Site Remedial Investigation Report

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

November 2005

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BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

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1. Introduction

1.1 General

This Site Remedial Investigation Report (SRI Report) presents a summary of investigation activities conducted since 1999 at the National Grid Schenectady (Broadway) former manufactured gas plant (MGP) property (the property) located in Schenectady, New York. The overall objective of the investigation activities conducted since 1999 was to further identify the presence and extent of MGP-related chemical constituents and non-aqueous phase liquid (NAPL) in soil and groundwater in the vicinity of the property to obtain sufficient information to prepare a revised Feasibility Study for the site. This report has been prepared in accordance with a request from the New York State Department of Environmental Conservation (NYSDEC) presented in a May 28, 2003 letter to National Grid to summarize investigation activities conducted at and in the vicinity of the property since 1999 and in accordance with the *Work Plan for Investigation of Historical Subsurface Structures and Evaluation of Monitored Natural Attenuation Approach for Site Groundwater* (Work Plan) prepared by Blasland, Bouck & Lee, Inc. (BBL, April 2003). NYSDEC approved the Work Plan in a September 12, 2003 letter to National Grid. The site investigation activities were conducted in accordance with the November 7, 2003 Order on Consent between National Grid and NYSDEC (Order on Consent Index No. A4-0473-0000), which superseded the previous Order on Consent (Order on Consent Index No. DO-0001-9210).

This report also summarizes investigations conducted at and in the vicinity of the property prior to 1999, which consisted of a Preliminary Site Assessment/Interim Remedial Measure (PSA/IRM) Study conducted by Atlantic Environmental Services, Inc. (Atlantic) and a Remedial Investigation (RI) conducted by Parsons Engineering Science (Parsons). The PSA/IRM Study and RI activities and results were summarized in the following reports that were submitted to NYSDEC:

- *Preliminary Site Assessment/Interim Remedial Measure Study* (PSA/IRM Study), Atlantic, January 1993; and

- *Remedial Investigation Report for the Schenectady (Broadway) Site* (RI Report), Parsons, January 1999. The RI Report was approved by NYSDEC in January 1999.

Investigation activities and evaluations that have been conducted at the site since NYSDEC approval of the RI Report (Parsons, 1999) consist of:

- NAPL and groundwater investigation activities conducted by BBL in 2001 and 2002 (conducted in accordance with internal scope of work letters as well as November 21, 2001 and May 28, 2002 work plan letters that were verbally approved by NYSDEC);

- Historical subsurface structure investigation conducted by BBL in 2004 (per the NYSDEC-approved Work Plan);

- Additional subsurface investigations performed by BBL in 2004 (per the NYSDEC-approved Work Plan); and

- Till investigation activities conducted by BBL in 2005 (conducted per a scope of work included as an attachment to a March 3, 2005 conference call minutes – scope was verbally approved by NYSDEC).

In accordance with the Work Plan, a monitored natural attenuation (MNA) evaluation is being conducted. As this evaluation is not yet complete, the results of the MNA evaluation will be submitted to NYSDEC under separate cover.

National Grid prepared an initial Feasibility Study (FS) report that was submitted to NYSDEC in February 2000. The FS evaluated several potential remedial alternatives to address constituents related to former MGP operations, and used the information contained in the PSA/IRM Study Report (Atlantic, 1993) and the RI Report (Parsons, 1999) as the basis for these evaluations.

Based on NYSDEC comments on the draft FS report (presented in letters dated May 24, 2000 and June 6, 2001) and as discussed in a meeting attended by representatives of NYSDEC, National Grid, and BBL on November 7, 2001 additional investigation activities were deemed necessary at the site. The NAPL investigation, historical subsurface structure investigation, and additional subsurface investigation activities summarized in this report were conducted in response to discussions between National Grid and NYSDEC.

1.2 Report Organization

This SRI Report is organized as follows:

Section	Purpose
Section 1 – Introduction	Provides general information and a brief description of the report format.
Section 2 – Site Background	Presents a summary of the property location and setting; historical operations and land use; site topography and drainage; regional geology and hydrogeology; and the regulatory history for the site.
Section 3 – Pre-1999 Investigation Activities	Presents a summary of the activities conducted and results obtained for the PSA/IRM Study and the RI.
Section 4 – NAPL and Groundwater Investigation Activities	Presents a description of the field activities conducted during the NAPL and groundwater investigation, the findings of the NAPL and groundwater investigation, and the results obtained for the analysis of soil and groundwater samples collected during the investigation.
Section 5 – Historical Subsurface Structure Investigation	Presents a detailed description of the activities and findings of the historical subsurface structure investigation, including geophysical surveying activities, test boring, and soil boring activities, as well as results obtained for the analysis of soil samples collected from beneath the historical subsurface structure foundations.
Section 6 – Additional Subsurface Investigations	Presents a detailed description of the activities and results for the additional subsurface investigation including groundwater screening at monitoring well MW-8, monitoring well abandonment and installation activities, hydrogeologic and geotechnical investigation of the silt and clay unit beneath the property, and groundwater sampling.
Section 7 – Till Investigation	Presents a detailed description of the activities and findings for a till investigation that was conducted to assess the hydrogeologic properties of the till at the site and to further assess site stratigraphy.
Section 8 – Site Characterization	Presents an overall site characterization consisting of site geology and hydrogeology; an evaluation of the presence, extent, and nature of NAPL at the site; and the nature and extent of impacts to soil, groundwater, and sediment at the site.

2. Site Background

2.1 General

This section summarizes relevant site background information including property location and setting, historical operation and land use, site topography and drainage, regional geology and hydrogeology, and site regulatory history.

2.1.1 Site Location and Setting

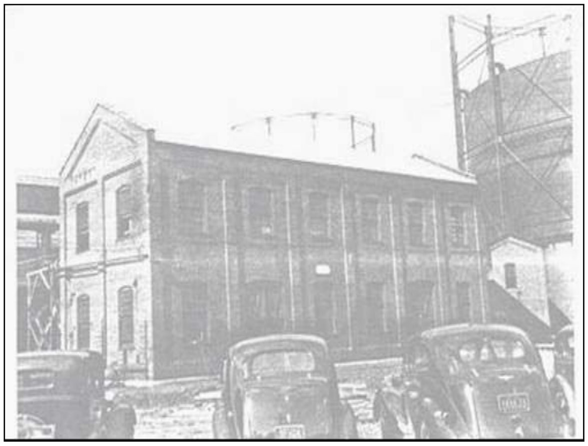
The site is located near the corner of Broadway and Weaver Street in the City of Schenectady, Schenectady County, New York (Figure 1) and covers an area of approximately 9 acres. The property is approximately three-quarters of a mile southwest of downtown Schenectady and the area surrounding the property primarily consists of a mixture of industrial and commercial properties. National Grid currently utilizes the property as a service center. The principal structure at the property is an office building with an attached garage and repair shop located near the southeastern portion of the property. Additional existing, above-ground structures at the property include a small garage located in the western portion of the property, an open garage used for truck and equipment storage in the central portion of the property, and a storage building along the northern property boundary. Schermerhorn Creek transects the property generally flowing from southwest to northeast. A natural gas regulation and distribution station is located west of the office building near the center of the property. Parking areas are located to the north of the natural gas regulator and distribution station and west of the main entrance to the property along Broadway. A National Grid electrical substation (Weaver Street Substation) is located on the eastern portion of the property. Extensive subsurface utilities associated with the onsite natural gas regulator and distribution system, service center, and electrical substation, including underground natural gas mains and high-voltage electric lines, are present throughout the property. Current property features are shown on Figure 2.

The entire perimeter of the property is fenced and access to the property is provided via two entrances; the main entrance on Broadway and a secondary entrance on Weaver Street. The property is bounded to the north by a Delaware and Hudson railroad line, to the south by Broadway, to the east by Weaver Street, and to the west by a CSX Transportation, Inc. (CSX) railroad line.

2.1.2 Historical Operations and Land Use

Based on National Grid records and information presented in the RI Report, manufactured gas was produced at the property from 1903 to the mid-1940s. The original manufactured gas plant (MGP) was constructed in 1903 and used the coal carbonization process for production of manufactured gas. The gas was stored in an 800,000 cubic foot (CF) above-grade steel gas holder located in the northern portion of the property near the east corner of the existing storage building. At that time, the east side of the property was occupied by a small trolley car yard operated by the Schenectady Railway Company. The trolley yard covered the area now occupied by the National Grid garage/office building and the open area north of the garage.

Manufactured gas production switched to the carbureted water gas process beginning in 1907 following construction of a water gas house, a brick purifier house, a boiler house, and a 150,000 CF above-grade steel gas holder that was located in the northern portion of the property near the south corner of the existing storage building. A 2 million CF above-grade gas holder was constructed to the east of the 800,000 CF gas holder in 1913 to increase gas storage capacity. In 1914, the principal structures at the property included the three gas holders; a retort house; a central manufacturing building containing an engine room, boiler room, generator house, and condenser house; and a purifier house. Smaller structures included a governor house, a concrete oil tank, an ammonia concentrator, a tar separator, and a tar tank. By 1930, a second purifier house and second boiler room were present at the property (Atlantic, 1993). The approximate locations of the historical site features are indicated on Figure 2.


Circa 1938

Gas production at the property increased between 1914 and 1927 until gas generated at a regional plant in Troy, New York, became the primary source of manufactured gas to the City of Schenectady. By 1930, several of the water gas manufacturing structures (including one of the purifier houses, the generator house, and the condenser house) had been converted to other uses, indicating that water gas production had ceased. Based on available information, coal gas production continued until sometime in the 1940s and weekly testing of gas production equipment was conducted during the 1950s. By 1956, manufactured gas production had ceased and the property was used for natural gas distribution. The gas holders were reportedly removed from the property in 1961.

National Grid assumed ownership of the property in 1950. Previous property owners included the Mohawk Gas Company (1903 to 1919), the Schenectady Illuminating Company (1919 to 1921), the Adirondack Power and Light Company (1921 to 1927), and the New York Power and Light Company (1927 to 1950).

In an effort to obtain information relating to the generation, handling, and disposal of coal tar and other waste products from the MGP operations at the property, BBL conducted a review of the New York State Public Services Commission (PSC) records at the State Archives Office located in Albany, New York. Information included in the records reviewed by BBL primarily pertained to employee records, revenues, and inventory of equipment for the various utility companies that formerly owned the Schenectady (Broadway) property. Select reports referenced volumes/amounts of residual waste materials generated during a particular year, however, the amounts were not presented on a per site basis, rather as totals for the company.

2.1.3 Physical Setting

The property is located in Schenectady County, New York. Schenectady County lies almost entirely within the Mohawk lowland area bounded by the Adirondack Mountains to the north and by the Helderberg Escarpment of the Allegheny Plateau Province to the south. The property is located in the Mohawk River Valley just within the 500 year flood plain at the base of a steep northwest-facing slope (Figure 1).

2.1.3.1 Site Topography and Drainage

Site ground-surface elevations range from approximately 220 to 230 feet above mean sea level (AMSL). The CSX railroad line, located immediately west of the property on a steep-sided man-made berm is approximately 20 feet higher in elevation than the property.

The ground surface at the property on either side of Schermerhorn Creek generally slopes towards the creek, which flows from southwest to northeast across the property. Schermerhorn Creek daylights in the southwestern portion of the property from an approximately 90-inch diameter concrete culvert and re-enters an approximately 72-inch diameter culvert at the northeastern property boundary on Weaver Street. The open section of creek at the property is approximately 1,100 feet long. Sediment up to 6.5 feet (78 inches) in thickness has accumulated within the 90-inch culvert.

Schermerhorn Creek discharges to the Mohawk River, which is located approximately 0.8 miles north of the property. The Mohawk River generally flows southeastward across Schenectady County, discharging to the Hudson River approximately 15 miles east of the property, near Cohoes, New York. From approximately 10 miles upstream of the property to approximately 5 miles downstream of the property, the Mohawk River occupies a relatively wide floodplain, 1 to 2 miles across. The surface elevation of the floodplain is generally between 220 and 240 feet AMSL in the property vicinity. From the floodplain, the ground surface elevation increases rapidly to more than 350 feet AMSL in the highland area south of the property. The property is located within the 500-year floodplain of the Mohawk River, but outside of the 100-year floodplain (FEMA, 1983).

2.1.3.2 Regional Geology and Hydrogeology

Regional Geology

Regional geologic mapping indicates that unconsolidated sediments consisting of alluvium and glacial deposits overlie shale, siltstone, and sandstone bedrock in the area of the property. Following the last glaciation, existing streams deposited clay, silt, and sand along their floodplains. The materials deposited are primarily the product of erosion and redeposition of older valley-fill material (Winslow, 1965). Regional mapping indicates recent-age alluvium is present immediately north of the property (Cadwell, 1987). This material is confined to the floodplain of the Mohawk River and consists of silt and fine to coarse sand and gravel deposits, with thicknesses ranging from 3 feet to as much as 50 feet (Winslow, 1965). As described in Section 8.2, based on the investigation activities conducted at the site, these alluvial flood plain deposits are also present onsite, which is not unexpected given the property's position on the 500-year floodplain of the Mohawk River. Channel fill deposits associated with prior Mohawk River channels are not present near the valley walls, including the property.

The Mohawk lowland was deeply eroded during Pleistocene glacial advances, as well as by more recent drainage systems. During glacial retreat, the lowland was covered by pro-glacial Lake Albany (Woodworth, 1905). Glaciolacustrine deposits including sands, silts, and clays were deposited in Lake Albany. Eventually, a barrier in the lower valley of the Hudson River was eroded, causing the water level of Lake Albany to decline. This drainage left most of the Mohawk River Valley exposed, and the Mohawk River began to erode the preexisting lake deposits, till, and even bedrock, leaving coarse-grained sediments, or channel fill deposits along the river channel. During Mohawk River flooding events, overbank floodplain deposits (interbedded clay, silt, and sand layers) were also formed. According to Stoller (1911), the Mohawk River followed several different courses before the current course was established.

Unconsolidated glacial sediments, deposited by glacial melt waters more than 10,000 years ago during the final stage of glacial retreat, are present at or near the ground surface in the vicinity of the property (Cadwell, 1987). Based on visual characterization of soil samples collected during the soil boring activities, alluvial and/or shallow glaciolacustrine silt and clay deposits underlie the property and areas north of the property. Glaciodeltaic deposits are mapped to underlie regions south and west of the property. Regional mapping indicates that the lacustrine deposits are fairly well stratified and consist of alternating beds ranging from sand and gravel to clay. They are generally laminated, with thicknesses up to 250 feet in some places (Simpson, 1952).

