MS, MSD and laboratory control sample associated with all samples. The RPD for 4-chloroaniline was above the QC limit in the MS/MSD associated with all samples and not detected. Benzaldehyde was qualified as estimated (UJ) in all samples.

12. Sample results associated with compound that exhibited a concentration greater than the linear range of the instrument calibration are summarized in the following table.

Sample ID	Compound	Original Analysis	Diluted Analysis	Reported Analysis
EGCSB-07(10-12)	Fluoranthene	3100 E	3500 D	3500 D

ORGANIC ANALYSES
PCBs

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Field blanks					X
3. Matrix spike (MS) %R		X		X	
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X		X	
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X	X		
8. GC Surrogate retention time summary		X		X	
9. Initial calibration %RSD's		X		X	
10. Continuing calibration %D's		X		X	
11. Transcriptions – quant report vs. Form I		X		X	
12. Identification summary		X		X	
13. Field duplicates RPD					X

PCBs – Polychlorinated Biphenyls
%R - percent recovery
%D - percent difference
%RSD - percent relative standard deviation
RRF - relative response factor
RPD - relative percent difference

Comments:
Performance was acceptable, with the following exception:

7. A surrogate %R was above QC limits associated with sample EGCSB-07(14.5-16.5) and the reanalysis. PCBs were not detected in either analysis for sample EGCSB-07(14.5-16.5) and the original analysis was reported with no qualification of the data necessary.

ORGANIC ANALYSES
TPH

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Field blank					X
3. Matrix spike (MS) %R		X		X	
4. Matrix spike duplicate (MSD) %R		X	X		
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X		X	
8. Initial calibration RRF's and %RSD's		X		X	
9. Continuing calibration RRF's and %D's		X		X	
10. Transcriptions – quant report vs. Form I		X		X	
11. Field duplicates RPD					X

%D - percent difference
%R - percent recovery
RRF - relative response factor
%RSD - percent relative standard deviation
RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

4-5. The %R for TPH was below QC limits in the MSD and the RPD was above the QC in the MS/MSD and TPH was qualified as estimated (J) in all samples.

INORGANIC ANALYSES
Metals & Cyanide

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Preparation and calibration blanks		X	X		
B. Field blanks					X
3. Initial calibration verification %R		X		X	
4. Continuing calibration verification %R		X		X	
5. CRDL standard %R		X	X		
6. Interference check sample %R		X		X	
7. Laboratory control sample %R		X		X	
8. Spike sample %R		X		X	
9. Post digestive spike sample %R					X
10. Duplicate %RPD		X	X		
11. Serial dilution check %D		X	X		
12. Total verse dissolved results					X
13. Field duplicates RPD		X		X	

%R - percent recovery %D - percent difference RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

2A. Aluminum, cyanide, magnesium and thallium were detected in the preparation blank. Cyanide was qualified as non-detect (U) for all samples.

5. The copper %R was below the QC limits in the CRDL standard. Copper was qualified as estimated (J) in all the samples.

10. The chromium and sodium RPDs were above the QC limit of 20% for the laboratory duplicate associated with the soil samples. They were qualified as estimated (J) in the soil samples.

11. Copper was above the QC limit of 10 % for the serial dilution check sample associated with the soil samples and were qualified as estimated (J) in associated samples.

DATA VALIDATION AND QUALIFICATION SUMMARY

Laboratory Numbers:C2241

Sample ID	Analyte(s)	Qualifier	Reason(s)
VOCs			
No qualification of the data was necessary.			
SVOCs			
All samples	Dimethylphthalate	U	Detected in method blank
All samples	Benzaldehyde	UJ	%R was below the QC limit in the MS, MSD and laboratory control sample
EGCSB-07(10-12)	Fluoranthene	D	Report from secondary dilution
PCBs			
EGCSB-07(14.5-16.5)	Original analysis		Surrogate above QC
TPH			
All samples	TPH	J	%R was below QC limits in the MSD and the RPD was above the QC
Metals & Cyanide			
All samples	Cyanide	U	Detected in preparation blank
All samples	Copper	J	%R was below in the CRDL standard and serial dilution above QC limits
All samples	Chromium and sodium	J	RPD was above the QC limit of 20% for the laboratory duplicate

VALIDATION PERFORMED BY & DATE:	Donna M. Brown 07/11/2011
VALIDATION PERFORMED BY SIGNATURE:	

DATA VALIDATION CHECKLIST

Project Name:	National Grid- East Garden City
Project Number:	3008-C04
Sample Date(s):	May 17, 2011
Sample Team:	Paul Barusich
Matrix/Number of Samples:	Soil/ 4 Field Duplicates/ 0 Trip Blanks / 0 Field Blanks/ 0
Analyzing Laboratory:	Chemtech, Mountainside, New Jersey
Analyses:	Volatile organic compounds (VOCs), by USEPA method SW846 8260B Semi volatile organic compounds (SVOCs), by USEPA method SW846 8270C Polychlorinated biphenyl (PCBs) by USEPA SW846 Method 8082 Total petroleum hydrocarbons (TPH) by USEPA SW846 Method 8015B Metals by SW846 Method 6010B and mercury (Hg) by Method 7470A/7471A Cyanide by SW846 Method 9012
Laboratory Report No:	C2263 Date:6/02/2011

ANALYTICAL DATA PACKAGE DOCUMENTATION GENERAL INFORMATION

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Sample results		X		X	
2. Parameters analyzed		X		X	
3. Method of analysis		X		X	
4. Sample collection date		X		X	
5. Laboratory sample received date		X		X	
6. Sample analysis date		X		X	
7. Copy of chain-of-custody form signed by Lab sample custodian		X		X	
8. Narrative summary of QA or sample problems provided		X		X	

QA - quality assurance

Comments:

The data packages have been reviewed in accordance with the NYSDEC 6/05 ASP Quality Assurance/ Quality Control (QA/QC) requirements. A validation was conducted on the data package and any applicable qualification of the data was determined using the USEPA National Functional Guidelines of June 2008, or USEPA National Functional Guidelines of Inorganic Data Review, January 2010, method performance criteria, and Dvirka and Bartilucci Consulting Engineers, a Division of William F. Cosulich Associates, P.C. professional judgment. The qualification of data discussed within this data validation checklist did not impact the usability of the sample results.

Custody Numbers:C2263
SAMPLE AND ANALYSIS LIST

Sample ID	Lab ID	Sample Collection Date	Parent Sample	Analysis				
				VOC	SVOC	PCB	MET	TPH
EGCSB-10(17.5-19.5)	C2263-01	5/17/2011		x	x	x	x	x
EGCSB-10(8-10)	C2263-02	5/17/2011		x	x	x	x	x
EGCSB-01(18-20)	C2263-03	5/17/2011		x	x	x	x	x
EGCSB-01(8-10)	C2263-04	5/17/2011		x	x	x	x	x

ORGANIC ANALYSES
VOCS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X	X		
B. Trip blanks					X
C. Field blanks					X
3. Matrix spike (MS) %R		X	X		
4. Matrix spike duplicate (MSD) %R		X	X		
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD					X
14. Tentatively Identified Compounds (TICs)		X		X	

VOCs - volatile organic compounds
%R - percent recovery
%D - percent difference
%RSD - percent relative standard deviation
RRF - relative response factor
RPD - relative percent difference

Comments:
Performance was acceptable with the following exceptions:

2A. Methylene chloride was detected in the method blank associated with all samples. Methylene chloride was qualified as non-detect (U) in EGCSB-01(8-10).

3-5. The methylene chloride %R was above the QC limit in the MS and MSD and the RPD was above the QC limits. The RPD for methyl acetate was above the QC limit in the MS/MSD associated with all samples and not detected. Methylene chloride was qualified as estimated (J) only if detected in all samples.

ORGANIC ANALYSES
SVOCS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X	X		
B. Field blanks					X
3. Matrix spike (MS) %R		X	X		
4. Matrix spike duplicate (MSD) %R		X	X		
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X	X		
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD					X
14. Tentatively Identified Compounds (TICs)		X		X	

SVOCs –Semi- volatile organic compounds %D - percent difference RRF - relative response factor
%R - percent recovery %RSD - percent relative standard deviation RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

2A. Dimethylphthalate were detected in the method blank and was not detected in the associated samples, therefore, qualification of the data was not necessary.

3-6. The benzaldehyde %R was below the QC limit in the MS, MSD and laboratory control sample associated with all samples. The RPD was above the QC limit in the MS/MSD for 2,2-oxybis(1-chloropropane), 2-chlorophenol, 3-nitroaniline, 4-chloroaniline, benzaldehyde, bis(2-chloroethyl)ether, hexachlorobutadiene, hexachloroethane, naphthalene and phenol associated with all samples. These compounds were not detected in the associated samples, therefore, only benzaldehyde was qualified as estimated (UJ) in all samples.

ORGANIC ANALYSES
PCBs

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Field blanks					X
3. Matrix spike (MS) %R		X	X		
4. Matrix spike duplicate (MSD) %R		X	X		
5. MS/MSD precision (RPD)		X		X	
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X		X	
8. GC Surrogate retention time summary		X		X	
9. Initial calibration %RSD's		X		X	
10. Continuing calibration %D's		X		X	
11. Transcriptions – quant report vs. Form I		X		X	
12. Identification summary		X		X	
13. Field duplicates RPD					X

PCBs – Polychlorinated Biphenyls
%R - percent recovery
%D - percent difference
%RSD - percent relative standard deviation
RRF - relative response factor
RPD - relative percent difference

Comments:
Performance was acceptable, with the following exception:

3&4. The Aroclor 1016 and Aroclor 1260 %Rs were above the QC limit in the MS and MSD and was not detected in the associated samples, therefore, qualification of the data was not necessary.

ORGANIC ANALYSES
TPH

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Field blank					X
3. Matrix spike (MS) %R		X		X	
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X		X	
8. Initial calibration RRF's and %RSD's		X		X	
9. Continuing calibration RRF's and %D's		X		X	
10. Transcriptions – quant report vs. Form I		X		X	
11. Field duplicates RPD					X

%D - percent difference
%R - percent recovery
RRF - relative response factor
%RSD - percent relative standard deviation
RPD - relative percent difference

Comments:
Performance was acceptable with the following exception:

5. The TPH RPD was above the QC in the MS/MSD and was qualified as estimated (J) in all samples.

INORGANIC ANALYSES
Metals & Cyanide

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Preparation and calibration blanks		X	X		
B. Field blanks					X
3. Initial calibration verification %R		X		X	
4. Continuing calibration verification %R		X		X	
5. CRDL standard %R		X		X	
6. Interference check sample %R		X		X	
7. Laboratory control sample %R		X	X		
8. Spike sample %R		X		X	
9. Post digestive spike sample %R					X
10. Duplicate %RPD		X		X	
11. Serial dilution check %D		X	X		
12. Total verse dissolved results					X
13. Field duplicates RPD					X

%R - percent recovery %D - percent difference RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

2A. Cyanide was detected in the preparation blank. Cyanide was qualified as non-detect (U) for all samples.

7. Thallium %R was below QC limits in the laboratory control sample. The thallium results were qualified as estimated (J/UJ) in all samples.

11. Chromium was above the QC limit of 10 % for the serial dilution check sample associated with the samples. It was qualified as estimated (J/UJ) in the samples.

DATA VALIDATION AND QUALIFICATION SUMMARY

Laboratory Numbers:C2263

Sample ID	Analyte(s)	Qualifier	Reason(s)
VOCs			
EGCSB-01(8-10)	Methylene chloride	U	Detected in the method blank
All samples	Methylene chloride	J if detected	%R was above the QC limit in the MS and MSD and the RPD was above the QC limits
SVOCs			
All samples	Benzaldehyde	UJ	%R was below the QC limit in the MS, MSD and laboratory control sample
PCBs			
No qualification of the data was necessary.			
TPH			
All samples	TPH	J	RPD was above the QC in the MS/MSD
Metals & Cyanide			
All samples	Cyanide	U	Detected in preparation blank
All samples	Thallium	J/UJ	%R was below QC limits in the laboratory control sample
All samples	Chromium	J/UJ	Serial dilution above QC limits

VALIDATION PERFORMED BY & DATE:	Donna M. Brown 07/11/2011
VALIDATION PERFORMED BY SIGNATURE:	

DATA VALIDATION CHECKLIST

Project Name:	National Grid- East Garden City
Project Number:	3008-C04
Sample Date(s):	May 18, 2011
Sample Team:	Paul Barusich
Matrix/Number of Samples:	Soil/ 2 Field Duplicates/ 0 Trip Blanks / 0 Field Blanks/ 0
Analyzing Laboratory:	Chemtech, Mountainside, New Jersey
Analyses:	Volatile organic compounds (VOCs), by USEPA method SW846 8260B Semi volatile organic compounds (SVOCs), by USEPA method SW846 8270C Polychlorinated biphenyl (PCBs) by USEPA SW846 Method 8082 Total petroleum hydrocarbons (TPH) by USEPA SW846 Method 8015B Metals by SW846 Method 6010B and mercury (Hg) by Method 7471A Cyanide by SW846 Method 9012
Laboratory Report No:	C2293 Date:6/03/2011

ANALYTICAL DATA PACKAGE DOCUMENTATION GENERAL INFORMATION

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Sample results		X		X	
2. Parameters analyzed		X		X	
3. Method of analysis		X		X	
4. Sample collection date		X		X	
5. Laboratory sample received date		X		X	
6. Sample analysis date		X		X	
7. Copy of chain-of-custody form signed by Lab sample custodian		X		X	
8. Narrative summary of QA or sample problems provided		X		X	

QA - quality assurance

Comments:

The data packages have been reviewed in accordance with the NYSDEC 6/05 ASP Quality Assurance/ Quality Control (QA/QC) requirements. A validation was conducted on the data package and any applicable qualification of the data was determined using the USEPA National Functional Guidelines of June 2008, or USEPA National Functional Guidelines of Inorganic Data Review, January 2010, method performance criteria, and Dvirka and Bartilucci Consulting Engineers, a Division of William F. Cosulich Associates, P.C. professional judgment. The qualification of data discussed within this data validation checklist did not impact the usability of the sample results.

Custody Numbers:C2293
SAMPLE AND ANALYSIS LIST

Sample ID	Lab ID	Sample Collection Date	Parent Sample	Analysis				
				VOC	SVOC	PCB	MET	TPH
EGCSB-02(15.5-17.5)	C2293-01	5/18/2011		x	x	x	x	x
EGCSB-02(9-11)	C2293-02	5/18/2011		x	x	x	x	x

ORGANIC ANALYSES
VOCS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Trip blanks					X
C. Field blanks					X
3. Matrix spike (MS) %R		X		X	
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD					X
14. Tentatively Identified Compounds (TICs)		X		X	

VOCs - volatile organic compounds
%D - percent difference
RRF - relative response factor
%R - percent recovery
%RSD - percent relative standard deviation
RPD - relative percent difference

Comments:
Performance was acceptable with the following exception:

5. The methyl acetate RPD was above the QC in the MS/MSD and was not detected in the associated samples, therefore, qualification of the data was not necessary.

ORGANIC ANALYSES
SVOCS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X	X		
B. Field blanks					X
3. Matrix spike (MS) %R		X	X		
4. Matrix spike duplicate (MSD) %R		X	X		
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X	X		
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD					X
14. Tentatively Identified Compounds (TICs)		X		X	

SVOCs –Semi- volatile organic compounds %D - percent difference RRF - relative response factor
%R - percent recovery %RSD - percent relative standard deviation RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

2A. Dimethylphthalate were detected in the method blank and was not detected in the associated samples, therefore, qualification of the data was not necessary.

3-6. The benzaldehyde %R was below the QC limit in the MS, MSD and laboratory control sample associated with all samples. The RPD was above the QC limit in the MS/MSD for 2,2-oxybis(1-chloropropane), 2-chlorophenol, 3-nitroaniline, 4-chloroaniline, benzaldehyde, bis(2-chloroethyl)ether, hexachlorobutadiene, hexachloroethane, naphthalene and phenol associated with all samples. These compounds were not detected in the associated samples, therefore, only benzaldehyde was qualified as estimated (UJ) in all samples.

ORGANIC ANALYSES
PCBs

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Field blanks					X
3. Matrix spike (MS) %R		X	X		
4. Matrix spike duplicate (MSD) %R		X	X		
5. MS/MSD precision (RPD)		X		X	
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X		X	
8. GC Surrogate retention time summary		X		X	
9. Initial calibration %RSD's		X		X	
10. Continuing calibration %D's		X		X	
11. Transcriptions – quant report vs. Form I		X		X	
12. Identification summary		X		X	
13. Field duplicates RPD					X

PCBs – Polychlorinated Biphenyls
%R - percent recovery
%D - percent difference
%RSD - percent relative standard deviation
RRF - relative response factor
RPD - relative percent difference

Comments:
Performance was acceptable, with the following exception:

3&4. The Aroclor 1016 and Aroclor 1260 %Rs were above the QC limit in the MS and /or MSD and was not detected in the associated samples, therefore, qualification of the data was not necessary.

ORGANIC ANALYSES
TPH

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Field blank					X
3. Matrix spike (MS) %R		X		X	
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X		X	
8. Initial calibration RRF's and %RSD's		X		X	
9. Continuing calibration RRF's and %D's		X		X	
10. Transcriptions – quant report vs. Form I		X		X	
11. Field duplicates RPD					X

%D - percent difference
%R - percent recovery
RRF - relative response factor
%RSD - percent relative standard deviation
RPD - relative percent difference

Comments:
Performance was acceptable with the following exception:

5. The TPH RPD was above the QC in the MS/MSD and was qualified as estimated (J) in all samples.

INORGANIC ANALYSES
Metals & Cyanide

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Preparation and calibration blanks		X	X		
B. Field blanks					X
3. Initial calibration verification %R		X		X	
4. Continuing calibration verification %R		X		X	
5. CRDL standard %R		X	X		
6. Interference check sample %R		X		X	
7. Laboratory control sample %R		X		X	
8. Spike sample %R		X	X		
9. Post digestive spike sample %R		X	X		
10. Duplicate %RPD		X	X		
11. Serial dilution check %D		X	X		
12. Total verse dissolved results					X
13. Field duplicates RPD					X

%R - percent recovery %D - percent difference RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

2A. Cyanide was detected in the preparation blanks. Cyanide was detected at less than ten times the concentration found in the blanks and less than the contract required detection limit and qualified as non-detect (U) in sample EGCSB-02(15.5-17.5).

5,8&9. The copper %R was below the QC limits in the CRDL standard and above the QC limits of in the spike and post digest spike associated with all samples. Copper was qualified as estimated (J) in all samples.

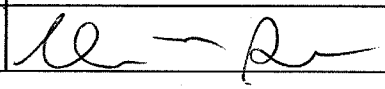
10. The arsenic, barium, cadmium, calcium, chromium, copper, iron, lead, manganese, nickel, sodium, vanadium and zinc RPDs were above the QC limit of 20% for the laboratory duplicate associated with all samples. The above metals were qualified as estimated (J/UJ) in all samples.

11. The iron %D was above the QC limit of 10% for the serial dilution check sample associated with all samples. Iron was qualified as estimated (J) in all samples.

DATA VALIDATION AND QUALIFICATION SUMMARY

Laboratory Numbers:C2293

Sample ID	Analyte(s)	Qualifier	Reason(s)
VOCs			
No qualification of the data was necessary.			
SVOCs			
All samples	Benzaldehyde	UJ	%R was below the QC limit in the MS, MSD and laboratory control sample
PCBs			
No qualification of the data was necessary.			
TPH			
All samples	TPH	J	RPD was above the QC in the MS/MSD
Metals & Cyanide			
EGCSB-02(15.5-17.5)	Cyanide	U	Detected in the preparation blanks
All samples	Copper	J	%R was above the QC limits of in the spike and post digest spike
All samples	Arsenic, barium, cadmium, calcium, chromium, copper, iron, lead, manganese, nickel, sodium, vanadium and zinc	J/UJ	RPDs were above the QC limit of 20% for the laboratory duplicate
All samples	Iron	J	%Ds were above the QC limit of 10% for the serial dilution check sample

VALIDATION PERFORMED BY & DATE:	Donna M. Brown 06/29/2011
VALIDATION PERFORMED BY SIGNATURE:	

DATA VALIDATION CHECKLIST

Project Name:	National Grid- East Garden City
Project Number:	3008-C04
Sample Date(s):	May 19, 2011
Sample Team:	Paul Barusich
Matrix/Number of Samples:	Soil/ 4 Field Duplicates/ 0 Trip Blanks / 0 Field Blanks/ 0
Analyzing Laboratory:	Chemtech, Mountainside, New Jersey
Analyses:	Volatile organic compounds (VOCs), by USEPA method SW846 8260B Semi volatile organic compounds (SVOCs), by USEPA method SW846 8270C Polychlorinated biphenyl (PCBs) by USEPA SW846 Method 8082 Total petroleum hydrocarbons (TPH) by USEPA SW846 Method 8100 Metals by SW846 Method 6010B and mercury (Hg) by Method 7470A/7471A Cyanide by SW846 Method 9012
Laboratory Report No:	C2317 Date:6/6/2011

ANALYTICAL DATA PACKAGE DOCUMENTATION GENERAL INFORMATION

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Sample results		X		X	
2. Parameters analyzed		X		X	
3. Method of analysis		X		X	
4. Sample collection date		X		X	
5. Laboratory sample received date		X		X	
6. Sample analysis date		X		X	
7. Copy of chain-of-custody form signed by Lab sample custodian		X		X	
8. Narrative summary of QA or sample problems provided		X		X	

QA - quality assurance

Comments:

The data packages have been reviewed in accordance with the NYSDEC 6/05 ASP Quality Assurance/ Quality Control (QA/QC) requirements. A validation was conducted on the data package and any applicable qualification of the data was determined using the USEPA National Functional Guidelines of June 2008, or USEPA National Functional Guidelines of Inorganic Data Review, January 2010, method performance criteria, and Dvirka and Bartilucci Consulting Engineers, a Division of William F. Cosulich Associates, P.C. professional judgment. The qualification of data discussed within this data validation checklist did not impact the usability of the sample results.