Basal till deposits underlie lacustrine silt and clay in the vicinity of the property and are exposed on the northeast side of the City of Schenectady (Simpson, 1952). Basal till, which was deposited by accumulation and compression under the ice sheet, generally consists of poorly sorted materials ranging in grain size from clay to boulders. As a result of this type of deposition, the till in Schenectady County is often referred to as “hardpan” because of difficulty drilling or excavating through the material, due to its density. It is also characterized by low hydraulic conductivity. Results obtained for permeameter testing performed on several samples of unweathered till indicated that the basal till near the City of Schenectady has a permeability as low as 0.0004 gpd/ft^2 (1.06 x 10^{-6} cm/sec). Regionally the thickness of the till ranges from none present to more than 150 feet (Simpson, 1952).

The Middle to Upper Ordovician Schenectady Formation and the Middle Ordovician Canajoharie Shale underlie the till in the vicinity of the property. The Schenectady Formation consists of bluish-gray greywacke, tan sandstone, siltstone, and gray shale. The Canajoharie Shale consists of calcareous, black, fissile shale. Bedrock is relatively flat-bedded, with regional mapping indicating a gentle dip of 1° to 2° west and southwest (Simpson, 1952). During the site investigations, bedrock was identified at depths of between 89 and 108 feet below ground surface (bgs) based on cuttings at three soil boring locations, but was not confirmed by coring.

Regional Hydrogeology

The Mohawk River is located approximately 0.8 miles north of the property. According to Stoller (1911), the Mohawk River has followed several different courses before the current course was established. The current and previous channels deposited coarse sand and gravel channel fill from approximately 10 miles northwest of the property to the Rotterdam/Schenectady well fields (approximately 2 miles northwest of the property), ranging from 50 to over 100 feet thick and overlying different materials including till and bedrock (Winslow et al., 1985). Pumping tests conducted on 10 wells (nine water supply wells and one test well) indicated that the coarse sand and gravel channel fill along the river channels has a permeability ranging from 400 (Scotia Naval Department) to 300,000 gpd/ft^2 (Schenectady Well Field) (Winslow et al., 1965). This productive channel fill aquifer (the Schenectady aquifer) is the primary source of drinking water in Schenectady County, and is a designated sole-source aquifer under Section 1427 of the Safe Drinking Water Act (42 U.S.C. 300f et seq.) (Atlantic, 1993). Coarse sand and gravel channel fill deposits were not observed at the property.

The Schenectady aquifer is recharged by precipitation onto the ground surface overlying the aquifer, seepage from streams flowing across the aquifer, and subsurface flow from underlying till deposits and bedrock (Brown, 1982). The aquifer principally discharges water into the Mohawk River, and to other streams in smaller quantities. A report prepared for the Schenectady Intermunicipal Watershed Rules and Regulations Board indicates that the former MGP is not located within the primary recharge area of the Schenectady and Rotterdam well fields (i.e., the portion of the aquifer recharge area that contributes water to the public water supply wells). The report does indicate however that the property is located within an area designated as a general aquifer recharge area (i.e., an area where surface water or precipitation recharges an aquifer) (Parsons, 1999).

Based on information presented in the RI Report, the City of Schenectady obtains its public water supply from 16 pumping wells located approximately 2 miles northwest of the property near the southern bank of the Mohawk River. Three additional wells that supply drinking water to the City of Rotterdam are located approximately 1,000 feet north of the Schenectady wells. A review of regional groundwater flow patterns however, suggests that groundwater at the property does not flow toward the Schenectady public water supply wells. The NYSDEC Division of Environmental Remediation's Proposed Remedial Action Plan (PRAP) for the General Electric (GE) Main Plant (Site No. 447004) (NYSDEC, 2004) states: "*There is a well established hydrogeologic divide west of the western boundary of the* (GE) *site that separates groundwater beneath the site from the groundwater west of the* (GE) *site. The groundwater beneath the* (GE) *site and east of the divide migrates towards the Mohawk River. The groundwater west of the hydrogeologic divide migrates toward the Mohawk River or the Schenectady-Rotterdam municipal well field."* Therefore, because the Schenectady (Broadway) site is east of the western portion of the GE site, groundwater beneath the National Grid property likely flows northwestward toward the Mohawk River and not to the municipal well field.

BBL is preparing a site-specific groundwater flow model to be used in conjunction with the design of the remedial measure selected for addressing MGP-related impacts at the Schenectady (Broadway) site. The groundwater flow model will be used to further evaluate site groundwater flow characteristics. The site-specific geology and hydrogeology are discussed in Subsection 8.2.

3. Pre-1999 Investigation Activities

3.1 General

The information presented in this section was previously provided to NYSDEC in the PSA/IRM Study Report (Atlantic, 1993) and the RI Report (Parsons, 1999). Therefore, only a summary of the PSA and RI activities and results are presented below. For the purposes of this report, analytical results obtained for the investigation samples were compared to the matrix-specific standards/criteria/guidance values outlined below:

- Soil – analytical results were compared to guidance values established in the NYSDEC's Technical and Administrative Guidance Memorandum (TAGM) entitled "Determination of Soil Cleanup Objectives and Cleanup Levels," HWR-94-4046 (TAGM 4046) and a follow-up NYSDEC memorandum from Michael J. O'Toole, Jr. dated December 20, 2000. The guidance values establish limits for total detected VOCs and SVOCs as less than or equal to (≤) 10 ppm and ≤ 500 ppm, respectively.

- Groundwater – analytical results were compared to the Class GA groundwater standards and guidance values presented in the NYSDEC document entitled, "Division of Water, Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations" (TOGS 1.1.1, NYSDEC, reissued June 1998 and addended April 2000). Class GA standards and guidance values are protective for groundwater used as a source for drinking water.

- Sediment – analytical results for organic compounds were compared to the benthic aquatic life chronic toxicity sediment screening criteria using total organic carbon (TOC) concentrations (where available) as presented in NYSDEC's, "Technical Guidance for Screening Contaminated Sediment," January 1999. Results obtained for the analysis of inorganic constituents compared to the severe effect level criteria presented in NYSDEC's technical guidance document. As stated in the guidance document, these criteria do not necessarily represent and are not intended as remedial cleanup criteria.

- Surface Water – analytical results were compared to the Class D ambient water quality standards and guidance values for fresh water fish survival presented in TOGS 1.1.1.

3.2 Preliminary Site Assessment/Interim Remedial Measure Study (1992)

Atlantic conducted the PSA/IRM Study field activities during the spring and summer of 1992. To identify potential sources of MGP residual material at the property and obtain data to develop an IRM to address the source area(s), the PSA/IRM Study consisted of the following investigations:

- Soil gas survey;
- Subsurface soil investigation;
- Groundwater investigation; and
- Sediment investigation.

A summary of the PSA/IRM Study activities and results is presented below.

3.2.1 Soil Gas Survey

Atlantic (1993) indicated that the soil gas survey activities were conducted to obtain a preliminary assessment of the horizontal extent and relative concentration of volatile organic compounds (VOCs) in soil and groundwater at the property. The soil gas survey consisted of collecting soil gas samples on a 50-foot grid across the property and analyzing the samples in the field using a portable gas chromatograph. Additional soil gas samples also were collected at sampling points surrounding the locations along the sampling grid where sample analysis indicated elevated VOC concentrations. The results of the soil gas survey were used to help focus the subsurface soil investigation activities (described below) on areas where elevated VOC concentrations were detected during the soil gas survey.

3.2.2 Subsurface Soil Investigation

The subsurface soil investigation activities consisted of excavating 15 test pits (test pits BT-1 through BT-15) near former MGP structures to identify the presence/extent of soil visibly impacted by MGP-related materials. Following completion of the test pitting activities, 26 soil borings (BB-1 through BB-26) were installed to further delineate the extent of impacted soil at the property. Drilling refusal was met at several of the boring locations. This information was used to identify the locations and depths of historical subsurface structure foundations. Test pit and soil boring locations are shown on Figure 3.

A total of 73 soil samples were collected from discrete depth intervals within the test pits and soil borings. Each soil sample was screened in the field for volatile organic vapors using a photoionization detector (PID) and for separate phase liquids using a centrifuge. Select soil samples were submitted for laboratory analysis for VOCs and polynuclear aromatic hydrocarbons (PAHs) as summarized in Table 1.

Test pit and soil boring logs are presented in the PSA/IRM Study Report (Atlantic, 1993).

3.2.3 Groundwater Investigation

One groundwater monitoring well was installed (BMW-1, which was later renamed monitoring well MW-2) east of the open garage to characterize groundwater for handling and disposal requirements in the event that groundwater management was required during potential remedial activities to be conducted at the property.

Following well installation, Atlantic collected and submitted a groundwater sample for laboratory analysis for VOCs, semi-volatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), biochemical oxygen demand (BOD), inorganics, cyanide, chemical oxygen demand (COD), pH, total suspended solids (TSS), and total organic carbon (TOC). An analytical sample summary is included in Table 1.

3.2.4 Sediment Investigation

Atlantic collected two sediment samples (BSD-1 [1-1.5’] and BSD-2 [1.5-2’]) from Schermerhorn Creek using a hand auger to characterize creek sediment. Each sediment sample was field screened for the presence of separate phase liquids using a centrifuge and submitted for laboratory analysis for VOCs and PAHs. An analytical sample summary is included in Table 1.

3.2.5 Preliminary Site Assessment/Interim Remedial Measure Study Results

Detailed results for the PSA/IRM Study are presented in the PSA/IRM Study Report (Atlantic, January 1993) and are summarized below.

Soil Gas Survey Results

As reported in Atlantic (1999), results of the soil gas survey indicated the following:

- Detectable levels of VOCs were identified in 78 of the 82 soil gas samples;
- Of the 78 samples, 29 indicated benzene, toluene, ethylbenzene, and xylene (BTEX) peaks;
- Of the 29 samples, 10 produced chromatograms indicative of coal tar-related constituents; and
- Of the 29 samples, 19 produced chromatograms were tentatively identified as containing petroleum-related products.

Atlantic (1999) reported that the soil gas samples producing chromatograms indicative of coal tar impacts were generally located north and west of the open garage and near the 800,000 CF gas holder. Soil gas samples producing chromatograms indicative of petroleum impacts were generally located in the central portion of the site near the former south of the Storage Garage.

Subsurface Soil Investigation Results

As indicated above, the PSA/IRM Study subsurface soil investigation consisted of completing 15 test pits and 26 soil borings to identify the presence and location of historical subsurface MGP structures and facilitate the collection of subsurface soil samples for laboratory analysis. Field observations and soil characteristics are summarized in test pit and soil boring logs presented in the PSA/IRM Study Report (Atlantic, 1993). Several of the test pits and soil borings indicated the presence of subsurface structures potentially associated with former MGP structures.

Atlantic identified visible staining and sheens, obvious odors, and NAPL at the following test pit and soil boring locations:

Sample Location	Sample ID	Approximate Depth Interval(s) (feet bgs)
North of the open garage in the vicinity of the 150,000 CF gas holder	BT-1	5.0
	BB-8	4.0-8.0
West of the open garage in the vicinity of the former condenser house and retort	BB-1	6.5-11.5
	BB-13	6.0-8.0 & 14.0-16.0
	BB-14	15.6-16.5, 18.0-22.0, &25.5-27.0
West of the open garage and north of the small garage	BB-18	9.5-23.5 & 28.0-31.0
	BB-22	10.0-21.0
East of the open garage in the vicinity of the former tar tank and water gas condenser	BT-7	1.0-2.0
	BT-8	7.0
	BT-13	2.0-3.0 (western portion of test pit)
	BT-15	4.0-7.0

Sample Location	Sample ID	Approximate Depth Interval(s) (feet bgs)
	BB-4	5.0-10.0, 14.0-16.0, &28.0-35.0
	BB-11	5.0-27.5
South of the open garage	BT-9	2.0-8.0
	BB-15	8.0-9.5
East of the storage building in the vicinity of the former 800,000 CF gas holder	BT-15	4.0-7.0
	BB-2	4.0-7.5
	BB-9	4.0-10.0

Results obtained for the laboratory analysis of subsurface soil samples collected during the PSA/IRM Study are summarized below.

Analyses	Subsurface Soil Investigation Results
VOCs	Total VOCs were detected in 11 of the 73 subsurface soil samples at concentrations greater than or equal to the 10 parts per million (ppm) TAGM 4046 guidance value. VOCs were detected at concentrations exceeding 10 ppm in soil samples collected from the eastern side of Schermerhorn Creek in the vicinity of a former fuel island (BB-20); in the vicinity of the former 150,000 CF gas holder (BB-8); in the vicinity of the former 800,000 CF gas holder (BB-9); in the vicinity of the former generator house and former condenser house (BB-11 and BT-7); and in the vicinity of the existing parking area to the west of the office building (BB-20). Primary VOCs detected in the subsurface soil samples included toluene, ethylbenzene, and xylenes.
PAHs	Total PAHs were detected in 11 of the 73 subsurface soil samples at concentrations greater than or equal to the 500 ppm TAGM 4046 guidance value. These 11 samples were collected east of the former condenser house (BB-11); in the vicinity of the former generator house and the former condenser house (BT-7); in the vicinity of the former 150,000 CF gas holder (BB-8), in the vicinity of the former 800,000 CF gas holder (BB-9 and BT-5), in the vicinity of the former coke bin (BB-13), in the vicinity of the former pit (south of the retort) (BB-18 and BT-10), in the vicinity of the former retort (BT-3), and in the vicinity of the existing parking area to the west of the office building (BB-20).

Groundwater Investigation Results

Results obtained for the laboratory analysis of the groundwater sample collected from monitoring well BMW-1 (MW-2) during July 1992 are summarized below.

Analyses	Groundwater Investigation Results
VOCs	Select VOCs (including BTEX) were detected at concentrations exceeding Class GA NYSDEC groundwater quality standards and guidance values presented in TOGS 1.1.1 in the groundwater sample collected from monitoring well BMW-1 (MW-2). BTEX compounds were detected in the groundwater sample at a total concentration of 1,649 parts per billion (ppb).
SVOCs	Acenaphthene was detected in groundwater sample BMW-1 at a concentration of 43 ppb, which exceeds the Class GA NYSDEC groundwater quality standard of 20 ppb presented in TOGS 1.1.1. No other PAHs were detected at concentrations exceeding NYSDEC groundwater quality standards and guidance values.
Cyanide	Cyanide was not detected in the groundwater sample collected from monitoring well BMW-1 at a concentration exceeding Class GA NYSDEC groundwater quality standard for cyanide of 200 ppb.

Sediment Investigation Results

Analytical results indicated the presence of total VOCs in sediment samples BSD-1(PSA/IRM) and BSD-2(PSA/IRM) at concentrations of 0.84 and 1.73 ppm, respectively and total PAHs at concentrations of 24.91 ppm and 617.26 ppm, respectively. Benthic aquatic life chronic toxicity screening criteria could not be established for these samples since TOC data was not obtained.

3.3 Remedial Investigation (1994 to 1997)

Parsons conducted the RI field activities during the summer and fall of 1994, the spring and summer of 1996, and the winter of 1997. Parsons (1999) identified the objectives of the RI as follows:

- Evaluate the nature and extent of impacted materials, including the delineation and characterization of source materials, residuals, and potential migration pathways;

- Evaluate potential human health and environmental risks and preliminary remediation goals (PRGs);

- Obtain data to support a feasibility study; and

- Investigate potential offsite sources.

The RI consisted of the following investigations:

- Surface soil investigation;
- Subsurface soil investigation;
- Surface water investigation;
- Groundwater investigation;
- Sediment investigation; and
- Human Health Risk Assessment (HHRA) and Fish and Wildlife Impact Analysis (FWIA).

A description of the RI activities is presented below followed by a summary of the RI results.

3.3.1 Surface Soil Investigation

Parsons collected 25 surface soil samples for field screening for PAHs and PCBs using EnSys field analysis kits. The EnSys field screening results were used to select onsite and offsite surface soil samples to be submitted for laboratory analysis.

Based on the results of the field screening, Parsons submitted a total of 18 surface soil samples collected at nine onsite locations (designated BSS-1 through BSS-7, BSS-17, and BB-84) and nine offsite locations (designated BSS-8 through BSS-16) for laboratory analysis.

With the exception of samples BSS-17 and BB-84, each surface soil sample was submitted for laboratory analysis for target compound list (TCL) VOCs, TCL SVOCs, pesticides/PCBs, target analyte list (TAL) inorganics, cyanide, and TOC. Surface soil samples BSS-17 and BB-84 were submitted for laboratory analysis for BTEX, PAHs, and cyanide.

3.3.2 Subsurface Soil Investigation

The subsurface soil investigation activities consisted of excavating additional test pits, completing soil borings, and collecting additional subsurface soil samples to further characterize subsurface conditions at the property.

Test Pit Excavation Activities

Three additional test pits (test pits BTP-1 through BTP-3) were excavated in the northeastern portion of the site. Test pit locations were selected to assess impacts (if any) related to the potential use of this portion of the property as a fire training area. Two subsurface soil grab samples were collected from each test pit and submitted for laboratory analysis for BTEX, PAHs, PCBs, and cyanide.

Soil Boring Activities

A total of 59 additional onsite and offsite soil borings (soil borings BB-27 through BB-84, and BB-41R) were advanced to further assess the nature and extent of MGP residuals in subsurface soil and to further characterize the subsurface stratigraphy at the property. As presented in the RI Report, boring locations were selected to further delineate impacted material based on the results of the PSA/IRM Study and to focus on areas at the property previously not sampled. Soil boring locations are shown on Figure 3.

Soil boring depths ranged from 3.5 feet below grade (soil boring BB-53) to 109.7 feet below grade (soil boring BB-65). Parsons (1999) reported that a geologist visually characterized each soil sample for soil type, the presence of staining, sheens, NAPL, or obvious petroleum or coal tar-type odors, and conducted field screening using a PID to identify the potential presence of volatile organic vapors.

A total of 135 soil samples (excluding field duplicates) were collected from discrete depth intervals and submitted for laboratory analysis for the following:

- 110 subsurface soil samples were submitted for laboratory analysis for BTEX, PAHs, and cyanide;
- 19 soil samples were submitted for laboratory analysis for TCL VOCs, SVOCs, pesticides, TAL inorganics, and cyanide;
- 1 sample, BB-35 (6-8'), was analyzed for hazardous waste characteristics;
- 3 samples, BB-34 (12-14'), BB-56 (40-44'), and BB-59 (12-14') were submitted for geotechnical testing to characterize soil type; and
- 2 of the samples, BB-28 (14-16') and BB-83 (12-14') were submitted for laboratory testing for vertical hydraulic conductivity to assess the potential for the shallow silt and clay layer at the property to act as a confining unit.

An analytical sample summary indicating the laboratory analyses conducted on each of the soil samples is presented in Table 1.

3.3.3 Surface Water Investigation

During June 1996, four surface water samples (BSW-1, BSW-2, BSW-4, and BSW-5) were collected and submitted for laboratory analysis to characterize surface water quality in Schermerhorn Creek. The surface water sample locations coincide with sediment sample locations described below in Section 3.3.5. A surface water sample was not collected at sediment sampling location BSD-3 (i.e., surface water sample BSW-3) since there was no flow from the garage outfall at the time of the sampling activities. Surface water sample BSW-1 was collected upstream of the property, surface water samples BSW-2 and BSW-4 were collected onsite, and surface water sample BSW-5 was collected downstream of the property. Each surface water sample was submitted for laboratory analysis for TCL VOCs, TCL SVOCs, pesticides, PCBs, TAL inorganics, and cyanide. An analytical sample summary indicating the laboratory analyses conducted on each of the surface water samples is presented in Table 1.

3.3.4 Groundwater Investigation

Twenty-nine monitoring wells were installed at and in the vicinity of the property during the summer of 1994 and spring of 1996 to facilitate monitoring of onsite and downgradient groundwater quality and evaluating onsite hydrogeological conditions. Monitoring wells installed during previous investigation activities were designated MW-1 (installed prior to the PSA/IRM Study) and MW-2 (monitoring well BMW-1, installed during the PSA/IRM Study). Monitoring well MW-1 construction information (including construction details, date of installation, and who installed the well) is not available.

The RI monitoring wells consisted of ten single wells (monitoring wells MW-3 through MW-5, MW-7, MW-10, MW-11, MW-12, MW-16, MW-17, and MW-18), two well pairs (monitoring well clusters MW-6 and MW-15), and five well triplets (monitoring well clusters MW-8, MW-9, MW-13, MW-14, and MW-19). Parsons nomenclature for monitoring wells within pairs and triplets used letter suffixes that indicate the depth of the well screen relative to the site hydrostratigraphy: S – shallow, P – between shallow and intermediate, I – intermediate, and D – deep aquifer zones. No specific depth, geologic, or hydrostratigraphic references to assigning the well nomenclature was presented in the RI Report. Well construction details and well construction logs are presented in the RI Report (Parsons, 1999). As described in more detail in Subsection 8.2.2 – Site Hydrogeology, BBL reviewed the hydrogeologic properties (e.g., hydraulic conductivity, hydraulic head) to group the monitoring wells relative to the different hydrostratigraphic zone that each well screen is positioned within to aid in the interpretation of groundwater flow at the property. Based on this review, BBL identified shallow, intermediate, deep, and till hydrostratigraphic zones at the site. A monitoring well construction summary, including the hydrostratigraphic zone in which each monitoring well has been classified, is presented as Table 2.

Hydraulic Conductivity Testing Activities

Parsons conducted in-situ hydraulic conductivity testing activities at six monitoring well locations (monitoring wells MW-7, MW-9S, MW-9I, MW-9D, MW-13P, and MW-19D) during June 1996. As presented in the RI Report, the objective of the testing activities was to obtain data necessary to estimate the hydraulic conductivity of the saturated zone at and in the vicinity of the property. Results of the hydraulic conductivity testing are summarized in Subsection 8.2.2 – Site Hydrogeology.

Groundwater Sampling Activities

Parsons conducted two rounds of groundwater sampling between June and August 1996. Samples were not collected from monitoring wells MW-3 through MW-5 during the sampling activities due to the presence of NAPL in the monitoring wells.

Groundwater samples collected during each sampling event were submitted for laboratory analysis for TCL VOCs, TCL SVOCs, pesticides, PCBs, TAL inorganics, and cyanide. In addition, during the initial round of sampling, twelve of the groundwater samples (collected from monitoring wells MW-6S, MW-7, MW-8I, MW-9S, MW-9I, MW-9D, MW-12, MW-13I, MW-16, MW-17, MW-18, and MW-19D) were also analyzed for biological oxygen demand (BOD), chemical oxygen demand (COD), chloride, hardness, nitrate, nitrite, oil and grease, sulfate, sulfide, total dissolved solids (TDS), pH, and alkalinity. An analytical sample summary indicating the laboratory analyses conducted on each of the groundwater samples is presented in Table 1.

3.3.5 Sediment Investigation

Parsons collected a total of 34 sediment samples from 20 sediment sampling locations (sampling locations BSD-1 through BSD-20) within Schermerhorn Creek during three rounds of sampling. Note that sample IDs BSD-1 and BSD-2 were also used during the PSA/IRM Study. Where appropriate, this report distinguishes between these samples by indicating the investigation associated with the sample in parentheses after the sample ID [e.g., BSD-1(RI)]. Following the initial sediment sampling activities in August 1994 (which consisted of collecting 11 sediment samples from 6 sediment sampling locations), the City of Schenectady Department of Public Works excavated sediment from Schermerhorn Creek upstream and downstream of the property to improve drainage through the creek. Parsons collected 23 additional sediment samples from 14 locations during a second and third round of sampling during May 1996 and March 1997, respectively, to assess the conditions following sediment removal activities. Sediment samples consisted of surface sediment (0-0.5') and sediment cores to depths up to 6 feet bgs. Sediment sampling locations are shown on Figure 3 and an analytical sample summary is presented in Table 1.

Parsons submitted 14 of the 34 sediment samples to Nytest for laboratory analysis for TCL VOCs, TCL SVOCs, pesticides/PCBs, TAL inorganics, cyanide, and TOC. The remaining 20 sediment samples were analyzed for BTEX, PAHs, PCBs, cyanide, and TOC.

3.3.6 Human Health Risk Assessment and Fish and Wildlife Impact Analysis

Following laboratory analysis of samples collected as part of the RI, analytical results were validated and used in the development of an HHRA. Parsons (1999) reported that the HHRA was conducted to assess the potential risk to human health due to the presence chemical constituents within environmental media at and in the vicinity of the property and that the HHRA was conducted using a conservative (health protective) approach in accordance with USEPA guidelines.

A Phase I Fish and Wildlife Impact Analysis (FWIA) were conducted to develop a property description to address existing environmental conditions and characterize local ecological resources. Parsons indicated that the FWIA was conducted in accordance with the requirements outlined as Step I and Step IIA of the NYSDEC Division of Fish and Wildlife document entitled "Impact Analysis for Inactive Hazardous Waste Sites" (NYSDEC, 1994).

3.3.7 Remedial Investigation Results

Detailed results obtained for the RI are presented in the RI Report (Parsons, 1999). The results for the RI are summarized below.

Surface Soil Investigation Results

Analytical results obtained for the laboratory analysis of surface soil samples collected as part of the RI activities are summarized below.

Analyses	Surface Soil Investigation Results
VOCs	Total BTEX was not detected in any of the surface soil samples at concentrations greater than the 10 ppm TAGM 4046 guidance value for total VOCs.
SVOCs	Total SVOCs (primarily consisting of PAHs) were detected at concentrations greater than 500 ppm in three of the nine onsite surface soil samples [surface soil samples BSS-4(0-0.5'), BSS-17(0-0.5'), and BB-84(0-2')]. Total PAHs were not detected in any of the offsite surface soil samples at concentrations exceeding 500 ppm.
Cyanide	Cyanide was detected at concentrations exceeding laboratory detection limits in 5 of the 18 surface soil samples. The highest total cyanide concentration (80.5 ppm) was reported in surface soil sample BSS-4(0-0.5').

Subsurface Investigation Results

Results obtained for the laboratory analysis of subsurface soil samples collected as part of the RI activities are summarized below.

Analyses	Subsurface Soil Investigation Results
VOCs	Total BTEX was detected at concentrations greater than 10 ppm TAGM 4046 values for total VOCs in 14 of the 136 subsurface soil samples submitted for BTEX or VOC analysis. The highest concentrations of BTEX were reported in samples collected in the vicinity of the former gas holders, the former tar separator, the former tar tank, and near the fence along the western property line. BTEX concentrations were not detected at concentrations greater than 1 ppm in any of the subsurface soil samples collected offsite.
SVOCs	Total SVOCs, primarily consisting of PAHs, were detected at concentrations greater than the 500 ppm TAGM 4046 guidance value in 9 of the 136 subsurface soil samples submitted for SVOC or PAH analysis. The highest concentrations of total SVOCs were reported in samples collected in the vicinity of the former tar separator, the former tar tank, the former condenser house, and the former gas holders, and near the fence along the western property line.
Cyanide	Cyanide was detected in 31 of the 136 subsurface soil samples submitted for cyanide analysis. The highest cyanide concentrations were reported in subsurface soil samples obtained in the vicinity of the fence along the western property line, the west side of the office building, and the former tar separator. As presented above, TAGM 4046 does not list a recommended soil cleanup objective for cyanide.

NAPL (primarily oil-like material) was observed in split-spoon samples recovered from borings advanced in the vicinity of the former tar separator, former tar tank, former condenser house, immediately northwest of the 800,000 CF former gas holder, former purifier houses, west of the former oil tank, and in the vicinity of the fence along the western property boundary. A NAPL evaluation is presented in Subsection 8.3 and a summary of the visual characterization of subsurface soil impacts (i.e., odors, sheens, and NAPL) is presented as Table 3.

Groundwater Investigation Results

A summary of the results obtained for the RI groundwater sampling activities is presented below.