Custody Numbers:C2317
SAMPLE AND ANALYSIS LIST

Sample ID	Lab ID	Sample Collection Date	Parent Sample	Analysis				
				VOC	SVOC	PCB	MET	TPH
EGCMW-07(16-18)	C2317-01	5/19/2011		x	x	x	x	x
EGCMW-07(9.5-11-5)	C2317-02	5/19/2011		x	x	x	x	x
EGCSB-18(16-18)	C2317-03	5/19/2011		x	x	x	x	x
EGCSB-18(8-10)	C2317-04	5/19/2011		x	x	x	x	x

ORGANIC ANALYSES
VOCS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X	X		
B. Trip blanks					X
C. Field blanks					X
3. Matrix spike (MS) %R		X		X	
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X		X	
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD					X
14. Tentatively Identified Compounds (TICs)		X		X	

VOCs - volatile organic compounds
%R - percent recovery
%D - percent difference
%RSD - percent relative standard deviation
RRF - relative response factor
RPD - relative percent difference

Comments:
Performance was acceptable with the following exception:

2A. Methylene chloride was detected in the method blank associated with all samples. Methylene chloride was qualified as non-detect (U) in all samples.

ORGANIC ANALYSES
SVOCS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X	X		
B. Field blanks					X
3. Matrix spike (MS) %R		X	X		
4. Matrix spike duplicate (MSD) %R		X	X		
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X	X		
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD					X
14. Tentatively Identified Compounds (TICs)		X		X	

SVOCs –Semi- volatile organic compounds %D - percent difference RRF - relative response factor
%R - percent recovery %RSD - percent relative standard deviation RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

2A. Dimethylphthalate was detected in the method blank and was not detected in the associated samples, therefore, qualification of the data was not necessary.

3-6. The benzaldehyde %R was below the QC limit in the MS, MSD and laboratory control sample associated with all samples. The RPD was above the QC limit in the MS/MSD for 1,1-biphenyl, 1,2,4,5-tetrachlorobenzene, 2,2-oxybis(1-chloropropane), 2,3,4,6-tetrachlorophenol, 2,4,5-trichlorophenol,2,4,6-trichlorophenol, 2,4-dichlorophenol, 2,4-dimethylphenol, 2,4-dinitrophenol, 2,4-dinitrotoluene, 2,6-dinitrotoluene, 2-chloronaphthalene, 2-methylnaphthalene, 2-nitroaniline, 2-nitrophenol, 3,3-dichlorobenzidine, 3+4-methylphenols, 3-nitroaniline, 4,6-dinitro-2-methylphenol, 4-bromophenylphenylether, 4-chloro-3-methylphenol, 4-chloroaniline, 4-chlorophenyl-phenylether, 4-nitroaniline, 4-nitrophenol, acenaphthene, acenaphthylene, acetophenone, anthracene, atrazine, benzaldehyde, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, bis(2-chloroethoxy)methane, bis(2-ethylhexyl)phthalate, caprolactam, carbazole, chrysene, dibenz(a,h)anthracene, dibenzofuran, diethylphthalate, dimethylphthalate, di-nbutylphthalate, di-n-octyl phthalate, fluorene, hexachlorobenzene, hexachlorobutadiene, hexachlorocyclopentadiene, isophorone, naphthalene, nitrobenzene, n-nitroso-di-n-propylamine, n-nitrosodiphenylamine, pentachlorophenol, phenanthrene and pyrene associated with all samples. These

compounds were not detected in the associated samples, therefore, only benzaldehyde was qualified as estimated (UJ) in all samples.

ORGANIC ANALYSES
PCBs

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Field blanks					
3. Matrix spike (MS) %R		X		X	
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X		X	
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X		X	
8. GC Surrogate retention time summary		X		X	
9. Initial calibration %RSD's		X		X	
10. Continuing calibration %D's		X		X	
11. Transcriptions – quant report vs. Form I		X		X	
12. Identification summary		X		X	
13. Field duplicates RPD					X

PCBs – Polychlorinated Biphenyls
%R - percent recovery
%D - percent difference
%RSD - percent relative standard deviation
RRF - relative response factor
RPD - relative percent difference

Comments:
Performance was acceptable.

ORGANIC ANALYSES
TPH

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Field blank					X
3. Matrix spike (MS) %R		X		X	
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X		X	
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X		X	
8. Initial calibration RRF's and %RSD's		X		X	
9. Continuing calibration RRF's and %D's		X		X	
10. Transcriptions – quant report vs. Form I		X		X	
11. Field duplicates RPD					X

%D - percent difference
%R - percent recovery
RRF - relative response factor
%RSD - percent relative standard deviation
RPD - relative percent difference

Comments:
Performance was acceptable.

INORGANIC ANALYSES
Metals & Cyanide

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Preparation and calibration blanks		X	X		
B. Field blanks					X
3. Initial calibration verification %R		X		X	
4. Continuing calibration verification %R		X		X	
5. CRDL standard %R		X	X		
6. Interference check sample %R		X		X	
7. Laboratory control sample %R		X		X	
8. Spike sample %R		X		X	
9. Post digestive spike sample %R					X
10. Duplicate %RPD		X	X		
11. Serial dilution check %D		X		X	
12. Total verse dissolved results					X
13. Field duplicates RPD					X

%R - percent recovery %D - percent difference RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

2a. Cyanide was detected in the preparation blank. Cyanide was detected at less than ten times the concentration found in the blanks and less than the contract required detection limit, therefore, qualified as non-detect (U) in all sample if detected.

5. The aluminum, arsenic, iron, nickel and selenium %Rs were above the QC limits in the CRDL standard. The arsenic, nickel and selenium results were qualified as estimated (J) in all samples.

10. The sodium RPD was above the QC limit of 20% for the laboratory duplicate associated with all samples. Sodium was qualified as estimated (J) in all samples.

DATA VALIDATION AND QUALIFICATION SUMMARY

Laboratory Numbers:C2317

Sample ID	Analyte(s)	Qualifier	Reason(s)
VOCs			
All sample	Methylene chloride	U	Detected in the method blank
SVOCs			
All samples	Benzaldehyde	UJ	%R was below the QC limit in the MS, MSD and laboratory control sample
PCBs			
No qualification of the data was necessary.			
TPH			
No qualification of the data was necessary.			
Metals & Cyanide			
All samples if detected	Cyanide	U	Detected in the preparation blanks
All samples	Arsenic, nickel and selenium	J	%Rs were above the QC limits in the CRDL standard
All samples	Sodium	J	RPDs were above the QC limit of 20% for the laboratory duplicate

VALIDATION PERFORMED BY & DATE:	Donna M. Brown 07/5/2011
VALIDATION PERFORMED BY SIGNATURE:	

DATA VALIDATION CHECKLIST

Project Name:	National Grid- East Garden City
Project Number:	3008-C04
Sample Date(s):	May 20, 2011
Sample Team:	Paul Barusich
Matrix/Number of Samples:	Soil/ 8 Field Duplicates/ 0 Trip Blanks / 0 Field Blanks/ 0
Analyzing Laboratory:	Chemtech, Mountainside, New Jersey
Analyses:	Volatile organic compounds (VOCs), by USEPA method SW846 8260B Semi volatile organic compounds (SVOCs), by USEPA method SW846 8270C Polychlorinated biphenyl (PCBs) by USEPA SW846 Method 8082 Total petroleum hydrocarbons (TPH) by USEPA SW846 Method 8100 Metals by SW846 Method 6010B and mercury (Hg) by Method 7471A Cyanide by SW846 Method 9012
Laboratory Report No:	C2341 Date:6/7/2011

ANALYTICAL DATA PACKAGE DOCUMENTATION GENERAL INFORMATION

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Sample results		X		X	
2. Parameters analyzed		X		X	
3. Method of analysis		X		X	
4. Sample collection date		X		X	
5. Laboratory sample received date		X		X	
6. Sample analysis date		X		X	
7. Copy of chain-of-custody form signed by Lab sample custodian		X		X	
8. Narrative summary of QA or sample problems provided		X		X	

QA - quality assurance

Comments:

The data packages have been reviewed in accordance with the NYSDEC 6/05 ASP Quality Assurance/ Quality Control (QA/QC) requirements. A validation was conducted on the data package and any applicable qualification of the data was determined using the USEPA National Functional Guidelines of June 2008, or USEPA National Functional Guidelines of Inorganic Data Review, January 2010, method performance criteria, and Dvirka and Bartilucci Consulting Engineers, a Division of William F. Cosulich Associates, P.C. professional judgment. The qualification of data discussed within this data validation checklist did not impact the usability of the sample results.

Custody Numbers:C2341
SAMPLE AND ANALYSIS LIST

Sample ID	Lab ID	Sample Collection Date	Parent Sample	Analysis				
				VOC	SVOC	PCB	MET	TPH
EGCSB-19(16-18)	C2341-01	5/20/2011		x	x	x	x	x
EGCSB-19(8-10)	C2341-02	5/20/2011		x	x	x	x	x
EGCSB-13(16-18)	C2341-03	5/20/2011		x	x	x	x	x
EGCSB-13(8-10)	C2341-04	5/20/2011		x	x	x	x	x
EGCSB-08(15-17)	C2341-05	5/20/2011		x	x	x	x	x
EGCSB-08(8-10)	C2341-06	5/20/2011		x	x	x	x	x
EGCSB-09(15-17)	C2341-07	5/20/2011		x	x	x	x	x
EGCSB-09(8-10)	C2341-08	5/20/2011		x	x	x	x	x

ORGANIC ANALYSES
VOCS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Trip blanks					X
C. Field blanks					X
3. Matrix spike (MS) %R		X		X	
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X		X	
6. Laboratory Control Sample %R		X	X		
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD					X
14. Tentatively Identified Compounds (TICs)		X		X	

VOCs - volatile organic compounds
%D - percent difference
RRF - relative response factor
%R - percent recovery
%RSD - percent relative standard deviation
RPD - relative percent difference

Comments:
Performance was acceptable with the following exception:

6. The 1,1,1-trichloroethane, carbon tetrachloride, and methyl cyclohexane had %Rs above the QC in the laboratory control sample and were not detected in the associated samples, therefore, qualification of the data was not necessary.

ORGANIC ANALYSES
SVOCS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X	X		
B. Field blanks					X
3. Matrix spike (MS) %R		X	X		
4. Matrix spike duplicate (MSD) %R		X	X		
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X	X		
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD					X
14. Tentatively Identified Compounds (TICs)		X		X	

SVOCs –Semi- volatile organic compounds %D - percent difference RRF - relative response factor
%R - percent recovery %RSD - percent relative standard deviation RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

2A. Dimethylphthalate were detected in the method blank and was not detected in the associated samples, therefore, qualification of the data was not necessary.

3-6. The benzaldehyde %R was below the QC limit in the MS, MSD and laboratory control sample associated with all samples. The RPD was above the QC limit in the MS/MSD for 1,1-biphenyl, 1,2,4,5-tetrachlorobenzene, 2,2-oxybis(1-chloropropane), 2,3,4,6-tetrachlorophenol, 2,4,5-trichlorophenol,2,4,6-trichlorophenol, 2,4-dichlorophenol, 2,4-dimethylphenol, 2,4-dinitrophenol, 2,4-dinitrotoluene, 2,6-dinitrotoluene, 2-chloronaphthalene, 2-methylnaphthalene, 2-nitroaniline, 2-nitrophenol, 3,3-dichlorobenzidine, 3+4-methylphenols, 3-nitroaniline, 4,6-dinitro-2-methylphenol, 4-bromophenylphenylether, 4-chloro-3-methylphenol, 4-chloroaniline, 4-chlorophenyl-phenylether, 4-nitroaniline, 4-nitrophenol, acenaphthene, acenaphthylene, acetophenone, anthracene, atrazine, benzaldehyde, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, bis(2-chloroethoxy)methane, bis(2-ethylhexyl)phthalate, caprolactam, carbazole, chrysene, dibenz(a,h)anthracene, dibenzofuran, diethylphthalate, dimethylphthalate, di-nbutylphthalate, di-n-octyl phthalate, fluorene, hexachlorobenzene, hexachlorobutadiene, hexachlorocyclopentadiene, isophorone, naphthalene, nitrobenzene, n-nitroso-di-n-propylamine, n-nitrosodiphenylamine, pentachlorophenol, phenanthrene and pyrene associated with all samples. These

compounds were not detected in the associated samples, therefore, only benzaldehyde was qualified as estimated (UJ) in all samples.

ORGANIC ANALYSES
PCBs

	Reported		Performance acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
a. Method blanks		X		X	
B. Field blanks					X
3. Matrix spike (MS) %R		X		X	
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X		X	
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X		X	
8. GC Surrogate retention time summary		X		X	
9. Initial calibration %RSD's		X		X	
10. Continuing calibration %D's		X		X	
11. Transcriptions – quant report vs. Form I		X		X	
12. Identification summary		X		X	
13. Field duplicates RPD					X

PCBs – Polychlorinated Biphenyls
%R - percent recovery
%D - percent difference
%RSD - percent relative standard deviation
RRF - relative response factor
RPD - relative percent difference

Comments:
Performance was acceptable.

ORGANIC ANALYSES
TPH

	Reported		Performance acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
a. Method blanks		X		X	
B. Field blank					X
3. Matrix spike (MS) %R		X		X	
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X		X	
8. Initial calibration RRF's and %RSD's		X		X	
9. Continuing calibration RRF's and %D's		X		X	
10. Transcriptions – quant report vs. Form I		X		X	
11. Field duplicates RPD					X

%D - percent difference
%R - percent recovery
RRF - relative response factor
%RSD - percent relative standard deviation
RPD - relative percent difference

Comments:
Performance was acceptable, with the following exception:

5. The TPH RPD was above the QC in the MS/MSD and was qualified as estimated (J) in all samples.

INORGANIC ANALYSES
Metals & Cyanide

	Reported		Performance acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
a. Preparation and calibration blanks		X	X		
B. Field blanks					X
3. Initial calibration verification %R		X		X	
4. Continuing calibration verification %R		X		X	
5. CRDL standard %R		X	X		
6. Interference check sample %R		X		X	
7. Laboratory control sample %R		X		X	
8. Spike sample %R		X		X	
9. Post digestive spike sample %R					X
10. Duplicate %RPD		X	X		
11. Serial dilution check %D		X		X	
12. Total verse dissolved results					X
13. Field duplicates RPD					X

%R - percent recovery %D - percent difference RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

2a. Cyanide was detected in the preparation blank. Cyanide was detected at less than ten times the concentration found in the blanks and less than the contract required detection limit, therefore, qualified as non-detect (U) in all sample if detected.

5. The aluminum, arsenic, iron, nickel and selenium %Rs were above the QC limits in the CRDL standard. The following metals were qualified as estimated (J): arsenic in samples EGCSB-19(16-18) and EGCSB-13(8-10) and selenium in samples EGCSB-19(16-18).

10. The sodium RPD was above the QC limit of 20% for the laboratory duplicate associated with all samples. Sodium was qualified as estimated (J) in all samples.

DATA VALIDATION AND QUALIFICATION SUMMARY

Laboratory Numbers:C2341

Sample ID	Analyte(s)	Qualifier	Reason(s)
VOCs			
No qualification of the data was necessary.			
SVOCs			
All samples	Benzaldehyde	UJ	%R was below the QC limit in the MS, MSD and laboratory control sample
PCBs			
No qualification of the data was necessary.			
TPH			
All samples	TPH	J	RPD was above the QC in the MS/MSD
Metals & Cyanide			
All samples if detected	Cyanide	U	Detected in the preparation blanks
EGCSB-19(16-18) and EGCSB-13(8-10)	Arsenic	J	%Rs were above the QC limits in the CRDL standard
EGCSB-19(16-18)	Selenium	J	%Rs were above the QC limits in the CRDL standard
All samples	Sodium	J	RPDs were above the QC limit of 20% for the laboratory duplicate

VALIDATION PERFORMED BY & DATE:	Donna M. Brown 06/30/2011
VALIDATION PERFORMED BY SIGNATURE:	

DATA VALIDATION CHECKLIST

Project Name:	National Grid- East Garden City
Project Number:	3008-C04
Sample Date(s):	May 23, 2011
Sample Team:	Paul Barusich
Matrix/Number of Samples:	Soil/ 4 Field Duplicates/ 0 Trip Blanks / 0 Field Blanks/ 0
Analyzing Laboratory:	Chemtech, Mountainside, New Jersey
Analyses:	Volatile organic compounds (VOCs), by USEPA method SW846 8260B Semi volatile organic compounds (SVOCs), by USEPA method SW846 8270C Polychlorinated biphenyl (PCBs) by USEPA SW846 Method 8082 Total petroleum hydrocarbons (TPH) by USEPA SW846 Method 8100 Metals by SW846 Method 6010B and mercury (Hg) by Method 7471A Cyanide by SW846 Method 9012
Laboratory Report No:	C2361 Date:6/8/2011

ANALYTICAL DATA PACKAGE DOCUMENTATION GENERAL INFORMATION

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Sample results		X		X	
2. Parameters analyzed		X		X	
3. Method of analysis		X		X	
4. Sample collection date		X		X	
5. Laboratory sample received date		X		X	
6. Sample analysis date		X		X	
7. Copy of chain-of-custody form signed by Lab sample custodian		X		X	
8. Narrative summary of QA or sample problems provided		X		X	

QA - quality assurance

Comments:

The data packages have been reviewed in accordance with the NYSDEC 6/05 ASP Quality Assurance/ Quality Control (QA/QC) requirements. A validation was conducted on the data package and any applicable qualification of the data was determined using the USEPA National Functional Guidelines of June 2008, or USEPA National Functional Guidelines of Inorganic Data Review, January 2010, method performance criteria, and Dvirka and Bartilucci Consulting Engineers, a Division of William F. Cosulich Associates, P.C. professional judgment. The qualification of data discussed within this data validation checklist did not impact the usability of the sample results.

Custody Numbers:C2361
SAMPLE AND ANALYSIS LIST

Sample ID	Lab ID	Sample Collection Date	Parent Sample	Analysis				
				VOC	SVOC	PCB	MET	TPH
EGCMW-05(15-17)	C2361-01	5/23/2011		x	x	x	x	x
EGCMW-05(8-10)	C2361-02	5/23/2011		x	x	x	x	x
EGCSB-11(14.5-16.5)	C2361-03	5/23/2011		x	x	x	x	x
EGCSB-11(8-10)	C2361-04	5/23/2011		x	x	x	x	x

ORGANIC ANALYSES
VOCS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Trip blanks					X
C. Field blanks					X
3. Matrix spike (MS) %R		X	X		
4. Matrix spike duplicate (MSD) %R		X	X		
5. MS/MSD precision (RPD)		X		X	
6. Laboratory Control Sample %R		X	X		
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD					X
14. Tentatively Identified Compounds (TICs)		X		X	

VOCs - volatile organic compounds
%R - percent recovery
%D - percent difference
%RSD - percent relative standard deviation
RRF - relative response factor
RPD - relative percent difference

Comments:
Performance was acceptable with the following exceptions:

3,4&6. The 1,1,1-trichloroethane, bromomethane and carbon tetrachloride %R were above the QC limits in the MS and/or MSDs. The 1,1,1-trichloroethane, carbon tetrachloride, dichlorodifluoromethane, methylcyclohexane, o-xylene and trichlorofluoromethane had %Rs above the QC in the laboratory control sample and were not detected in the associated samples, therefore, qualification of the data was not necessary.

ORGANIC ANALYSES
SVOCS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Field blanks					X
3. Matrix spike (MS) %R		X	X		
4. Matrix spike duplicate (MSD) %R		X	X		
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X	X		
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD					X
14. Tentatively Identified Compounds (TICs)		X		X	

SVOCs –Semi- volatile organic compounds %D - percent difference RRF - relative response factor
%R - percent recovery %RSD - percent relative standard deviation RPD - relative percent difference

Comments:
Performance was acceptable, with the following exception:

3-6. The benzaldehyde %R was below the QC limit in the MS, MSD and laboratory control sample associated with all samples and the RPD was above the QC limit in the MS/MSD. Benzaldehyde was qualified as estimated (UJ) in all samples.

ORGANIC ANALYSES
PCBs

	Reported		Performance acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
a. Method blanks		X		X	
B. Field blanks					X
3. Matrix spike (MS) %R		X		X	
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X		X	
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X	X		
8. GC Surrogate retention time summary		X		X	
9. Initial calibration %RSD's		X		X	
10. Continuing calibration %D's		X		X	
11. Transcriptions – quant report vs. Form I		X		X	
12. Identification summary		X		X	
13. Field duplicates RPD					X

PCBs – Polychlorinated Biphenyls
%R - percent recovery
%D - percent difference
%RSD - percent relative standard deviation
RRF - relative response factor
RPD - relative percent difference

Comments:
Performance was acceptable, with the following exception:

7. A surrogate %R was below QC limits associated with sample EGCSB-11(8-10). PCBs were qualified as estimated (UJ) in EGCSB-11(8-10).