Analyses	Groundwater Investigation Results
VOCs	TCL VOCs, primarily consisting of BTEX, were detected at concentrations greater than TOGS 1.1.1 Class GA groundwater quality standards and guidance values in groundwater samples collected from 12 of the 28 wells that were sampled during this monitoring event. The highest onsite BTEX concentration (20,700 ppb) was reported for groundwater sample MW-18 (located immediately south of the former 800,000 CF holder). The highest offsite BTEX concentrations were 1,435 ppb, reported for the groundwater sample collected from monitoring well MW-8I (located west of the CSX railroad line) and 1,166 ppb reported for the groundwater sample collected from monitoring well MW-9S (located on the CSX right-of-way).
SVOCs	TCL SVOCs, primarily consisting of PAHs, were detected in groundwater samples collected from 11 of the 28 wells that were sampled at concentrations greater than TOGS 1.1.1 Class GA groundwater standards and guidance values. The highest PAH concentrations detected in groundwater samples collected from onsite monitoring wells were: 722 ppb reported for the groundwater sample collected from monitoring well MW-1 (located in the vicinity of the former 150,000 CF holder), 1,804 ppb reported for the groundwater sample collected from monitoring well MW-2 (located in the vicinity of the former tar separator), 2,224 ppb reported for the groundwater sample collected from monitoring well MW-18 (located in the vicinity of the former 800,000 CF holders), and 5,890 ppb reported for the groundwater sample collected from monitoring well MW-16 (west of the former oil tank). The maximum concentrations of PAHs detected in groundwater samples collected from offsite monitoring wells was 2,094 ppb in sample MW-8D (located west of the CSX railroad line).
Cyanide	Cyanide was detected in groundwater samples collected from 6 of the 28 wells that were sampled at concentrations greater than the TOGS 1.1.1 Class GA groundwater standard of 200 ppb. The maximum concentration of cyanide detected in groundwater samples collected from onsite monitoring wells was 830 ppb reported for the groundwater sample collected from monitoring well MW-18 located immediately south of the former 800,000 CF gas holder. Cyanide was not detected at concentrations greater than the Class GA groundwater standard in samples collected from offsite monitoring wells

Results obtained for the analysis of the RI groundwater samples for VOCs, SVOCs, and total cyanide is presented in Table 4, 5, and 6, respectively. In addition, the groundwater analytical results for BTEX and PAHs for the shallow and intermediate hydrostratigraphic zones are shown on Figures 4a and 4b, respectively.

Surface Water Investigation Results

Analytical results obtained for the laboratory analysis of surface water samples collected as part of the RI activities indicated that VOCs, SVOCs, or cyanide were not detected at concentrations exceeding the TOGS 1.1.1 Class D Ambient Water Quality Standards and Guidance Values for fresh water fish survival. Results obtained for the analysis of the surface water samples are presented in the RI Report (Parsons, 1999).

Sediment Investigation Results

Results obtained for the laboratory analysis of the sediment samples for VOCs, SVOCs, PCBs, and inorganics in the sediment samples are summarized below. The sediment in the portions of Schermerhorn Creek directly upstream and downstream of the site was dredged by the City of Schenectady in 1996 to improve drainage. As a result, a comparison of concentrations from the site to upstream concentrations could not be made as a means of evaluating potential contribution of site-related constituents to the creek sediments. As indicated in Subsection 3.1, BBL compared the results obtained for the analysis of sediment samples for organics to the benthic aquatic life chronic toxicity screening criteria. These criteria were calculated on a per sample basis using TOC data in accordance with NYSDEC's Technical Guidance for Screening Contaminated Sediment (NYSDEC, 1999). As indicated above, these criteria do not necessarily represent and are not intended as remedial cleanup criteria.

Analyses	Sediment Investigation Results
VOCs	BTEX compounds were not detected in any of the sediment samples at concentrations exceeding the calculated sediment screening criteria.
SVOCs	SVOCs, primarily PAHs were detected in 31 of the 34 sediment samples at concentrations greater than the calculated screening criteria. In most cases, PAHs were detected at concentrations that are only slightly greater than the sediment screening criteria. Sediment samples containing elevated PAH concentrations (relative to the other sediment samples) included BSD-13(0-4') (52.7 ppm) and BSD-14(0-4') (268 ppm).
PCBs	PCBs were detected in 4 of the 34 sediment samples at concentrations above the calculated sediment screening criteria, including BSD-9(0-2') 4.1 ppm - estimated, BSD-11 (0-4') 1.3 ppm - estimated, BSD-12 (0-4') 1.3 ppm, BSD-13(0-4') 15 ppm. Each of these sediment samples was collected from the onsite portion of Schermerhorn Creek.
Inorganics	Lead was detected in sediment samples BSD-5(0.5-1') and BSD-6(0-0.5') at concentrations of 1,050 and 136 ppm (estimated), respectively, which are above the severe effect level sediment criteria of 110 ppm presented in NYSDEC's sediment screening technical guidance document. Copper was also detected in sediment sample BSD-5(0.5-1') at an estimated concentration of 120 ppm, which is slightly greater than the severe effect level criteria of 110 ppm. Sediment sample BSD-5(0.5-1') was collected approximately 800 feet downstream from the property in the vicinity of Edison Avenue and sediment sample BSD-6 was collected upstream from the property near Congress Street. No other inorganic constituents were detected at concentrations exceeding the severe effect level criteria presented in the NYSDEC technical guidance document.

A more detailed discussion of the results obtained for the analysis of the sediment samples are presented in the RI Report (Parsons, 1999).

Human Health Risk Assessment and Fish and Wildlife Impact Analysis Results

Parsons' HHRA concluded that there is a potential carcinogenic and non-carcinogenic health threat to both current and future onsite personnel and current and future residents who utilize downgradient groundwater for domestic purposes. The RI Report (Parsons 1999) indicated that the groundwater pathway is complete for current and future residents near the site. As indicated above, a PRAP for the nearby GE Schenectady Plant indicates that there is strong evidence that water in the area of the site does not flow toward the Schenectady – Rotterdam municipal well fields. However, according to the RI Report (Parsons 1999), there are 13 private wells within one mile of the site, although their exact locations are not known at the present time.

The results of the FWIA indicated the absence of ecological resources associated with the property. The FWIA also indicated that potential impacts to fish and wildlife were considered to be minimal. Therefore, the derivation of site-specific ecology-based remedial objectives was not considered appropriate for the property.

4. NAPL and Groundwater Investigation Activities

4.1 General

Following completion of the RI, BBL prepared a Feasibility Study (BBL, 2000) that presented an evaluation of potential remedial alternatives to address the environmental concerns identified at the Schenectady (Broadway) site based on the results of the PSA/RI. Based on comments provided by NYSDEC and meetings to discuss the FS, National Grid elected to conduct additional monitoring and investigation activities to further investigate the presence and extent of site impacts related to former MGP operations. The additional activities included periodic NAPL monitoring and groundwater sampling. Letter reports summarizing the monitoring and sampling activities were prepared following each monitoring event and later submitted to the NYSDEC as part of the Work Plan. Therefore, only a summary of the activities and results for these events are presented in this section.

BBL conducted the following NAPL and groundwater investigation activities between June 2001 and June 2002:

- Monthly NAPL monitoring (June 2001 through December 2001) – conducted per internal scope of work letters;
- Additional NAPL delineation sampling (December 2001) – conducted per November 21, 2001 letter work plan as verbally approved by the NYSDEC; and
- NAPL monitoring and groundwater sampling activities (June 2002) – conducted per May 28, 2002 letter work plan as verbally approved by the NYSDEC.

Summaries of the NAPL and groundwater investigation activities and results are presented below.

4.2 NAPL Monitoring Activities and Results (June 2001 through December 2001)

BBL conducted monthly NAPL measurements from June 2001 through December 2001 to monitor for the presence and thickness of NAPL in existing monitoring wells at and in the vicinity of the property and to passively recover NAPL (to the extent possible) using manual bailing techniques to assess the potential mobility and potential for recovering NAPL. A summary of the monitoring activities is presented below followed by the results of the monthly NAPL monitoring.

4.2.1 NAPL Monitoring Activities

Field personnel utilized an oil/water interface probe to assess the presence/absence and thickness (if present) of NAPL in each of the existing monitoring wells. During each monthly event, NAPL (where encountered) was removed to the extent possible using bailers and transferred to 55-gallon drums for offsite disposal in conformance with applicable rules and regulations.

4.2.2 NAPL Monitoring Activities Results

The results of the monthly NAPL monitoring activities are presented in Tables 7 and 8, respectively, and are summarized below. As indicated in the table below, both LNAPL and DNAPL were encountered in monitoring wells MW-2 through MW-5 at various times over the 6-month monitoring period. LNAPL was consistently (i.e., monthly) observed in monitoring wells MW-2 and MW-4. LNAPL was also observed in monitoring wells MW-3 and MW-5 (though not consistently).

NAPL Monitoring Results

Monitoring Well	June 2001		July 2001		Sept 2001		Oct 2001		Nov 2001		Dec 2001	
	L	D	L	D	L	D	L	D	L	D	L	D
MW-2**			✓		✓		✓		✓		✓	
MW-3	✓	✓*	✓	✓*	✓	✓*						
MW-4**		✓*	✓		✓		✓		✓		✓	
MW-5**	✓	✓	✓	✓		✓		✓		✓		✓

Notes:

1. NAPL Monitoring activities were conducted by Blasland, Bouck & Lee, Inc. (BBL) on June 13, 2001; July 31 and August 1, 2001; September 6 and 7, 2001; October 9, 2001; November 6, 2001; and December 6, 2001.
2. * - Based on notes from the June 2001 monitoring event, the nature of the material at the bottom of monitoring wells MW-3 and MW-4 is unknown. The material in the bottom of the wells may be a mixture of sediment and DNAPL.
3. ** - Monitoring wells MW-2, MW-4, and MW-5 were replaced during 2004 with monitoring wells MW-20, MW-22, and MW-21, respectively.
4. D – DNAPL
5. L - LNAPL

DNAPL was consistently encountered in monitoring wells MW-2 and MW-5 over the monitoring period. Due to the relatively solid nature of the material at the bottom of the wells, the field personnel were not able to probe to the construction depth of the wells to identify the nature of the material. As confirmed by more recent investigation activities completed during 2004 and 2005, the material between the measured depth to the bottom of the well and the original construction depth of the well in these was primarily solids (i.e., fine grained sediments) with traces of NAPL. As discussed further in Section 6.7, several wells across the property contained accumulated fine grained materials that did not indicate the presence of any NAPL.

As described above, following each measurement round, NAPL (where encountered) was removed to the extent possible. A total of approximately 73 gallons of development water and NAPL/water were recovered from monitoring wells MW-2 through MW-5 during the 6-month NAPL monitoring period.

4.3 Additional NAPL Delineation Activities and Results (December 2001)

Additional NAPL delineation sampling activities were completed during December 2001 to identify the potential presence and extent of NAPL in soil near the northern and western property boundaries. A summary of the sampling activities is presented below followed by the results of the additional NAPL delineation activities.

4.3.1 Additional NAPL Delineation Activities

To facilitate the additional NAPL delineation activities, BBL initially advanced four soil borings (BB-85, BB-86, BB-88, and BB-89) along the northern and western property boundaries (i.e., the hydraulically downgradient property boundaries). An additional soil boring (BB-87) was completed east of the open garage to facilitate installation of monitoring well MW-20, as described below. Soil samples were collected from each 5-foot depth interval and from the bottom of each soil boring. Each soil sample was submitted for laboratory analysis for PAHs. The soil boring and monitoring well locations are shown on Figure 3.

During the completion of soil boring BB-88, both BBL and NYSDEC personnel were onsite observing the soil boring activities. BBL's onsite geologist noted the presence of blebs of NAPL in the soil samples recovered from the 10 to 16 foot depth interval. In consultation with NYSDEC, an additional soil boring (soil boring BB-88A) was drilled to confirm the NAPL observations at soil boring BB-88. Soil samples collected from soil boring BB-88A were not submitted for laboratory analysis.

While conducting the December 2001 NAPL monitoring activities (described above in Subsection 4.2), a stainless steel bailer became lodged in the well screen of monitoring well MW-2 and could not be removed by field personnel. Monitoring well MW-2 was abandoned and replaced with monitoring well MW-20. Prior to installing the monitoring well, soil boring BB-87 was completed to characterize the subsurface soil conditions and facilitate installation of monitoring well MW-20.

4.3.2 Additional NAPL Delineation Sampling Results

Trace amounts of NAPL were encountered at each soil boring completed as part of the additional NAPL delineation activities, with the exception of soil boring BB-89 located west of the small garage in the western portion of the property. The depth intervals where NAPL was encountered and a visual characterization of the extent of NAPL in each soil sample where NAPL was observed are summarized below.

Soil Boring Location	Depth of NAPL (feet bgs)	Visual Observation
BB-85	13.0-13.5 14.0-15.0	Trace blebs of NAPL in inclusions (less than 1 millimeter)
BB-86	19.0-19.4	Trace blebs of NAPL
BB-87	9.4-10.0 14.0-16.5 18.5-20.0	Trace blebs of NAPL
BB-88	10.0-16.0 17.0-17.4	Trace blebs of NAPL
BB-88A	12.0-13.3	Trace blebs of NAPL

Soil boring logs and monitoring well construction logs (for MW-20/BB-87) are included in Appendices A and B, respectively. Visual characterization of soil samples collected during the additional NAPL delineation activities completed along the western (hydraulically downgradient) property boundary and in the vicinity of new monitoring well MW-20 located east of the open garage indicated that NAPL, where encountered in the soil, is present as blebs. These visual observations do not support the findings of the PSA/IRM Study and RI, which indicated the presence of NAPL-saturated soil in these areas. Further analysis of the presence and extent of NAPL in subsurface soil at the property is presented in Subsection 8.3. Analytical results obtained for the laboratory analysis of subsurface soil samples for PAHs are presented in Table 10 and summarized below.

Boring ID	PAH Concentration Range (ppm)	Depth of Maximum Concentration (feet bgs)
BB-85	3.59 J – 40.41 J	14.0 - 16.0
BB-86	0.12 J – 633.80 J	4.0 - 5.3
BB-87	22.0 J – 422.90 J	19.6 - 20.0
BB-88	0.560 J – 75.90 J	4.0 - 4.6
BB-89	0.081 J – 3.02 J	4.0 - 6.0

Notes:

1. ppm = parts per million, which is equivalent to milligrams per kilogram (mg/kg).
2. J = Indicates an estimated concentration. Presented concentration is less than the method detection limit but greater than the instrument detection limit.
3. bgs = below ground surface.
4. None of the soil samples collected at soil boring BB-88A was submitted for laboratory analysis.

4.4 NAPL Monitoring and Groundwater Sampling Activities and Results (June 2002)

BBL conducted additional NAPL monitoring and a complete round of groundwater sampling during June 2002. Summaries of the NAPL monitoring and groundwater sampling activities are presented below followed by the results.