ORGANIC ANALYSES
TPH

	Reported		Performance acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
a. Method blanks		X		X	
B. Field blank					X
3. Matrix spike (MS) %R		X	X		
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X		X	
8. Initial calibration RRF's and %RSD's		X		X	
9. Continuing calibration RRF's and %D's		X		X	
10. Transcriptions – quant report vs. Form I		X		X	
11. Field duplicates RPD					X

%D - percent difference
%R - percent recovery
RRF - relative response factor
%RSD - percent relative standard deviation
RPD - relative percent difference

Comments:
Performance was acceptable, with the following exception:

3&5. The TPH %R was below QC limits in the MS and RPD was above the QC in the MS/MSD and was qualified as estimated (J) in all samples.

INORGANIC ANALYSES
Metals & Cyanide

	Reported		Performance acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Preparation and calibration blanks		X	X		
B. Field blanks					X
3. Initial calibration verification %R		X		X	
4. Continuing calibration verification %R		X		X	
5. CRDL standard %R		X		X	
6. Interference check sample %R		X		X	
7. Laboratory control sample %R		X		X	
8. Spike sample %R		X		X	
9. Post digestive spike sample %R					X
10. Duplicate %RPD		X	X		
11. Serial dilution check %D		X		X	
12. Total verse dissolved results					X
13. Field duplicates RPD					X

%R - percent recovery %D - percent difference RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

2a. Cyanide was detected in the preparation blank. Cyanide was detected at less than ten times the concentration found in the blanks and less than the contract required detection limit, therefore, qualified as non-detect (U) in all sample if detected.

10. The calcium RPD was above the QC limit of 20% for the laboratory duplicate associated with all samples. Calcium was qualified as estimated (J) in all samples.

DATA VALIDATION AND QUALIFICATION SUMMARY

Laboratory Numbers:C2361

Sample ID	Analyte(s)	Qualifier	Reason(s)
VOCs			
No qualification of the data was necessary.			
SVOCs			
All samples	Benzaldehyde	UJ	%R was below the QC limit in the MS, MSD and laboratory control sample and the RPD was above the QC limit in the MS/MSD
PCBs			
EGCSB-11(8-10)	PCBs	UJ	A surrogate %R was below QC limits
TPH			
All samples	TPH	J	%R was below QC limits in the MS and RPD was above the QC in the MS/MSD
Metals & Cyanide			
All samples if detected	Cyanide	U	Detected in the preparation blanks
All samples	Calcium	J	RPDs were above the QC limit of 20% for the laboratory duplicate

VALIDATION PERFORMED BY & DATE:	Donna M. Brown 07/12/2011
VALIDATION PERFORMED BY SIGNATURE:	

DATA VALIDATION CHECKLIST

Project Name:	National Grid- East Garden City
Project Number:	3008-C04
Sample Date(s):	May 24 &25, 2011
Sample Team:	Paul Barusich
Matrix/Number of Samples:	Soil/ 8 Field Duplicates/ 1 Trip Blanks / 0 Field Blanks/ 1
Analyzing Laboratory:	Chemtech, Mountainside, New Jersey
Analyses:	Volatile organic compounds (VOCs), by USEPA method SW846 8260B Semi volatile organic compounds (SVOCs), by USEPA method SW846 8270C Polychlorinated biphenyl (PCBs) by USEPA SW846 Method 8082 Total petroleum hydrocarbons (TPH) by USEPA SW846 Method 8100 Metals by SW846 Method 6010B and mercury (Hg) by Method 7471A Cyanide by SW846 Method 9012
Laboratory Report No:	C2375 Date:6/13/2011

ANALYTICAL DATA PACKAGE DOCUMENTATION GENERAL INFORMATION

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Sample results		X		X	
2. Parameters analyzed		X		X	
3. Method of analysis		X		X	
4. Sample collection date		X		X	
5. Laboratory sample received date		X		X	
6. Sample analysis date		X		X	
7. Copy of chain-of-custody form signed by Lab sample custodian		X		X	
8. Narrative summary of QA or sample problems provided		X		X	

QA - quality assurance

Comments:

The data packages have been reviewed in accordance with the NYSDEC 6/05 ASP Quality Assurance/ Quality Control (QA/QC) requirements. A validation was conducted on the data package and any applicable qualification of the data was determined using the USEPA National Functional Guidelines of June 2008, or USEPA National Functional Guidelines of Inorganic Data Review, January 2010, method performance criteria, and Dvirka and Bartilucci Consulting Engineers, a Division of William F. Cosulich Associates, P.C. professional judgment. The qualification of data discussed within this data validation checklist did not impact the usability of the sample results.

Custody Numbers:C2375
SAMPLE AND ANALYSIS LIST

Sample ID	Lab ID	Sample Collection Date	Parent Sample	Analysis				
				VOC	SVOC	PCB	MET	TPH
EGCSB-15(14.5-16.5)	C2375-01	5/24/2011		x	x	x	x	x
EGCSB-15(8.5-10.5)	C2375-02	5/24/2011		x	x	x	x	x
EGCSB-16(15-17)	C2375-03	5/24/2011		x	x	x	x	x
EGCSB-16(8-10)	C2375-06	5/24/2011		x	x	x	x	x
EGCSB-17(14-16)	C2375-07	5/24/2011		x	x	x	x	x
EGCSB-17(9-11)	C2375-08	5/24/2011		x	x	x	x	x
FIELDBLANK3	C2375-09	5/24/2011		x	x	x	x	x
FIELD DUPLICATE3	C2375-10	5/24/2011	EGCSB-15(14.5-16.5)	x	x	x	x	x
EGCSB-14(14-16)	C2375-11	5/25/2011		x	x	x	x	x
EGCSB-14(8.5-10.5)	C2375-12	5/25/2011		x	x	x	x	x

ORGANIC ANALYSES
VOCS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Trip blanks					X
C. Field blanks		X		X	
3. Matrix spike (MS) %R		X	X		
4. Matrix spike duplicate (MSD) %R		X	X		
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X	X		
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD		X		X	
14. Tentatively Identified Compounds (TICs)		X		X	

VOCs - volatile organic compounds %D - percent difference RRF - relative response factor
%R - percent recovery %RSD - percent relative standard deviation RPD - relative percent difference

Comments:
Performance was acceptable with the following exceptions:

3-6. The 1,1,1-trichloroethane, methyl acetate, bromomethane, 1,2,3-trichlorobenzene, 1,2-dibromo-3-chloropropane and 1,4-dioxane %Rs were above the QC limits in the MS and/or MSDs. The 2-butanone, 2-hexanone and 4-methyl-2-pentaone RPDs were above the QC limit in the MS/MSD. The 1,1,1-trichloroethane, carbon tetrachloride, dichlorodifluoromethane, methylcyclohexane and trichlorofluoromethane had %Rs above the QC in the laboratory control sample. They were not detected in the associated samples, therefore, qualification of the data was not necessary.

ORGANIC ANALYSES
SVOCS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Field blanks		X		X	
3. Matrix spike (MS) %R		X	X		
4. Matrix spike duplicate (MSD) %R		X	X		
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X	X		
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD		X		X	
14. Tentatively Identified Compounds (TICs)		X		X	

SVOCs –Semi- volatile organic compounds %D - percent difference RRF - relative response factor
%R - percent recovery %RSD - percent relative standard deviation RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

3-6. The benzaldehyde %R was below the QC limit in the MS, MSD and laboratory control sample associated with all samples and the RPD was above the QC limit in the MS/MSD. Benzaldehyde was qualified as estimated (UJ) in all samples.

12. Sample results associated with compound that exhibited a concentration greater than the linear range of the instrument calibration are summarized in the following table.

Sample ID	Compound	Original Analysis	Diluted Analysis	Reported Analysis
EGCSB-16(8-10)	Phenanthrene	3700 E	5000 D	5000 D
	Fluoranthene	3700 E	4500 D	4500 D
	Pyrene	3100 E	4300 D	4300 D

ORGANIC ANALYSES
PCBs

	Reported		Performance acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
a. Method blanks		X		X	
B. Field blanks		X		X	
3. Matrix spike (MS) %R		X		X	
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X		X	
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X		X	
8. GC Surrogate retention time summary		X		X	
9. Initial calibration %RSD's		X		X	
10. Continuing calibration %D's		X		X	
11. Transcriptions – quant report vs. Form I		X		X	
12. Identification summary		X		X	
13. Field duplicates RPD		X		X	

PCBs – Polychlorinated Biphenyls
%R - percent recovery
%D - percent difference
%RSD - percent relative standard deviation
RRF - relative response factor
RPD - relative percent difference

Comments:
Performance was acceptable.

ORGANIC ANALYSES
TPH

	Reported		Performance acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
a. Method blanks		X		X	
B. Field blank		X		X	
3. Matrix spike (MS) %R		X		X	
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X		X	
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X		X	
8. Initial calibration RRF's and %RSD's		X		X	
9. Continuing calibration RRF's and %D's		X		X	
10. Transcriptions – quant report vs. Form I		X		X	
11. Field duplicates RPD		X		X	

%D - percent difference
%R - percent recovery
RRF - relative response factor
%RSD - percent relative standard deviation
RPD - relative percent difference

Comments:
Performance was acceptable.

INORGANIC ANALYSES
Metals & Cyanide

	Reported		Performance acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Preparation and calibration blanks		X	X		
B. Field blanks		X	X		
3. Initial calibration verification %R		X		X	
4. Continuing calibration verification %R		X		X	
5. CRDL standard %R		X	X		
6. Interference check sample %R		X		X	
7. Laboratory control sample %R		X		X	
8. Spike sample %R		X	X		
9. Post digestive spike sample %R		X	X		
10. Duplicate %RPD		X		X	
11. Serial dilution check %D		X		X	
12. Total verse dissolved results					X
13. Field duplicates RPD		X		X	

%R - percent recovery %D - percent difference RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

2A&B. Calcium, iron, lead, cyanide, magnesium, potassium, selenium, sodium, zinc and thallium were detected in the preparation and/or field blanks. The following were detected at less than ten times the concentration found in the blanks and qualified as non-detect (U): cyanide in EGCSB-16(15-17) and EGCSB-14(8.5-10.5); lead in FIELD DUPLICATE 3; all selenium results; and calcium in EGCSB-15(14.5-16.5), EGCSB-17(14-18), EGCSB-14(14-16) and FIELD DUPLICATE 3.

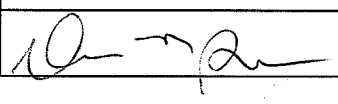
5. The aluminum, iron and selenium %R were above the QC limits in the CRDL standard. Qualification of the data was not necessary.

8&9. The antimony, arsenic and mercury %Rs were above the QC limit for the spike sample associated with the FIELD BLANK. Qualification of the data was not necessary.

DATA VALIDATION AND QUALIFICATION SUMMARY

Laboratory Numbers:C2375

Sample ID	Analyte(s)	Qualifier	Reason(s)
VOCs			
No qualification of the data was necessary.			
SVOCs			
All samples	Benzaldehyde	UJ	%R was below the QC limit in the MS, MSD and laboratory control sample and the RPD was above the QC limit in the MS/MSD
EGCSB-16(8-10)	Phenanthrene, Fluoranthene and Pyrene	D	Report secondary dilution, original exceeded calibration
PCBs			
No qualification of the data was necessary.			
TPH			
No qualification of the data was necessary.			
Metals & Cyanide			
EGCSB-16(15-17) and EGCSB-14(8.5-10.5)	Cyanide	U	Detected in the preparation blanks
FIELD DUPLICATE 3	Lead	U	Detected in the preparation or field blanks
All samples	Selenium	U	Detected in the preparation or field blanks
EGCSB-15(14.5-16.5), EGCSB-17(14-16), EGCSB-14(14-16) and FIELD DUPLICATE 3	Calcium	U	Detected in the preparation or field blanks

VALIDATION PERFORMED BY & DATE:	Donna M. Brown 07/12/2011
VALIDATION PERFORMED BY SIGNATURE:	

DATA VALIDATION CHECKLIST

Project Name:	National Grid- East Garden City
Project Number:	3008-C04
Sample Date(s):	May 26, 2011
Sample Team:	Paul Barusich
Matrix/Number of Samples:	Soil/ 2 Waste Characterzation/ 1 Trip Blanks / 0 Field Blanks/ 0
Analyzing Laboratory:	Chemtech, Mountainside, New Jersey
Analyses:	Volatile organic compounds (VOCs) by USEPA method SW846 8260B Semi volatile organic compounds (SVOCs), by USEPA method SW846 8270C Metals by SW846 Method 6010B and mercury (Hg) by Method 7470A TCLP VOCs, SVOCs and Metals were also analyzed by the above method and prepared by method 1311 Pesticides (PEST) by USEPA SW846 Method 8081A Polychlorinated biphenyl (PCBs) by USEPA SW846 Method 8082 Herbicides (HERB) by USEPA SW846 Method 8151A Total petroleum hydrocarbons (TPH) by USEPA SW846 Method 8100 Gasoline and Diesel Range Organics (GRO & DRO) by USEPA SW846 Method 8015B Other: Ignitability by SW846 Method 1030; Cyanide by SW846 Method 9010C; Reactive Cyanide by SW846 Method 9014; Corrosivity by SW846 Method 9045C; and Reactive Sulfide by SW846 Method 9034.
Laboratory Report No:	C2430 Date:6/15/2011

ANALYTICAL DATA PACKAGE DOCUMENTATION
GENERAL INFORMATION

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Sample results		X		X	
2. Parameters analyzed		X		X	
3. Method of analysis		X		X	
4. Sample collection date		X		X	
5. Laboratory sample received date		X		X	
6. Sample analysis date		X		X	
7. Copy of chain-of-custody form signed by Lab sample custodian		X		X	
8. Narrative summary of QA or sample problems provided		X		X	

QA - quality assurance

Comments:
The data packages have been reviewed in accordance with the NYSDEC 6/05 ASP Quality Assurance/ Quality Control (QA/QC) requirements. A validation was conducted on the data package and any applicable qualification of the data was determined using the USEPA National Functional Guidelines of June 2008, or USEPA National Functional Guidelines of Inorganic Data Review, January 2010, method performance criteria, and Dvirka and Bartilucci Consulting Engineers, a Division of William F. Cosulich Associates, P.C. professional judgment. The qualification of data discussed within this data validation checklist did not impact the usability of the sample results.

Custody Numbers:C2430
SAMPLE AND ANALYSIS LIST

Sample ID	Lab ID	Sample Collection Date	Analysis					
			VOC/ TCLP	SVOC/ TCLP	PCB/ PEST& HERB	MET/ TCLP	TPH/ GRO& DRO	Cyanide /Other
EGCMW-03(15.5-17.5)	C2430-01	5/26/2011	x/--	x/--	x/--	x/--	x/--	x/--
EGCMW-03(8.5-10.5)	C2430-02	5/26/2011	x/--	x/--	x/--	x/--	x/--	x/--
WASTE CHARACTERIZATION	C2430-03 / -04	5/26/2011	--/x	--/x	x/x	x/x	x/x	--/x

ORGANIC ANALYSES
VOCs / TCLP VOCs

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Trip blanks					X
C. Field blanks					X
3. Matrix spike (MS) %R		X		X	
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X	X		
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD					X
14. Tentatively Identified Compounds (TICs)		X		X	

VOCs - volatile organic compounds
%R - percent recovery
%D - percent difference
%RSD - percent relative standard deviation
RRF - relative response factor
RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

5. The acetone RPD was above the QC in the MS/MSD and was not detected in the associated samples, therefore, qualification of the data was not necessary.

6. The acetone,1,1,1-trichloroethane, carbon tetrachloride, dichlorodifluoromethane, methylcyclohexane and trichlorofluoromethane %Rs were above the QC limit in the laboratory control sample associated with all samples. None of these compounds were detected in the samples and qualification of the data was not necessary.

ORGANIC ANALYSES
SVOCs / TCLP SVOCs

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Field blanks					X
3. Matrix spike (MS) %R		X	X		
4. Matrix spike duplicate (MSD) %R		X	X		
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X	X		
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD					X
14. Tentatively Identified Compounds (TICs)		X		X	

SVOCs –Semi- volatile organic compounds %D - percent difference RRF - relative response factor
%R - percent recovery %RSD - percent relative standard deviation RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

3-6. The benzaldehyde %R was below the QC limit in the MS, MSD and laboratory control sample associated with all samples and the RPD was above the QC limit in the MS/MSD. The RPD for numerous SVOCs were above the QC limit in the MS/MSD associated with all samples and not detected. Benzaldehyde was qualified as estimated (UJ) in all samples.

5. The MS/MSD TCLP RPDs were above QC limits for pentachlorophenol and pyridine and were not detected in the associated samples; therefore, qualification of the data was not necessary.

INORGANIC ANALYSES
Metals / TCPL Metals

	Reported		Performance acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Preparation and calibration blanks		X	X		
B. Field blanks					X
3. Initial calibration verification %R		X		X	
4. Continuing calibration verification %R		X		X	
5. CRDL standard %R		X	X		
6. Interference check sample %R		X		X	
7. Laboratory control sample %R		X		X	
8. Spike sample %R		X		X	
9. Post digestive spike sample %R					X
10. Duplicate %RPD		X		X	
11. Serial dilution check %D		X	X		
12. Total verse dissolved results					X
13. Field duplicates RPD					X

%R - percent recovery %D - percent difference RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

2A. TCLP barium was detected in the preparation blank. TCLP barium was detected at less than ten times the concentration found in the blanks and less than the contract required detection limit and qualified as non-detect (U) in sample WASTECHARACTERIZATION.

5. The cadmium %R was above and chromium %R was below the QC limits in the CRDL standard and no qualification of the data was necessary.

11. The total chromium and zinc %Ds were above the QC limit of 10% for the serial dilution check sample associated with all samples. Total chromium and zinc were qualified as estimated (J/UJ) in all samples.

ORGANIC ANALYSES
PEST / PCBs / HERB

	Reported		Performance acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
a. Method blanks		X		X	
B. Field blanks					X
3. Matrix spike (MS) %R		X		X	
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X	X		
8. GC Surrogate retention time summary		X		X	
9. Initial calibration %RSD's		X		X	
10. Continuing calibration %D's		X	X		
11. Transcriptions – quant report vs. Form I		X		X	
12. Identification summary		X		X	
13. Field duplicates RPD					X

PCBs – Polychlorinated Biphenyls
%R - percent recovery
%D - percent difference
%RSD - percent relative standard deviation
RRF - relative response factor
RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

5 The herbicide RPD for 2,4-DB and dinoseb were above the QC limit in the MS/MSD associated with all samples and not detected. No qualification of the data was necessary.

7. Due to the second column herbicide surrogate being outside QC limits for 2,4-DCAA, WASTECHARACTERIZATION was reanalyzed. No herbicides were detected in the original and the reanalysis. The reanalyzed was reported with no qualification of the data necessary.

10. Due to the continuing calibration %D being outside QC limits for several pesticides, WASTECHARACTERIZATION was reanalyzed. No pesticides were detected in the original and the reanalysis. The reanalysis was reported with no qualification of the data necessary.

ORGANIC ANALYSES
TPH / GRO / DRO

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Field blank					X
3. Matrix spike (MS) %R		X	X		
4. Matrix spike duplicate (MSD) %R		X	X		
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X	X		
8. Initial calibration RRF's and %RSD's		X		X	
9. Continuing calibration RRF's and %D's		X		X	
10. Transcriptions – quant report vs. Form I		X		X	
11. Field duplicates RPD					X

%D - percent difference
%R - percent recovery
RRF - relative response factor
%RSD - percent relative standard deviation
RPD - relative percent difference

Comments:
Performance was acceptable with the following exceptions:

3&5. The DRO %R was below QC limits in the MS and MSD and RPD was above the QC in the MS/MSD. DRO was qualified as estimated (J) in WASTECHARACTERIZATION.

7. A DRO surrogate %R was above QC limits associated with WASTECHARACTERIZATION. DRO was qualified as estimated (J) in WASTECHARACTERIZATION.

INORGANIC ANALYSES
Other

	Reported		Performance acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Preparation, initial and continuing calibration blanks		X	X		
B. Field blanks					X
3. Initial calibration verification %R		X		X	
4. Continuing calibration verification %R		X		X	
5. Laboratory control sample %R		X		X	
6. Spike sample %R		X		X	
7. Duplicate %RPD		X		X	
8. Field duplicates RPD					X

%R - percent recovery %D - percent difference RPD - relative percent difference

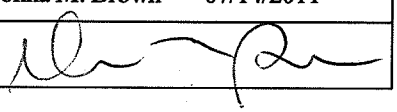
Comments:
Performance was acceptable, with the following exception:

2a. Cyanide was detected in the preparation blank. Cyanide was detected at less than ten times the concentration found in the blanks and less than the contract required detection limit, therefore, qualified as non-detect (U) in EGCMW-03(8.5-10.5).