4.4.1 NAPL Monitoring and Groundwater Sampling Activities

NAPL Monitoring

During the week of June 10, 2002, a BBL representative gauged each monitoring well using an oil/water interface probe to identify the potential presence/thickness of LNAPL and DNAPL. Where identified based on the gauging activities, NAPL was removed to the extent possible using bailers and containerized in 55-gallon drums for offsite disposal.

Groundwater Sampling

BBL conducted groundwater sampling activities during the week of June 10, 2002 to further characterize groundwater quality at the property. Groundwater sampling logs are included as Appendix C.

Groundwater samples were collected from 26 existing monitoring wells at and in the vicinity of the property. Monitoring wells MW-16 and MW-17 were not able to be located during this monitoring event due to the presence of gravel over the well covers. In addition, groundwater samples were not collected at monitoring wells MW-3, MW-4, and MW-5 due to the presence of NAPL. The groundwater samples were submitted for laboratory analysis for TCL VOCs, TCL SVOCs, and total cyanide. An analytical sample summary presenting the laboratory analyses conducted for each of the groundwater samples is presented as Table 1.

The results of the NAPL Monitoring and Groundwater Sampling Activities are discussed below.

4.4.2 NAPL Monitoring and Groundwater Sampling Results

NAPL Monitoring

Approximately 1.07 feet of LNAPL was encountered in monitoring well MW-4. No measurable amounts of LNAPL were encountered in monitoring wells MW-3 or MW-5 during this event. DNAPL was identified in monitoring well MW-5, but no measurable amounts of DNAPL were encountered in monitoring wells MW-3 or MW-4. DNAPL was previously identified in monitoring wells MW-3 and MW-4 on more than one occasion during the 2001 NAPL monitoring and removal activities. As previously indicated, based on the solid nature of the material at the bottom of the monitoring well MW-5 (likely sediment with trace NAPL), field personnel were not able to probe to the constructed depth of the well.

A total of approximately 2.5 gallons of a mixture of NAPL and water were recovered from monitoring wells MW-3 through MW-5 during the June 2002 NAPL monitoring activities. The NAPL and water were containerized and stored onsite in 55-gallon drums prior to offsite disposal in accordance with applicable rules and regulations.

The results of the LNAPL and DNAPL monitoring activities conducted during June 2002 are presented in Tables 7 and 8, respectively.

Groundwater Sampling Activities

A summary of the results obtained for the June 2002 groundwater sampling activities is presented below.

Analyses	Groundwater Investigation Results
VOCs	BTEX compounds were detected in 10 of the 26 groundwater samples at concentrations greater than the Class GA NYSDEC groundwater standards/guidance values presented in TOGS 1.1.1. The highest total BTEX concentration (7,160 ppb) was reported for groundwater sample MW-18.
PAHs	PAHs were detected in 6 of the 26 groundwater samples at concentrations greater than Class GA NYSDEC groundwater standards/guidance values. The highest total PAH concentration (3,254 ppb) was reported for groundwater sample MW-20. Individual PAHs that were detected at concentrations greater than NYSDEC groundwater standards/guidance values included acenaphthene (in samples MW-13I and MW-20), benzo(a)anthracene (in samples MW-1 and MW-20), benzo(k)fluoranthene (in sample MW-20), chrysene (in samples MW-1 and MW-20), fluorene (in sample MW-20), indeno(1,2,3-cd)pyrene (in samples MW-1 and MW-20), naphthalene (in samples MW-9S, MW-9I, MW-18, and MW-20), and phenanthrene (in sample MW-20).
Cyanide	Total cyanide was detected in 5 of the 26 groundwater samples at concentrations greater than the 200 ppb TOGS 1.1.1 NYSDEC groundwater standard. The highest cyanide concentration (1,100 ppb) was reported for groundwater sample MW-6S.

The results obtained for the laboratory analysis of groundwater samples collected during the June 2002 sampling event for VOCs, PAHs, and cyanide are presented in Tables 4, 5, and 6, respectively. Groundwater sampling results for BTEX and total PAHs are also presented on Figures 4a and 4b and for the shallow and intermediate hydrostratigraphic zones, respectively.

5. Historical Subsurface Structure Investigation

5.1 General

This section summarizes the activities conducted and results obtained for a historical subsurface structure investigation that was conducted at the property by BBL in May and June 2004 in accordance with the NYSDEC approved Work Plan (BBL, 2003) to identify the potential presence and extent of NAPL beneath historical subsurface structures associated with former MGP operations at the property. A written summary of these activities has not been previously provided to the NYSDEC, and therefore, additional detail related to the investigation methods utilized is presented in this section.

5.2 Historical Subsurface Structure Investigation

Historical structures associated with MGP operations at the property include the following:

- 2-million CF gas holder;
- 800,000 CF gas holder;
- 150,000 CF gas holder;
- retort building;
- generator/condenser house (including boiler and engine rooms);
- two purifier houses;
- ammonia concentrator;
- coke bin;
- pit;
- oil tank;
- tar tank;
- tar separator;
- water gas condenser;
- scrubber tank; and
- separator.

The approximate locations of known historical subsurface structures based on a review of historical site maps and previous site investigation activities are shown on Figure 2.

The objectives of the historical subsurface structure investigation, as previously listed in the Work Plan were as follows:

- Verify the presence (or confirm the absence) of onsite subsurface structures and document the location of these structures;

- Identify the approximate depth and size of subsurface structures;

- Develop survey data and mapping of historical subsurface structures; and

- Complete soil borings that penetrate historical subsurface structure foundations and collect soil samples to assess the presence and extent of NAPL-impacted soil underlying the historical subsurface structures.

The historical subsurface structure investigation included a non-intrusive subsurface investigation (consisting of a geophysical survey) followed by an intrusive subsurface investigation (consisting of the completion of test borings and soil borings).

Non-intrusive Subsurface Investigation

BBL completed a non-intrusive geophysical investigation to assist in locating and delineating historical subsurface structure foundations and other subsurface features. The non-intrusive geophysical investigation consisted of conducting electromagnetic (EM) and ground-penetrating radar (GPR) surveys.

BBL conducted the EM survey during May 2004 using a Geonics EM-31 frequency-domain conductivity meter equipped with a digital data recorder and a global positioning system (GPS) for horizontal control. Survey data was collected using vertical dipole orientation with both quadrature (apparent conductivity) and in-phase (metal sensitivity) modes. The EM survey was conducted by collecting discrete readings every 10 feet along transect lines spaced approximately every 20 feet across the property. The locations of the surveyed transect lines relative to existing and historical site features are shown on Figure 5.

The EM data was reduced, contoured, and evaluated to assess the locations of apparent anomalies detected by the EM survey relative to anticipated/approximate subsurface structure locations based on historical mapping and soil boring activities conducted during previous investigations. Areas of decreased or increased EM measurements (i.e., anomalies) were noted and further investigated using GPR.

Following the EM survey activities, a GPR survey was conducted to verify the presence and location of anomalies identified by the EM survey and attempt to quantify the depth of the subsurface structures. The GPR survey was conducted using a Subsurface Interfacing Radar (SIR) System 2000, manufactured by Geophysical Survey Systems, Inc. The results of the EM and GPR surveys are discussed below in Subsection 5.3.

Intrusive Subsurface Investigation

Based on the results of the geophysical investigation, intrusive subsurface investigation activities were conducted to further identify the locations and depths of historical subsurface structures and to facilitate collecting samples of the soil underlying the structure foundations. Intrusive subsurface investigations consisted of advancing both test borings and soil borings. Test borings and soil borings were both completed using a direct push AMS PowerProbe^{TM} equipped with a 2-inch diameter 4-foot long macrocore sampling tube. The purpose of the test borings was to physically identify/verify the location of historical subsurface structures by boring along transects in the vicinity of likely subsurface structure locations until refusal was met. The purpose of the soil borings was to characterize and sample soil from directly beneath historical subsurface structures.

Prior to the commencement of the boring activities, a total of 38 test boring and 30 soil boring locations were field marked and surveyed. The test boring locations were positioned toward the edges of suspected historical subsurface structure positions as determined by historical site maps, geophysical surveying, and information obtained from the PSA/IRM Study and RI.

Following field demarcation of the test boring and soil boring locations, Dig Safely New York was contacted to locate and field mark subsurface utilities. Due to the number of gas mains located on the property, National Grid's gas locator was onsite for the invasive subsurface investigation field activities conducted in the vicinity of the gas lines. At a number of the test boring locations, borings either had to be moved or not completed at all due to the proximity to the gas utilities.

Test Boring Activities

As indicated above, the test borings were completed using an AMS PowerProbe^{TM} equipped with a 2-inch diameter 4-foot long macrocore sampling tube. In general, a series of test borings were completed at each location along transects oriented perpendicular to the suspected edge of the subsurface structure foundations to identify the approximate physical limits of the structures. To achieve this objective, an initial test boring was completed at the estimated edge of the historical subsurface structure (i.e., the field marked location). If possible, each test boring was advanced to a depth of approximately 8 feet bgs to identify the potential presence of a subsurface structure. If refusal was met at or above a depth of the inferred structure elevation at this initial location an additional test boring was completed approximately 5 feet from the initial boring in a direction away from the assumed historical subsurface structure foundation. Additional test borings were then completed (as necessary) until refusal was not met at the anticipated depth of the structure. Conversely, if the initial test boring at a location did not meet refusal, additional borings completed at 5-foot increments along the transect in a direction toward the assumed historical subsurface structure foundation until refusal was met. Following this protocol, BBL field personnel completed a total of 83 test borings along 27 test boring transects.

Soil samples collected during the completion of the test borings were visually characterized for soil type, staining, obvious odors, and the presence of NAPL. In addition, a PID was utilized to screen each soil sample for the presence of volatile organic vapors.

Soil removed during the test boring activities was returned to each borehole. Excess solid material was placed in 55-gallon drums for transportation and offsite disposal. Between each test boring/soil boring, the AMS PowerProbe^{TM} sampling device was decontaminated and decontamination fluids were containerized in 55-gallon drums for transportation and offsite disposal. Following the completion of test boring activities, the locations were flagged to facilitate field surveying. Subsurface logs of the soil observed in the test borings were recorded in the project field books.

Soil Boring Activities

Following the test boring activities, soil borings were completed to assess the potential presence and extent of NAPL-impacted soil underlying historical subsurface structures. Based on the depth of the subsurface foundations, materials of construction, and presence of NAPL on top of the subsurface foundations, soil borings were advanced as follows:

- Where foundations were less than 4 feet bgs, the subsurface structure was exposed using a backhoe, and a hand-held core drill was used to core through the structure (if possible) to facilitate advancing the AMS PowerProbe^{TM} sampler below the structure;

- Where foundations were greater than 4 feet bgs, BBL's drilling subcontractor, Lyon Drilling Company (Lyon), used hollow-stem auger techniques to auger through the structure to facilitate collecting samples of the soil underlying the subsurface foundation;

- Where visual indications of NAPL were encountered above the subsurface foundation, the soil boring was relocated to a position immediately outside the physical limits of the structure in accordance with the DNAPL Contingency Plan included as Appendix J to the NYSDEC-approved Work Plan (BBL, 2003).

The soil boring activities were completed from June 21 through June 29, 2004 and on September 1, 2004. The initial soil boring activities were conducted using an AMS PowerProbe™ equipped with a 2-inch diameter 4-foot long macrocore sampling tube to collect soil samples. Each soil boring was advanced to refusal or to the top of the groundwater table (approximately 3 to 10 feet bgs), whichever was encountered first. Originally, BBL proposed to complete 30 soil borings (BB-90 through BB-119) in the vicinity of historical subsurface structures. However, five of the proposed soil borings (BB-91, BB-102, BB-103, BB-109, and BB-111) were not initially completed due to the following property conditions:

- Soil boring BB-91 was not completed due to the presence of wooden power poles stored on the proposed boring location (i.e., the northwestern portion of the former retort), and based on at the findings from soil boring location BB-90 (located in the southwestern portion of the former retort) and test pit BT-2, which indicated that the historical subsurface structure was too thick to core through (i.e., greater than 3 feet thick);

- Soil borings BB-102 and BB-103 were not completed in June 2004 due to the proximity of the soil borings to an underground gas main. These soil borings were completed in July 2004 as described below;

- Soil boring BB-109 was not completed due to the indication of NAPL on top of a subsurface foundation within test borings completed along test boring transects TB-6 and TB-7 located in the vicinity of the proposed soil boring location (i.e., vicinity of the former tar tank) as well as the depth of the subsurface structure (6.5 to 7.0 feet bgs) as determined by the test borings; and

- Soil boring BB-111 was not completed in June 2004 due to the depth of the subsurface structure (approximately 6.5 feet bgs) as determined by test boring TB-01. Soil boring BB-111 was completed in July 2004 as described below.

Based on visual indications of NAPL encountered above the historical subsurface foundation at soil boring BB-110 (as well as a number of the test borings completed in the area east of the open garage), BBL completed 8 contingent soil borings (BB-120 through BB-127) to assess the presence and extent of NAPL-impacted soil underlying the historical subsurface structures in this area (i.e., east of the open garage). Soil borings BB-120 through BB-127 were completed east of the open garage in the general vicinity of soil boring BB-110.

An underground steel structure was encountered at several soil borings completed within the footprint of the former 800,000 CF holder. After several failed attempts to penetrate the steel foundation, contingent soil boring BB-128 was completed immediately north of the former 800,000 CF gas holder in the vicinity of soil boring BB-94 to assess the potential presence of NAPL in soil immediately adjacent to the former gas holder.

A hollow-stem auger (HSA) rig was used to complete a number of soil borings that were not able to be completed using the handheld core saw and AMS PowerProbe™ (due to the depth or thickness of the subsurface structure). Soil borings completed using the HSA consisted of following:

- Soil borings BB-102 and BB-103, located within the former purifier house. As indicated above, these soil borings were located in close proximity to subsurface gas utilities.

- Soil boring BB-111, located within the limits of the former oil tank.

- Soil borings BB-112 and BB-113, located within the open garage. During the June 2004 soil boring activities, BBL was not able to penetrate the subsurface structures associated with soil borings BB-112 and BB-113.

- Contingent soil boring BB-112B, located between soil borings BB-112 and BB-113 within the open garage. Soil boring BB-112B was completed because of refusal on the subsurface structure at soil borings BB-112 and BB-113 due to the thickness of the subsurface foundation (i.e., greater than 2 feet). Soil borings BB-112 and BB-113 were completed to approximate depths of 6 feet bgs and 5 feet bgs, respectively, after initially encountering the top of concrete at depths of 3 and 0.5 feet bgs, respectively.