DATA VALIDATION AND QUALIFICATION SUMMARY

Laboratory Numbers:C2430

Sample ID	Analyte(s)	Qualifier	Reason(s)
VOCs / TCLP VOCs			
No qualification of the data was necessary.			
SVOCs			
All samples	Benzaldehyde	UJ	%R was below the QC limit in the MS, MSD and laboratory control sample
TCLP SVOCs			
No qualification of the data was necessary.			
Metals			
All samples	Chromium and zinc	J/UJ	%Ds were above the QC limit of 10% for the serial dilution check
TCLP Metals			
WASTECHARACTERIZATION	Barium	U	Detected in the preparation blank
PEST/PCBs/HERB			
WASTECHARACTERIZATION	PEST / HERB	Report reanalysis	Surrogates / continuing calibration outside QC limits
TPH/GRO/DRO			
WASTECHARACTERIZATION	DRO	J	%R was below QC limits in the MS and MSD and RPD was above the QC in the MS/MSD and surrogate %R was above QC limits

VALIDATION PERFORMED BY & DATE:	Donna M. Brown 07/14/2011
VALIDATION PERFORMED BY SIGNATURE:	

DATA VALIDATION CHECKLIST

Project Name:	National Grid- East Garden City
Project Number:	3008-C04
Sample Date(s):	June 6, 2011
Sample Team:	Paul Barusich
Matrix/Number of Samples:	Water/ 4 Field Duplicates/ 1 Trip Blanks / 1 Field Blanks/ 1
Analyzing Laboratory:	Chemtech, Mountainside, New Jersey
Analyses:	Volatile organic compounds (VOCs), by USEPA method SW846 8260B Semi volatile organic compounds (SVOCs), by USEPA method SW846 8270C Polychlorinated biphenyl (PCBs) by USEPA SW846 Method 8082 Metals by SW846 Method 6010B and mercury (Hg) by Method 7470A Cyanide by SW846 Method 9012B
Laboratory Report No:	C2522 Date:6/22/2011

ANALYTICAL DATA PACKAGE DOCUMENTATION GENERAL INFORMATION

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Sample results		X		X	
2. Parameters analyzed		X		X	
3. Method of analysis		X		X	
4. Sample collection date		X		X	
5. Laboratory sample received date		X		X	
6. Sample analysis date		X		X	
7. Copy of chain-of-custody form signed by Lab sample custodian		X		X	
8. Narrative summary of QA or sample problems provided		X		X	

QA - quality assurance

Comments:

The data packages have been reviewed in accordance with the NYSDEC 6/05 ASP Quality Assurance/ Quality Control (QA/QC) requirements. A validation was conducted on the data package and any applicable qualification of the data was determined using the USEPA National Functional Guidelines of June 2008, or USEPA National Functional Guidelines of Inorganic Data Review, January 2010, method performance criteria, and Dvirka and Bartilucci Consulting Engineers, a Division of William F. Cosulich Associates, P.C. professional judgment. The qualification of data discussed within this data validation checklist did not impact the usability of the sample results.

Custody Numbers:C2522
SAMPLE AND ANALYSIS LIST

Sample ID	Lab ID	Sample Collection Date	Parent Sample	Analysis				
				VOC	SVOC	PCB	MET	TPH
EGCMW-05	C2522-01	6/6/2011		x	x	x	x	
EGCMW-06	C2522-04	6/6/2011		x	x	x	x	
EGCMW-04	C2522-05	6/6/2011		x	x	x	x	
EGCMW-02	C2522-06	6/6/2011		x	x	x	x	
FIELDBLANK	C2522-07	6/6/2011		x	x	x	x	
FIELD DUPLICATE	C2522-08	6/6/2011	EGCMW-04	x	x	x	x	
TRIPBLANK	C2522-09	6/6/2011		x				

ORGANIC ANALYSES
VOCS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Trip blanks		X		X	
C. Field blanks		X		X	
3. Matrix spike (MS) %R		X		X	
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X		X	
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD		X		X	
14. Tentatively Identified Compounds (TICs)		X		X	

VOCs - volatile organic compounds
%D - percent difference
RRF - relative response factor
%R - percent recovery
%RSD - percent relative standard deviation
RPD - relative percent difference

Comments:
Performance was acceptable.

ORGANIC ANALYSES
SVOCS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Field blanks		X		X	
3. Matrix spike (MS) %R		X	X		
4. Matrix spike duplicate (MSD) %R		X	X		
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X	X		
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD		X		X	
14. Tentatively Identified Compounds (TICs)		X		X	

SVOCs –Semi- volatile organic compounds %D - percent difference RRF - relative response factor
%R - percent recovery %RSD - percent relative standard deviation RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

3-6. The 1,2,4,5-tetrachlorobenzene, 2,3,4,6-tetrachlorophenol and benzaldehyde %Rs were below the QC limit in the MS, MSD and/or laboratory control sample associated with all samples. The pentachlorophenol R% was above the QC limit in the MSD. All SVOC RPDs were above the QC limit in the MS/MSD. SVOCs were not detected in the associated samples, therefore only 1,2,4,5-tetrachlorobenzene, 2,3,4,6-tetrachlorophenol and benzaldehyde were qualified as estimated (UJ) in all samples.

ORGANIC ANALYSES
PCBs

	Reported		Performance acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
a. Method blanks		X		X	
B. Field blanks		X		X	
3. Matrix spike (MS) %R		X		X	
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X		X	
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X		X	
8. GC Surrogate retention time summary		X		X	
9. Initial calibration %RSD's		X		X	
10. Continuing calibration %D's		X		X	
11. Transcriptions – quant report vs. Form I		X		X	
12. Identification summary		X		X	
13. Field duplicates RPD		X		X	

PCBs – Polychlorinated Biphenyls
%R - percent recovery
%D - percent difference
%RSD - percent relative standard deviation
RRF - relative response factor
RPD - relative percent difference

Comments:
Performance was acceptable.

INORGANIC ANALYSES
Metals & Cyanide

	Reported		Performance acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Preparation and calibration blanks		X	X		
B. Field blanks		X	X		
3. Initial calibration verification %R		X		X	
4. Continuing calibration verification %R		X		X	
5. CRDL standard %R		X	X		
6. Interference check sample %R		X		X	
7. Laboratory control sample %R		X		X	
8. Spike sample %R		X	X		
9. Post digestive spike sample %R		X	X		
10. Duplicate %RPD		X		X	
11. Serial dilution check %D		X	X		
12. Total verse dissolved results					X
13. Field duplicates RPD		X		X	

%R - percent recovery %D - percent difference RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

Sample results associated with compound that exhibited a concentration greater than the linear range of the instrument calibration are summarized in the following table.

Sample ID	Compound	Original Analysis	Diluted Analysis	Reported Analysis
EGCMW-06	Cyanide	0.972 OR	0.972 D	0.972 D

2A&B. Aluminum, calcium, copper, iron, cyanide, magnesium, potassium, zinc and thallium were detected in the preparation and/or field blanks. The following metals were detected at less than ten times the concentration found in the blanks, less than the CRDL and were qualified as non-detect (U): copper in EGCMW-04, EGCMW-05, EGCMW-06 and FIELD DUPLICATE; sodium in EGCMW-06; thallium in EGCMW-02, EGCMW-04, EGCMW-05 and FIELD DUPLICATE; and all zinc results.

5. The chromium and iron %R were above the QC limits in the CRDL standard. Qualification of the data was not necessary.

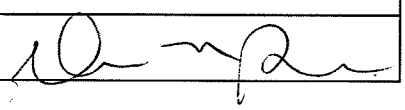
8&9. The magnesium and zinc %Rs were above the QC limit for the spike sample and were qualified as estimated (J/UJ) in all samples.

11. Aluminum and manganese %D was above the QC limit of 10 % for the serial dilution check sample and were qualified as estimated (J) in all samples.

DATA VALIDATION AND QUALIFICATION SUMMARY

Laboratory Numbers:C2522

Sample ID	Analyte(s)	Qualifier	Reason(s)
VOCs			
No qualification of the data was necessary.			
SVOCs			
All samples	Benzaldehyde,1,2,4,5-tetrachlorobenzene, and 2,3,4,6-tetrachlorophenol	UJ	%R was below the QC limit in the MS, MSD and laboratory control sample and the RPD was above the QC limit in the MS/MSD
PCBs			
No qualification of the data was necessary.			
Metals & Cyanide			
EGCMW-04, EGCMW-05, EGCMW-06 and FIELD DUPLICATE	Copper	U	Detected in the preparation or field blanks
EGCMW-06	Sodium	U	Detected in the preparation or field blanks
EGCMW-02, EGCMW-04, EGCMW-05 and FIELD DUPLICATE	Thallium	U	Detected in the preparation or field blanks
All samples	Zinc	U	Detected in the preparation or field blanks
All samples	Aluminum and manganese	J	%D was above the QC limit of 10 % for the serial dilution check
All samples	Magnesium and zinc	J/UJ	%Rs were above the QC limit for the spike sample

VALIDATION PERFORMED BY & DATE:	Donna M. Brown 07/13/2011
VALIDATION PERFORMED BY SIGNATURE:	

DATA VALIDATION CHECKLIST

Project Name:	National Grid- East Garden City
Project Number:	3008-C04
Sample Date(s):	June 7, 2011
Sample Team:	Paul Barusich
Matrix/Number of Samples:	Water/ 2 Field Duplicates/ 0 Trip Blanks / 1 Field Blanks/ 0
Analyzing Laboratory:	Chemtech, Mountainside, New Jersey
Analyses:	Volatile organic compounds (VOCs), by USEPA method SW846 8260B Semi volatile organic compounds (SVOCs), by USEPA method SW846 8270C Polychlorinated biphenyl (PCBs) by USEPA SW846 Method 8082 Metals by SW846 Method 6010B and mercury (Hg) by Method 7470A Cyanide by SW846 Method 9012B
Laboratory Report No:	C2567 Date:6/22/2011

ANALYTICAL DATA PACKAGE DOCUMENTATION GENERAL INFORMATION

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Sample results		X		X	
2. Parameters analyzed		X		X	
3. Method of analysis		X		X	
4. Sample collection date		X		X	
5. Laboratory sample received date		X		X	
6. Sample analysis date		X		X	
7. Copy of chain-of-custody form signed by Lab sample custodian		X		X	
8. Narrative summary of QA or sample problems provided		X		X	

QA - quality assurance

Comments:

The data packages have been reviewed in accordance with the NYSDEC 6/05 ASP Quality Assurance/ Quality Control (QA/QC) requirements. A validation was conducted on the data package and any applicable qualification of the data was determined using the USEPA National Functional Guidelines of June 2008, or USEPA National Functional Guidelines of Inorganic Data Review, January 2010, method performance criteria, and Dvirka and Bartilucci Consulting Engineers, a Division of William F. Cosulich Associates, P.C. professional judgment. The qualification of data discussed within this data validation checklist did not impact the usability of the sample results.

Custody Numbers:C2567
SAMPLE AND ANALYSIS LIST

Sample ID	Lab ID	Sample Collection Date	Parent Sample	Analysis				
				VOC	SVOC	PCB	MET	TPH
TRIPBLANK	C2567-01	6/7/2011		x				
EGCMW-03	C2567-02	6/7/2011		x	x	x	x	
EGCMW-07	C2567-03	6/7/2011		x	x	x	x	

ORGANIC ANALYSES
VOCS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Trip blanks		X		X	
C. Field blanks					X
3. Matrix spike (MS) %R					X
4. Matrix spike duplicate (MSD) %R					X
5. MS/MSD precision (RPD)					X
6. Laboratory Control Sample %R		X	X		
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD					X
14. Tentatively Identified Compounds (TICs)		X		X	

VOCs - volatile organic compounds
%D - percent difference
RRF - relative response factor
%R - percent recovery
%RSD - percent relative standard deviation
RPD - relative percent difference

Comments:
Performance was acceptable, with the following exception:

6. The acetone and 14-dioxane %Rs were below the QC limit in the laboratory control sample associated with all samples. The 1,2,4-trichlorobenzene and 1,2,3-trichlorobenzene %Rs were above the QC limit in the laboratory control sample duplicate associated with all samples. The RPD for numerous VOCs were above the QC limit in the laboratory control sample associated with all samples and not detected above the method detection limit. Acetone and 14-dioxane were qualified as estimated (UJ) in all samples.