- Soil borings BB-116 and BB-118, located within the limits of the former 150,000 CF gas holder.

- Contingent soil boring BB-129, located between soil boring BB-90 and proposed soil boring BB-91 west of the limits of the former retort. Soil boring BB-129 was completed at this location because the structure encountered at soil boring BB-90 was too thick to penetrate with a handheld core saw and proposed soil boring BB-91 could not be completed due to the presence of wooden power poles, as described above.

- Contingent soil boring BB-130, located near soil boring BB-108 in the vicinity of the former tar tank and tar separator. Soil boring BB-130 was completed to assess the potential presence of NAPL between the former tar tank/tar separator and Schermerhorn Creek.

- Contingent soil boring BB-131, located near soil boring BB-111 in the vicinity of the former oil tank. Soil boring BB-131 was completed due to a moderate to strong odor and black-stained silt and fine sand encountered above the subsurface structure at soil boring BB-111.

- Contingent soil borings BB-132 and BB-133, located east and west of the open garage, respectively. Soil borings BB-132 and BB-133 were completed because the soil borings completed within the open garage (BB-112, BB-112B, and BB-113) did not penetrate the subsurface foundation.

With the exception of soil borings completed within the open garage (soil borings BB-112, BB-112B, and BB-113) and the soil borings completed in the vicinity of the gas utilities (soil borings BB-102, and BB-103), each soil boring was advanced using a 4¼-inch hollow stem auger while collecting continuous soil samples using a 2-inch diameter, 2-foot long split-barrel sampling device advanced in front of the auger. Due to the thickness of the subsurface structure encountered within the open garage, soil borings BB-112, BB-112B, and BB-113 were completed using a solid stem auger and direct push sampling unit equipped with a 2-inch diameter, 4-foot long macrocore sampling tube. Due to the location of soil borings BB-102 and BB-103 in the vicinity of an underground gas main, these soil borings were completed by hand-augering to the top of the subsurface structure, mechanically augering through the subsurface slab using a hollow stem auger and obtaining soil samples using a 3-inch diameter split-barrel sampling device.

Soil cuttings generated during the soil boring activities were containerized in 55-gallon drums and characterized for offsite disposal by National Grid. Each borehole was backfilled to the ground surface with cement/bentonite grout. Following completion of the soil boring activities, the boring locations were flagged to facilitate surveying. Hollow stem augers and split spoon samplers were decontaminated between each borehole and the decontamination fluids were containerized for transportation and offsite disposal. Surveyed soil boring locations are shown on Figure 3.

During completion of the boring activities, BBL's onsite geologist visually characterized each soil sample for soil type, staining, obvious odors, and the presence of potential MGP-related materials (e.g., NAPL, coal tar-like materials, wood chips).

Eight subsurface soil samples, BB-92(0-2’), BB-102(3-5’), BB-107(2-4’), BB-111(4-6.5’), BB-112B(2.5-5.6’), BB-124(6-8’), BB-127(6-8’) and BB-128(2-4’), were collected and submitted to CompuChem located in Cary, North Carolina for laboratory analysis for BTEX, PAHs, and cyanide. Soil samples in which NAPL was identified were submitted for laboratory analysis.

5.3 Historical Subsurface Structure Investigation Results

The results for the historical subsurface structure investigation are summarized below.

Non-intrusive Subsurface Investigation

The data obtained from the EM and GPR surveys identified several locations that indicated the potential presence of subsurface structures. The locations of discrete geophysical survey points that identified the potential presence of a subsurface structure are shown on Figure 5. As indicated on Figure 5, the locations of subsurface structures identified during the geophysical activities generally agreed with the locations of the structures as identified on historical site mapping. The EM and GPR survey results are included in Appendix D.

Intrusive Subsurface Investigation

As indicated above in Subsection 5.2, based on the results of the geophysical survey, test borings were completed along 27 transects to confirm the presence and approximate extent of subsurface structures. The approximate locations of the test boring transects are shown on Figure 5. Using information obtained from the geophysical surveying and test boring activities, the locations of historical MGP structures were adjusted on the Site Plan (as applicable).

No significant changes in the locations of the historical subsurface structures were noted based on the investigation activities. The locations of the former gas holders were slightly shifted and the limits of the Retort on the western portion of the property slightly changed. The locations of structures east of the existing open garage were difficult to map. These difficulties are attributed to the size and close proximity of the historical MGP structures within this area, and refusal encountered during test boring activities outside the assumed limits of the historical MGP structures (as identified based on historical Sanborn mapping). Refusal encountered outside the limits of the historical MGP structures within this area may be attributed to the following scenarios:

- Historical MGP structures were constructed on slabs larger than the structures. Therefore, refusal was encountered on this larger slab and not the actual historical MGP structure; or

- Historical MGP structures were demolished and refusal during test boring activities was due to demolition debris and not on the actual historical MGP structure.

A Revised Historical Site Features Location Map is included as Figure 6.

A summary of the test boring findings indicating depth to structures and the locations where NAPL was encountered is presented in the following table.

Historical MGP Structure	Associated Test Boring(s)	Depth of Refusal (feet bgs)	NAPL Encountered (Yes/No)	Depth of NAPL (feet bgs)
2-million CF Gas Holder	TB-22	1.0	No	NA
	TB-23			
	TB-24			
800,000 CF Gas Holder	TB-20	3.0	No	NA
	TB-25	3.0		
	TB-26	2.0		
150,000 CF Gas Holder	TB-27	4.5	No	NA
Retort Building	TB-34	4.0	No	NA
	TB-35	6.0		
	TB-36	4.0		
	TB-37	2.0		
Southern Purifier House	TB-11	1.0	No	NA
Ammonia Concentrator	TB-3	1.0	No	NA
	TB-4	6.0	**Yes**	1.0-2.0 & 4.0-5.9
	TB-5	3.0		0.8-2.2
	TB-6	6.0		1.0-2.0 & 4.0-4.5
Coke Bin & Trestle	TB-33	4.5	No	NA
Tar Tank	TB-6	6.0	**Yes**	1.2-1.5
	TB-7	6.0		2.4-2.5 & 4.0-5.5
Tar Separator	TB-9	3.5	**Yes**	0.2-2.5
Note: NA = Not applicable				

NAPL was identified in soil samples collected from 11 of the 43 soil borings completed as part of the historical subsurface structure investigation. A summary of the locations and depth intervals (relative to subsurface structures) where NAPL was encountered is presented in the following table.

Historical MGP Structure	Soil Boring ID	Depth of Structure (feet bgs)	Depth of NAPL (feet bgs)	Visual Characterization
Coke Bin & Trestle	BB-92	4.5	1.0-2.5	Trace NAPL
Ammonia Concentrator	BB-110*	4.0	2.4-2.8	Tar saturated wood chips
Condenser House	BB-112B*	6.0	2.0-6.0	Oil-like material
	BB-132**		6.0-8.0	Blebs of oil-like material
150,000 CF Gas Holder	BB-118	5.8	5.0-5.8 & 8.0-12.0	Oil-like material
Tar Tank	BB-121*	6.0	3.0-5.0	Tar-soaked sand
Tar Separator	BB-124**	~6.0	3.0-6.7	Trace NAPL
	BB-125**		4.0-8.0	Trace to some NAPL specks
	BB-127**		6.0-8.0	Trace blebs of NAPL
800,000 CF Gas Holder	BB-128**	3.0	2.0-8.0	Coal tar streaking
Retort Building	BB-129**	4.5	2.5	Trace tar-like material

Historical MGP Structure	Soil Boring ID	Depth of Structure (feet bgs)	Depth of NAPL (feet bgs)	Visual Characterization
Notes: 1. * - NAPL observed in a soil sample collected above refusal on a subsurface structure. 2. ** - NAPL observed in a soil sample collected from a contingent soil boring completed outside the limits of refusal on a subsurface structure.				

Soil boring logs for each of the soil borings completed as part of the historical subsurface structure investigation activities are included in Appendix A.

Soil samples that contained the visible presence of NAPL (as identified by BBL field personnel) were submitted for laboratory analysis during the historical subsurface structure investigation. Therefore, the results obtained for the analysis of the samples were anticipated to reflect elevated concentrations of BTEX and PAHs. Analytical results obtained for the laboratory analysis of subsurface soil samples for BTEX, PAHs, and cyanide are presented in Tables 9 through 11, respectively, and summarized below.

Analyses	Subsurface Soil Investigation Results
BTEX	BTEX compounds were detected at concentrations greater than NYSDEC recommended soil cleanup objectives in each of the soil samples submitted for laboratory analysis. The maximum concentrations of BTEX were detected in samples collected east of the open garage, in the vicinity of the former purifier house, and in the vicinity of the former oil tank. The highest BTEX concentration (3,351 ppm) was reported for soil sample BB-128(2-4') collected northwest of the former 800,000 CF gas holder.
PAHs	Total PAHs were detected in each soil sample at concentrations greater than NYSDEC recommended soil cleanup objective. The highest total PAH concentration (1,928 ppm) was reported for soil sample BB-128(2-4') collected immediately north of the former 800,000 CF gas holder.
Cyanide	Cyanide was detected in each of the soil samples at concentrations ranging from 0.58 to 82.2 ppm (reported for soil sample BB-102(3-5') collected in the vicinity of the former purifier house. Due to the various forms of cyanide and stability of the various cyanide compounds, TAGM 4046 does not list a recommended soil cleanup objective. Instead, a site specific cleanup objective is usually established if cyanide is detected at significant concentrations. However, the detected concentrations of cyanide do not exceed soil screening levels (SSLs) of 1,600 ppm established in USEPA 's Soil Screening Guidance (1996).

6. Additional Subsurface Investigations

6.1 General

This section summarizes additional subsurface investigation activities conducted to further evaluate the extent of NAPL in soil and associated dissolved-phase hydrocarbons (DPH) in groundwater at the property. The additional subsurface investigation activities were conducted by BBL between July 2004 and January 2005 and consisted of:

- Conducting preliminary groundwater screening at existing monitoring wells MW-8I and MW-8D, located hydraulically downgradient of the property;
- Completing additional NAPL-related soil boring activities (i.e., advancing soil borings BB-134 through BB-148 and BB-142R to evaluate the potential presence and degree of saturation of NAPL in the vicinity of soil borings completed during the PSA and RI where NAPL was interpreted to be present in soil below the silt and clay unit at the property);
- Installing an additional monitoring well cluster (monitoring well cluster MW-27) downgradient of the western portion of the site to further evaluate the presence of benzene in groundwater in this area;
- Conducting additional investigation activities for evaluation of the silt and clay lacustrine unit (i.e., completing soil borings and installing monitoring wells MW-24 and MW-25 to investigate the hydrogeologic and geotechnical properties and groundwater quality within this unit);
- Conducting monitoring well abandonment and replacement activities for select monitoring wells (monitoring wells MW-4, MW-5, MW-16, and MW-18) that were constructed with their well screens penetrating the low-permeability silt and clay unit underlying the property;
- Completing monitoring well repair/replacement and redevelopment activities for several existing monitoring wells in preparation for a site-wide groundwater sampling event; and
- Conducting a comprehensive site-wide groundwater sampling event.

In addition, field samples were collected in support of the MNA evaluation. As presented in Section 1, an MNA evaluation report will be presented under separate cover. Descriptions of the additional subsurface investigation activities are presented below, followed by a summary of the investigation results.

6.2 Preliminary Groundwater Screening Activities

Previous groundwater analytical results from monitoring well MW-8I have indicated the presence of BTEX compounds (primarily benzene) at concentrations exceeding Class GA groundwater quality standards and guidance values. Between the June 1996 and June 2002 groundwater sampling events the concentration of total BTEX in groundwater from monitoring well MW-8I decreased by two orders of magnitude (from 1,435 µg/L in 1996 to 28 µg/L in 2002). BTEX compounds were not detected in groundwater samples collected from the shallow and deep wells at the MW-8 cluster during either the 1996 or 2002 groundwater sampling events.

In accordance with the NYSDEC-approved Work Plan, groundwater samples were collected at monitoring wells MW-8I and MW-8D as part of a preliminary screening to evaluate the need for an additional groundwater monitoring well cluster to delineate the extent of DPH in groundwater downgradient from the property. BBL collected groundwater samples from monitoring wells MW-8I and MW-8D on August 11, 2004 using low-flow sampling techniques.

Prior to sampling, the monitoring wells were purged using a peristaltic pump and disposable tubing. During purging, water quality parameters consisting of pH, temperature, conductivity, dissolved oxygen, oxidation reduction potential, and turbidity were measured and recorded every 5 minutes. The wells were purged until the turbidity of the purge water was less than 50 nephelometric turbidity units (NTUs) and the water quality parameters stabilized within 10 percent of each other for three consecutive measuring periods. Groundwater samples were submitted to CompuChem for laboratory analysis for BTEX compounds (using USEPA SW-846 Method 8260) and PAHs (using USEPA SW-846 Method 8270). Groundwater samples submitted for laboratory analysis for PAHs were collected using a peristaltic pump. Groundwater samples submitted for laboratory analysis for BTEX compounds were collected using disposable polyethylene bailers. Groundwater sampling logs are included in Appendix C.

The results of the groundwater screening activities are summarized below in Subsection 6.9.

6.3 Additional NAPL-Related Soil Boring Activities

To further characterize subsurface soil conditions and evaluate the presence and extent of NAPL at the hydraulically downgradient property boundary, BBL completed 16 additional soil borings (soil borings BB-134 through BB-148 and BB-142R) between July 22 and November 5, 2004. Specifically, the borings were completed along the western fence line and in the vicinity of PSA/IRM and RI borings where field personnel indicated the presence of visible NAPL in soil below the silt and clay unit at the property.

BBL's drilling subcontractor, Parratt-Wolff, completed soil borings BB-134 and BB-135 using a 4¼-inch ID hollow stem auger. Continuous soil samples were collected during the soil boring activities by advancing a 2-inch diameter outside diameter, 2-foot long split-barrel sampling device advanced ahead of the auger. The remaining soil borings were completed using an AMS PowerProbe^{TM} equipped with a 2-inch diameter 4-foot long macrocore sampling tube. BBL's onsite representative visually characterized each soil sample for soil type and the presence of staining, obvious odors, and potential MGP-residual materials.