ORGANIC ANALYSES
SVOCS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Field blanks					X
3. Matrix spike (MS) %R		X	X		
4. Matrix spike duplicate (MSD) %R		X	X		
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X	X		
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD					X
14. Tentatively Identified Compounds (TICs)		X		X	

SVOCs –Semi- volatile organic compounds %D - percent difference RRF - relative response factor
%R - percent recovery %RSD - percent relative standard deviation RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

3-6. The 1,2,4,5-tetrachlorobenzene, 2,3,4,6-tetrachlorophenol and benzaldehyde %Rs were below the QC limit in the MS, MSD and/or laboratory control sample associated with all samples. The pentachlorophenol R% was above the QC limit in the MSD. All SVOC RPDs were above the QC limit in the MS/MSD. SVOCs were not detected in the associated samples, therefore only 1,2,4,5-tetrachlorobenzene, 2,3,4,6-tetrachlorophenol and benzaldehyde were qualified as estimated (UJ) in all samples.

ORGANIC ANALYSES
PCBs

	Reported		Performance acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
a. Method blanks		X		X	
B. Field blanks					X
3. Matrix spike (MS) %R		X		X	
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X		X	
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X		X	
8. GC Surrogate retention time summary		X		X	
9. Initial calibration %RSD's		X		X	
10. Continuing calibration %D's		X		X	
11. Transcriptions – quant report vs. Form I		X		X	
12. Identification summary		X		X	
13. Field duplicates RPD					X

PCBs – Polychlorinated Biphenyls
%R - percent recovery
%D - percent difference
%RSD - percent relative standard deviation
RRF - relative response factor
RPD - relative percent difference

Comments:
Performance was acceptable.

INORGANIC ANALYSES
Metals & Cyanide

	Reported		Performance acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Preparation and calibration blanks		X		X	
B. Field blanks					X
3. Initial calibration verification %R		X		X	
4. Continuing calibration verification %R		X		X	
5. CRDL standard %R		X	X		
6. Interference check sample %R		X		X	
7. Laboratory control sample %R		X		X	
8. Spike sample %R		X	X		
9. Post digestive spike sample %R		X		X	
10. Duplicate %RPD		X		X	
11. Serial dilution check %D		X		X	
12. Total verse dissolved results					X
13. Field duplicates RPD					X

%R - percent recovery %D - percent difference RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

5. The selenium %R was below the QC limits in the CRDL standard and was qualified as estimated (J/UJ) in all samples.

8. The sodium %R was above the QC limit for the spike sample and were qualified as estimated (J/UJ) in all samples.

DATA VALIDATION AND QUALIFICATION SUMMARY

Laboratory Numbers:C2567

Sample ID	Analyte(s)	Qualifier	Reason(s)
VOCs			
All samples	Acetone and 1,4-dioxane	UJ	%R was below the QC limit in the laboratory control sample
SVOCs			
All samples	Benzaldehyde,1,2,4,5-tetrachlorobenzene, and 2,3,4,6-tetrachlorophenol	UJ	%R was below the QC limit in the MS, MSD and laboratory control sample and the RPD was above the QC limit in the MS/MSD
PCBs			
No qualification of the data was necessary.			
Metals & Cyanide			
All samples	Selenium	J/UJ	%R was below the QC limits in the CRDL standard
All samples	Sodium	J/UJ	%R was above the QC limit for the spike sample

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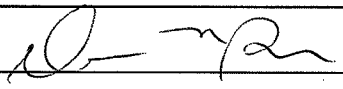
VALIDATION PERFORMED BY SIGNATURE:	

DATA VALIDATION CHECKLIST

Project Name:	National Grid- East Garden City
Project Number:	3008-C04
Sample Date(s):	June 8, 2011
Sample Team:	Paul Barusich
Matrix/Number of Samples:	Water/ 1 Waste Characterzation/ 1 Trip Blanks / 0 Field Blanks/ 0
Analyzing Laboratory:	Chemtech, Mountainside, New Jersey
Analyses:	Volatile organic compounds (VOCs), by USEPA method SW846 8260B Semi volatile organic compounds (SVOCs), by USEPA method SW846 8270C Polychlorinated biphenyl (PCBs) by USEPA SW846 Method 8082 Metals by SW846 Method 6010B and mercury (Hg) by Method 7470A Cyanide by SW846 Method 9012B Flash Point by SW846 Method 1010A
Laboratory Report No:	C2585 Date:6/23/2011

ANALYTICAL DATA PACKAGE DOCUMENTATION GENERAL INFORMATION

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Sample results		X		X	
2. Parameters analyzed		X		X	
3. Method of analysis		X		X	
4. Sample collection date		X		X	
5. Laboratory sample received date		X		X	
6. Sample analysis date		X		X	
7. Copy of chain-of-custody form signed by Lab sample custodian		X		X	
8. Narrative summary of QA or sample problems provided		X		X	

QA - quality assurance

Comments:

The data packages have been reviewed in accordance with the NYSDEC 6/05 ASP Quality Assurance/ Quality Control (QA/QC) requirements. A validation was conducted on the data package and any applicable qualification of the data was determined using the USEPA National Functional Guidelines of June 2008, or USEPA National Functional Guidelines of Inorganic Data Review, January 2010, method performance criteria, and Dvirka and Bartilucci Consulting Engineers, a Division of William F. Cosulich Associates, P.C. professional judgment. The qualification of data discussed within this data validation checklist did not impact the usability of the sample results.

Custody Numbers:C2585
SAMPLE AND ANALYSIS LIST

Sample ID	Lab ID	Sample Collection Date	Parent Sample	Analysis				
				VOC	SVOC	PCB	MET	Flash Point
EGCMW-01	C2585-01	6/8/2011		x	x	x	x	
WASTE CHARACTERIZATION	C2585-02	6/8/2011		x	x	x	x	x

ORGANIC ANALYSES
VOCS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Trip blanks					X
C. Field blanks					X
3. Matrix spike (MS) %R					X
4. Matrix spike duplicate (MSD) %R					X
5. MS/MSD precision (RPD)					X
6. Laboratory Control Sample %R		X	X		
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD					X
14. Tentatively Identified Compounds (TICs)		X		X	

VOCs - volatile organic compounds
%R - percent recovery
%D - percent difference
%RSD - percent relative standard deviation
RRF - relative response factor
RPD - relative percent difference

Comments:
Performance was acceptable, with the following exception:

6. The chloroethane, acetone, methyl tert-butyl ether, bromodichloromethane, 1,2-dibromoethane and 1,2-dichlorobenzene %Rs were above the QC limit in the laboratory control sample associated with all samples. The RPD for numerous VOCs were above the QC limit in the laboratory control sample associated with all samples. None of these compounds were detected in the samples and qualification of the data was not necessary.

ORGANIC ANALYSES
SVOCS

	Reported		Performance Acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Method blanks		X		X	
B. Field blanks					X
3. Matrix spike (MS) %R		X	X		
4. Matrix spike duplicate (MSD) %R		X	X		
5. MS/MSD precision (RPD)		X	X		
6. Laboratory Control Sample %R		X	X		
7. Surrogate spike recoveries		X		X	
8. Instrument performance check		X		X	
9. Internal standard retention times and areas		X		X	
10. Initial calibration RRF's and %RSD's		X		X	
11. Continuing calibration RRF's and %D's		X		X	
12. Transcriptions – quant report vs. Form I		X		X	
13. Field duplicates RPD					X
14. Tentatively Identified Compounds (TICs)		X		X	

SVOCs –Semi- volatile organic compounds %D - percent difference RRF - relative response factor
%R - percent recovery %RSD - percent relative standard deviation RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

3-5. The pentachlorophenol %R was above the QC limit in the MS and MSD associated with all samples. The 3,3-dichlorobenzidine RPD was above the QC limit in the MS/MSD. SVOCs were not detected in the associated samples, therefore no qualification was necessary.

6. The 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol %Rs were below the QC limit in the laboratory control sample and were qualified as estimated (UJ) in all samples.

ORGANIC ANALYSES
PCBs

	Reported		Performance acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
a. Method blanks		X		X	
B. Field blanks					X
3. Matrix spike (MS) %R		X		X	
4. Matrix spike duplicate (MSD) %R		X		X	
5. MS/MSD precision (RPD)		X		X	
6. Laboratory Control Sample %R		X		X	
7. Surrogate spike recoveries		X		X	
8. GC Surrogate retention time summary		X		X	
9. Initial calibration %RSD's		X		X	
10. Continuing calibration %D's		X		X	
11. Transcriptions – quant report vs. Form I		X		X	
12. Identification summary		X		X	
13. Field duplicates RPD					X

PCBs – Polychlorinated Biphenyls
%R - percent recovery
%D - percent difference
%RSD - percent relative standard deviation
RRF - relative response factor
RPD - relative percent difference

Comments:
Performance was acceptable.

INORGANIC ANALYSES
Metals & Cyanide & Flash Point

	Reported		Performance acceptable		Not
	No	Yes	No	Yes	Required
1. Holding times		X		X	
2. Blanks					
A. Preparation and calibration blanks		X		X	
B. Field blanks					X
3. Initial calibration verification %R		X		X	
4. Continuing calibration verification %R		X		X	
5. CRDL standard %R		X	X		
6. Interference check sample %R		X		X	
7. Laboratory control sample %R		X		X	
8. Spike sample %R		X	X		
9. Post digestive spike sample %R		X		X	
10. Duplicate %RPD		X		X	
11. Serial dilution check %D		X		X	
12. Total verse dissolved results					X
13. Field duplicates RPD					X

%R - percent recovery %D - percent difference RPD - relative percent difference

Comments:
Performance was acceptable, with the following exceptions:

5. The selenium and lead %R was above the QC limits in the CRDL standard and no qualification of the data was necessary.

8. The sodium %R was above the QC limit for the spike sample and were qualified as estimated (J/UJ) in all samples.

DATA VALIDATION AND QUALIFICATION SUMMARY

Laboratory Numbers:C2585

Sample ID	Analyte(s)	Qualifier	Reason(s)
VOCs			
No qualification of the data was necessary.			
SVOCs			
All samples	2,4-Dinitrophenol and 4,6-dinitro-2-methylphenol	UJ	%R was below the QC limit in the laboratory control sample
PCBs			
No qualification of the data was necessary.			
Metals & Cyanide & Flash Point			
All samples	Sodium	J/UJ	%R was above the QC limit for the spike sample

VALIDATION PERFORMED BY & DATE:	Donna M. Brown 07/13/2011
VALIDATION PERFORMED BY SIGNATURE:	