Originally, soil boring BB-134 was to be completed as a monitoring well with the well screen set entirely within the silt and clay unit. However, as further described in Subsection 6.5 (Silt and Clay Unit Additional Investigation Activities) the typical silt and clay unit that underlies the majority of the property was not encountered during completion of the soil boring.

6.4 Downgradient Monitoring Well Installation Activities

To provide an additional monitoring point to further assess the horizontal and vertical extent of DPH in groundwater hydraulically downgradient from the property, a groundwater monitoring well cluster (consisting of shallow and deep monitoring wells MW-27S and MW-27D, respectively) was installed on August 2, 2004. As indicated on Figure 3, monitoring well cluster MW-27 was installed at a location hydraulically downgradient of monitoring well MW-3 between monitoring well MW-7 and the monitoring well MW-8 cluster west of the property boundary.

A soil boring was completed at the proposed location of monitoring well MW-27D to visually characterize the subsurface soil conditions and identify the appropriate screen depths for the monitoring wells. The soil boring was completed using a 4¼-inch ID hollow stem auger. Continuous soil samples were collected during the soil boring activities by advancing a 2-inch outside diameter, 2-foot long split barrel sampling device ahead of the auger. BBL's onsite representative visually characterized each soil sample for soil type and the presence of staining, obvious odors, and potential MGP-residual materials. No staining, odors, or indications of MGP residuals were encountered during the completion of monitoring wells MW-27S or MW-27D.

Monitoring well MW-27S was constructed with a 5-foot long well screen set from 3 to 8 feet bgs to straddle the groundwater table (encountered at approximately 5.5 feet bgs) and monitor groundwater quality within the shallow groundwater interval. The top of the silt and clay unit was encountered approximately 8 feet bgs. Monitoring well MW-27D was constructed with a 10-foot well screen set from 55.7 to 65.7 feet bgs positioned within the till unit beneath the property. The top of the till unit at this location was encountered at approximately 53.5 feet bgs.

Both of the monitoring wells were constructed using 2-inch diameter Schedule 40 PVC well casing and 20 slot PVC well screens (0.020-inch slot size). After setting the well casing, a Morie #1 silica sand pack was placed in the annulus between the well casing and the borehole wall from the bottom of the borehole to a height of approximately 0.5 feet above the top of the well screen. A one- to two-foot thick hydrated bentonite seal was then placed on top of the sand pack and the remainder of the annulus between the well casing and the borehole wall was filled with a cement/bentonite grout to approximately 1 foot bgs. Monitoring well construction logs are included as Appendix B.

Each monitoring well was completed with the PVC well casing extending approximately 2-feet above the ground surface and fitted with a vented cap. A 4-inch-diameter protective steel casing was then placed around each stick-up casing and secured in an approximately 2-foot-diameter, 1-foot-thick surface pad. The protective steel casings were fitted with locking caps equipped with keyed-alike locks.

6.5 Silt and Clay Unit Additional Investigation Activities

Additional investigation activities were conducted to evaluate the potential for the silt and clay unit located beneath the property to act as a confining unit for the downward migration of NAPL. As presented in a July 1, 2003 comment response letter to NYSDEC, National Grid proposed to install three monitoring wells with the well screens set entirely within the silt and clay unit. The letter also indicated that undisturbed soil samples of the silt and clay material would be collected using Shelby Tube samplers and submitted for laboratory analysis for geotechnical parameters.

During completion of the soil boring at one of the proposed well locations (soil boring BB-134 located along the fence line at the northwestern property boundary) the typical silt and clay unit that underlies the majority of the property was not encountered. Three attempts to collect a Shelby Tube sample proved unsuccessful. Since the typical silt and clay layer was not encountered at this location, a monitoring well was not installed.

Two monitoring wells (monitoring wells MW-24 and MW-25) were installed at the locations shown on Figure 3. At each of these monitoring well locations, the soil borings were advanced to the top of the silt and clay unit using hollow stem auger techniques. Undisturbed soil samples MW-24(12-13.6') and MW-25(10-12') were collected using Shelby tubes and submitted for laboratory analysis to evaluate the geotechnical properties of the silt and clay. The soil samples were submitted to PW Laboratories, Inc. of East Syracuse, New York for laboratory analysis for the following geotechnical parameters:

- Grain size analysis;
- Vertical hydraulic conductivity;
- Atterberg limits; and
- Bulk density.

Results obtained for the analysis of the soil samples are summarized below in Subsection 6.9.

Monitoring wells MW-24 and MW-25 were constructed using 2-inch-diameter Schedule 40 PVC well casing with a 3-foot-long 20 slot PVC well screens (0.020-inch slot size). The wells were constructed with the well screen and filter pack positioned entirely within the site and clay unit, so that the water levels and water quality measured in the wells are representative of the silt and clay unit. Prior to setting the monitoring well casings, monitoring well MW-24 borehole was backfilled with approximately 2.5 feet of bentonite and the monitoring well MW-25 borehole was allowed to naturally collapse approximately 1.5 feet to bring the bottom of the borehole at each location above the bottom of the silt and clay unit. After setting the well casing, a silica sand pack was placed in the annulus between the well casing and the borehole wall from the bottom of the borehole to a height of approximately 0.5 feet above the top of the well screen. An approximately 6-inch-thick bentonite seal was then placed on top of the sand pack and the remainder of the annulus, between the well casing and the borehole wall, was filled with a cement/bentonite grout to within one foot of the ground surface. Each monitoring well was completed with a flush-mount cover, fitted with a vented cap, and secured within a 1-foot-thick concrete pad. Soil boring logs and monitoring well construction logs are included as Appendices A and B, respectively.

The following table summarizes the depth of the silt and clay unit encountered at each location and the well screen depths.

Monitoring Well ID	Silt & Clay Unit Depth (feet bgs)	Well Screen Depth (feet bgs)
MW-24	9.8 – 16.7	12.0 – 15.0
MW-25	9.6 – 14.9	11.5 – 14.5

6.6 Monitoring Well Abandonment/Replacement Activities

Several of the monitoring wells installed during the RI (i.e., monitoring wells MW-4, MW-5, MW-16, and MW-18) were screened across the low-permeability silt and clay unit in areas potentially containing NAPL. In July 2004, each of these monitoring wells was overdrilled, abandoned, and replaced with new monitoring wells constructed with their well screens set slightly into the low-permeability silt and clay unit. Monitoring wells MW-4, MW-5, MW-16, and MW-18 were replaced with monitoring wells MW-22, MW-21, MW-26, and MW-23, respectively.

Each replacement monitoring well was constructed using 2-inch-diameter Schedule 40 PVC well casing with a 5-foot-long, 20-slot PVC well screen (0.020-inch slot size) and a 2-foot-long PVC sump. After setting the well casing, the annulus between the 2-foot sump and the borehole wall was backfilled with hydrated bentonite chips. A silica sand pack was then placed in the annulus between the well casing and the borehole wall from the top of the bentonite to a minimum height of 0.5 feet above the top of the well screen. An approximately 1 to 2 foot-thick bentonite seal was then placed above the sand pack at each monitoring well. Where necessary, the remainder of the annulus, between the well casing and the borehole wall was filled with a cement/bentonite grout to approximately 2 feet bgs. With the exception of trace blebs of yellow-brown oil-like material observed in soil samples collected from the 8 to 12 foot depth interval at monitoring well MW-21, NAPL was not observed in soil samples collected during the completion of the soil borings.

Monitoring wells MW-21, MW-23, and MW-26 were completed as a flush mount monitoring wells, fitted with a vented cap, and secured with an approximately 2-foot-thick concrete surface pad. Monitoring well MW-22 was completed with an approximately 2-foot stick-up casing fitted with a vented cap. A 4-inch-diameter protective steel casing was then placed around the PVC stick-up casing and secured in a 2-foot-diameter, 1.5-foot-thick concrete surface pad. The protective steel casings were fitted with a locking cap and lock. Monitoring well construction logs are included as Appendix B.

6.7 Monitoring Well Repair/Replacement and Redevelopment Activities

On August 11, 2004, BBL identified, visually assessed, and gauged each existing monitoring well accessible to field personnel. BBL's field personnel were not able to gauge the monitoring well MW-9 cluster or monitoring well MW-10 due to offsite access agreement issues or monitoring well MW-15 due to physical access issues at that location. Based on the assessment activities, field personnel identified that the cast-iron flush-mounted protective covers at monitoring wells MW-6I and MW-13S were missing, and the well riser at monitoring well MW-13S was broken at the top and appeared to be heaved slightly above the ground surface. In addition, field personnel noted the presence of accumulated sediment within each existing monitoring well at depths ranging up to approximately 10.8 feet in monitoring well MW-6S.

Based on the results of these activities, monitoring well repair, replacement, and redevelopment activities were completed between September 9 and 10, 2004. Monitoring well MW-6I was repaired by installing a new 8-inch-diameter steel curb box in an approximately 2-foot-diameter concrete surface pad. Due to the extensive damage to monitoring well MW-13S, the existing monitoring well was abandoned and replaced. Monitoring well MW-13S was abandoned by overdrilling the monitoring well to a total depth of approximately 24 feet bgs (approximately 2 feet below the well construction depth) using 6¼-inch-diameter hollow stem augers. Following overdrilling activities, the monitoring well casing was removed and the borehole was tremie grouted to the ground surface using cement/bentonite grout.

Monitoring well MW-13SR was installed to replace damaged monitoring well MW-13S. Monitoring well MW-13SR was constructed using a 2-inch-diameter, Schedule 40 PVC well casing equipped with a 10-foot-long, 20-slot PVC well screen (0.020-inch slot size) positioned between 10 and 20 feet bgs. After setting the casing, a Morie #1 silica sand pack was placed in the annulus between the well casing and the borehole wall to a height of approximately 2 feet above the top of the well screen. An approximately 2-foot-thick hydrated bentonite seal was then placed above the sand pack. The remainder of the borehole was filled with cement/bentonite grout to approximately 1.5 feet bgs. The well casing was fitted with a locking well cap and finished with an 8-inch-diameter flush-mounted curb box set in an approximately 1-foot-diameter, 18-inch-thick concrete pad.

Fifteen monitoring wells (monitoring wells MW-6S, MW-8S, MW-8I, MW-8D, MW-11, MW-12, MW-13I, MW-13P, MW-14S, MW-14P, MW-14I, MW-17, MW-19S, MW-19I, and MW-19D) were redeveloped to remove accumulated sediment and to facilitate completion of a site-wide groundwater sampling event. Redevelopment activities were conducted by injecting water through a tremie pipe to "lift" accumulated sediment to the surface. Sediment and water removed from the monitoring wells was containerized in 55-gallon drums for future transportation and offsite disposal by National Grid. Each monitoring well was redeveloped so that the measured depth to the bottom of the well was within 1-foot or less of the original reported monitoring well installation depth.

In January 2005, a manually-driven macro-core sampler was used in an attempt to collect a sample of the material that had accumulated in the bottom of monitoring well MW-20. While attempting to retrieve the sampler after it was driven into the material at the bottom of the well, the well casing was lifted several inches out of the borehole. Since this could have caused damage to the integrity of the well, National Grid elected to abandon and replace monitoring well MW-20.

Monitoring well MW-20R was installed to replace damaged monitoring well MW-20. Monitoring well MW-20 was overdrilled using a 6¼-inch I.D. HSA to remove the well materials. Monitoring well MW-20R was constructed within the borehole created by overdrilling MW-20 using a 4-inch-diameter, Schedule 40 PVC well casing equipped with a 15-foot-long, 20-slot PVC well screen (0.020-inch slot size) positioned between 6 and 21 feet bgs and a 4-inch diameter 3-foot long sump. The well sump was set in cement-bentonite grout from the bottom of the borehole to the top of the sump to minimize the potential for NAPL to migrate to the annulus between the borehole wall and the well sump. After setting the well casing, a Morie #1 silica sand pack was placed in the annulus between the well casing and the borehole wall to a height of approximately 2 feet above the top of the well screen. An approximately 2-foot-thick hydrated bentonite seal was then placed above the sand pack. The well casing was fitted with a locking well cap and finished with an 8-inch-diameter flush-mounted curb box set in an approximately 1-foot-diameter, 18-inch-thick concrete pad. The MW-20R monitoring well construction log is included in Appendix B.

BBL developed the monitoring well by surging the well screen for approximately 30 minutes using a 2-inch diameter polyethylene bailer prior to pumping the well at an average rate of approximately 4 liters per minute using a Waterra pump and a 4-inch diameter surge block. Field personnel noted that the well development water exhibited a strong MGP-type odor, heavy sheens, and trace blebs of NAPL.

6.8 Groundwater Sampling Activities

BBL conducted groundwater sampling activities from November 1 to November 12, 2004 and during the week of January 10, 2005 to further characterize groundwater at and in the vicinity of the property. Static groundwater level measurements were obtained from each accessible onsite and offsite monitoring well on November 11, 2004 and January 12, 2005. Monitoring wells located on CSX Transportation, Inc. (CSX) property (including monitoring wells MW-9S, MW-9I, MW-9D, and MW-10) were not monitored/sampled during the November 2004 groundwater sampling event due to the extended time frame required to obtain a right-of-entry agreement from CSX. Following execution of the right-of-entry agreement, these wells were sampled on January 12, 2005.

Groundwater samples were collected from 30 existing groundwater monitoring wells in the vicinity of the property. A groundwater sample was not collected from monitoring well MW-20 due to the presence of LNAPL on the water surface in that monitoring well.

In accordance with the Work Plan, low-flow sampling techniques were used to purge groundwater from each monitoring well prior to collecting groundwater samples. Field parameters (consisting of pH, conductivity, dissolved oxygen, temperature, turbidity, and oxygen reduction potential) were measured approximately every 5 minutes during well purging, and the depth to water was monitored throughout the pumping process and adjusted as necessary to minimize drawdown within the well. Copies of the groundwater sampling logs are included in Appendix C.

Well purging activities continued at each monitoring well until the field parameters stabilized. Following purging of each monitoring well, a groundwater sample was collected using low-flow sampling techniques. Groundwater samples for PAH analysis were collected using a peristaltic pump and dedicated tubing. Groundwater samples submitted for laboratory analysis for BTEX compounds were collected using new disposable polyethylene bailers.

Groundwater samples were submitted to CompuChem for laboratory analysis for BTEX and PAHs using USEPA SW-846 Methods 8260 and 8270, respectively. Quality assurance/quality control samples, including blind duplicates (collected from monitoring wells MW-3 and MW-13I), trip blanks, matrix spike, and matrix spike duplicate samples, were submitted in accordance with the Work Plan.

The results of the groundwater sampling activities are presented below in Subsection 6.9.

6.9 Additional Subsurface Investigation Results

This section presents a summary of the results obtained for the following additional subsurface investigation activities:

- Preliminary groundwater screening;
- Additional NAPL-related soil borings;
- Silt and clay unit additional investigation; and
- Groundwater sampling.

<u>Preliminary Groundwater Screening Results</u>

A summary of the analytical results obtained for the laboratory analysis of the groundwater samples is presented in the following table.

Analyses	Preliminary Groundwater Screening Results
VOCs	Benzene was detected in groundwater sample MW-8I at a concentration of 49 ppb, which is greater than the Class GA groundwater standard of 1 ppb. No other VOCs were detected in groundwater samples collected from monitoring wells MW-8I and MW-8D at concentrations exceeding Class GA groundwater standards or guidance values presented in TOGS 1.1.1.
SVOCs	Acenaphthene was detected in the groundwater sample collected from monitoring well MW-8I at a concentration of 46 ppb, which is greater than the Class GA groundwater standard of 20 ppb. No other PAHs were detected at concentrations greater than the laboratory detection limits in the groundwater sample collected from monitoring well MW-8D.

Analytical results for BTEX compounds and PAHs in the groundwater samples are presented in Tables 4 and 5, respectively. Results for groundwater samples collected from wells screened in the shallow and intermediate hydrostratigraphic zones are also shown on Figures 4a and 4b, respectively. In accordance with the NYSDEC-approved Work Plan, an additional monitoring well was planned for installation hydraulically downgradient from the monitoring well MW-8 cluster on the D&H railroad right-of-way based on the presence of benzene in the groundwater sample at concentrations exceeding TOGS 1.1.1 Class GA Groundwater standards and guidance values. However, National Grid was unable to obtain a right-of-entry agreement with D&H to conduct the well installation.

Additional NAPL-Related Soil Boring Results

NAPL, primarily characterized by field personnel as an oil-like material, was identified in soil samples collected from 12 of the 16 soil borings completed as part of the additional NAPL-related soil boring activities. Depth intervals of observed impacted soil are summarized below and in Table 3.

Soil Boring ID	Depth of NAPL (feet bgs)	Soil Characteristics	Visual Characteristics
BB-134	11.5 - 13.5	Silt and clay fine sand	Bleb of brown oil-like material
	16.0 - 18.0	Silty clay with fine sand lenses	Trace blebs of brown oil-like material
	18.0 – 20.0	Silt and fine sand, trace clay	Trace reddish-brown oil-like material
BB-135	7.8 – 10.0	Sand and silt	Trace brown oily NAPL
BB-137	8.0 – 8.25	Fine sand	Brown non-viscous oil
	8.4	Sand seam	Brown oil
	8.4 – 10.0	Fine sand little silt	Dark brown oil
	12.0 -13.5	Fine sand little silt	
	17.25 – 17.50	Fine sand seam	
	18.50 – 18.75	Fine sand seam	
	20.5	Fine sand seam	
	21.2	Fine sand seam	
	21.5 – 22.0	Fine sand seam	Dark brown non-viscous oil
BB-138	0.5-4.0	Fine to coarse sand	Black stained with black oil
	4.0 – 4.5	Cinders and ash	Black oil
	8.0 – 12.0	Silt trace sand with sand seams	Trace blebs of brown oil
BB-139	9.0 – 10.0	Fine sand	NAPL saturated
	10.0 – 12.0	Silt and clay	Black NAPL staining
	12.0 – 16.0	Silt and clay trace fine sand rootlets	Brown NAPL staining
BB-140	14.0 – 16.0	Silt some fine sand	Brown oily sheens
BB-142	1.2	Coarse sand and gravel	Sticky black tar
	2.6 – 2.8	Fine sand and silt	Dark brown oil
	4.0 – 4.2	Fine sand and silt coarse sand and gravel	
BB-143	2.0 – 3.0	Fine to medium sand and silt	Black oily material
	4.0 – 8.0	Fine sand and silt	Black oil
	8.0 – 12.0	Silt little fine sand	Brownish-black oil
	12.0 – 16.5	Clay little silt fine sand seam	Dark brown non-viscous oil
	17.0 – 19.0	Fine sand lenses	Lenses saturated with oil
BB-144	4.0 – 10.25	Fine sand trace silt	Dark brown oil
	10.25 – 11.0	Fine sand	Saturated with oil
	13.0 – 13.75	Fine sand	Dark brown non-viscous oil
	16.0 – 20.0	Silt trace clay with fine sand seams	Trace dark brown oil

Soil boring logs for each of the soil borings completed as part of the additional NAPL-related soil boring activities are included in Appendix A.

Silt and Clay Unit Additional Investigation Results

Results obtained for the analysis of soil samples collected at monitoring well locations MW-24 and MW-25 for geotechnical properties are summarized in the adjacent table.

Geotechnical Properties	MW-24 (12.0-13.6')	MW-25 (10.0-12.0')
Plastic Limit (% moisture content)	17	19
Liquid Limit (% moisture content)	28	30
Plasticity Index	11	11
Dry Density (lbs/ft^3)	103.5	90.5
Moist Density (lbs/ft^3)	127.1	118.3
K Value (cm/sec)	4.25x10^{-6}	7.30x10^{-8}

Notes:
1. K Value = Coefficient of Permeability.
2. lbs/ft^3

In addition, grain size analysis for the soil samples submitted from monitoring well locations MW-24 and MW-25 indicated that 95.1 and 93.2 percent by weight (respectively) of the samples passed a #200 sieve, which classifies the soil as silt-clay.

Based on these laboratory results, the geometric mean vertical hydraulic conductivity value for the silt and clay unit that underlies the property is 5.6x10^{-7} cm/sec. According to the United States Environmental Protection Agency (USEPA) document entitled, "Geosynthetic Clay Liners Used in Municipal Solid Waste Landfills" (December, 2001), the hydraulic conductivity of most geosynthetic clay liner products ranges from approximately 1x10^{-5} cm/sec to 1x10^{-12} cm/sec (USEPA, 2001).

Groundwater Sampling Results

A summary of the analytical results obtained for the laboratory analysis of the groundwater samples collected during the November 2004/January 2005 sampling event is presented in the following table.

Analyses	Groundwater Investigation Results
BTEX	BTEX compounds were detected in 14 of the 34 groundwater samples collected at concentrations exceeding the Class GA groundwater standards and guidance values. The highest total BTEX concentration (13,530 ppb) was reported for groundwater sample MW-23 installed to replace monitoring well MW-18 immediate south of the former 800,000 CF holder.
PAHs	PAHs were detected in 12 of the 34 groundwater samples collected at concentrations greater than the Class GA groundwater quality standards and guidance values presented in TOGS 1.1.1. The highest total PAH concentration (6,280 ppb) was reported for groundwater sample MW-26. Individual PAHs detected at concentrations exceeding TOGS 1.1.1 Class GA groundwater standards and guidance values included acenaphthene, anthracene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)-fluoranthene, chrysene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, and pyrene].

The results obtained for the analysis of the groundwater samples collected during the November 2004 and January 2005 groundwater sampling events for BTEX and PAHs are presented in Tables 4 and 5, respectively and for the shallow and intermediate hydrostratigraphic zones are shown on Figures 4a and 4b, respectively.

In November 2003, NYSDEC provided National Grid with laboratory analytical data for groundwater samples collected from two offsite monitoring well clusters on a neighboring property located downgradient of the D&H and CSX right-of-ways. The analytical data provided by NYSDEC indicated that MGP-related dissolved-phase groundwater impacts were not detected in the two neighboring property offsite monitoring well clusters. National Grid will either review relevant groundwater sampling reports and data (if available) at the public repository or submit a Freedom of Information Law (FOIL) request to the NYSDEC to obtain additional information related to groundwater sampling at these offsite wells. National Grid's project manger met with the

NYSDEC project manager for the neighboring property located hydraulically downgradient of the Schenectady (Broadway) site to obtain downgradient groundwater data. A memorandum prepared by National Grid's project manager summarizing the results of the data evaluation is presented as Appendix E.

7. Till Investigation

7.1 General

This section summarizes the till investigation activities conducted to evaluate the presence and hydrogeologic properties of the till beneath the property and further evaluate property stratigraphy. Additional field samples/data were acquired in conjunction with the till investigation in support of a bench-scale study for barrier wall/in-situ stabilization remediation technologies and the development of a site-specific groundwater flow model. The investigation activities conducted in support of these efforts included the following:

Till Investigation

- Installed 13 new monitoring wells including five monitoring wells screened within the till unit, to further evaluate property stratigraphy and the hydrogeologic properties (e.g., hydraulic gradients, hydraulic conductivity) of the unconsolidated materials at the property; and

- Collected and submitted five samples of the till material for laboratory analysis.

Barrier Wall/In-situ Soil Stabilization Bench-scale Studies

- Completed two new soil borings (BB-149 and BB-150) and collected bulk soil samples; and

- Collected a bulk groundwater sample from monitoring well MW-26 and a “mix water” sample from an onsite municipal water supply.

Site-Specific Groundwater Flow Model Data Acquisition

- Completed specific capacity testing during well development activities to facilitate estimation of hydraulic conductivities within the different hydrostratigraphic zones at the property;

- Collected a comprehensive round of water level measurements; and

- Conducted sediment probing, collected a sediment core sample, and measured the flow rate with in the onsite reach of Schermerhorn Creek.

Additional activities also were conducted to repair and/or replace missing components of surface completions (e.g., concrete surface pads, protective covers, well plugs, locks) for 11 existing monitoring wells.

Descriptions of these investigation and well repair/maintenance activities are presented below. Results supporting the site conceptual model and characterization of the geologic and hydrogeologic characteristics of the till unit are also presented in this section. The results obtained for the bench-scale study will be presented in the revised FS Report.

7.2 Till Investigation Monitoring Well Installation

One of the remedial alternatives anticipated to be evaluated in the FS is isolation/containment of impacted materials using a low-permeability barrier wall keyed into a relatively impermeable geologic unit beneath the property. Based on information presented in the RI Report, the silt and clay unit appears to be a low-permeability unit underlying the site. As described in Section 6.5, the silt and clay layer was observed across the majority of the property, but is not continuous and therefore may not be suitable to utilize as the only unit to key a low-permeability barrier into as part of a remedial measure at the property.

This investigation was conducted to obtain additional information to better characterize the stratigraphic and hydrogeologic properties of the deeper unconsolidated units at the property, and evaluate whether the till unit would be an appropriate unit in which to key a containment wall. Prior to the till investigation activities, only monitoring well MW-27D was screened in the till unit, and there were 30 borings that had encountered the top of the till surface.

In support of this objective, thirteen new monitoring wells (MW-13T, MW-19T, MW-28S, MW-28I, MW-28D, MW-28T, MW-29S, MW-29I, MW-29T, MW-30S, MW-30I, MW-30D, MW-30T) at five well clusters were installed, with five monitoring wells (MW-13T, MW-19T, MW-28T, MW-29T, and MW-30T) screened within the till unit. The monitoring well locations (as shown on Figure 3) were selected to provide additional data in strategic areas of the property that also would likely have minimal, if any, MGP-impacted soils and groundwater based on the results obtained from previous subsurface investigation activities.

Two of the till monitoring wells (MW-13T and MW-19T) were installed to expand existing well clusters, and new monitoring well clusters were installed at three locations (MW-28, MW-29, and MW-30). Upon completion, the well clusters typically included 3 to 4 wells screened at various depth intervals. Standard Penetration Testing (SPT) was conducted using ASTM Standard D1586 – Standard Test Method for Penetration Test and Split Barrel Sampling of Soils during the advancement of the soil borings for the five till monitoring wells. In accordance with SPT protocols, continuous soil sampling was conducted at the till wells by advancing a 2-foot long 2-inch outside diameter split spoon sampler ahead of the drilling apparatus. In addition, blow counts were recorded to provide additional data for geotechnical evaluation of the subsurface material. BBL's field personnel visually characterized each soil sample for soil type and for the presence of NAPL, staining, and obvious MGP or petroleum type odors. Geologic changes in the subsurface materials were noted at each till monitoring well location to refine the understanding of the stratigraphic contacts. The field observations, blow counts, and visual characterizations of the soil samples recovered during the SPT split spoon sampling are summarized in the soil boring and monitoring well construction logs presented in Appendices A and B, respectively.

Each well was constructed using 2-inch diameter Schedule 40 PVC well casing equipped with a 5 or 10 foot long, 10-slot (0.010-inch slot size) PVC well screen. At locations where the monitoring well was not installed at the bottom of the bore hole, the borehole was backfilled to the depth of the bottom of the well with bentonite. The wells were constructed by placing a silica sand pack within the annulus between the borehole wall and the well casing from the bottom of the well screen to approximately 2 feet above the top of the well screen. An approximately 2-feet thick bentonite seal was then placed on top of the sand pack. The remainder of the annulus was filled with cement-bentonite grout to within approximately 1 foot of grade. An approximately 6-inch thick sand drain was then installed and the wells were finished with cast-iron flush-mounted curb boxes set in concrete surface pads. The wells were then fitted with a locking well cap equipped with keyed alike locks.

During grouting at monitoring wells MW-28I and MW-30I, slight sheens were noted on the grout surface. No NAPL or sheen was noted during drilling. As a precautionary measure, subsequent shallow monitoring wells installed at these well clusters (monitoring wells MW-28S and MW-30S) were equipped with 2-foot long 2-inch diameter PVC well sumps with the tops of the sumps positioned just below the top of the silt and clay surface, grouted into place, and allowed to set prior to installation of the remaining well materials.

In addition to the till wells, monitoring wells screened within the shallow, intermediate, and deep hydrostratigraphic zones (as defined in Section 8) were installed (as appropriate) at monitoring well cluster locations MW-28, MW-29, and MW-30 to facilitate collection of additional hydraulic data in support of formulating the site conceptual model and preparing the site-specific groundwater flow model (described in Section 7.5). During advancement of the soil borings completed to facilitate installation of the shallow, intermediate, and deep monitoring wells, confirmatory split-spoon soil sampling (approximately 3 to 5 split-spoon samples per bore hole) was conducted to confirm the geological contacts at these locations.

Monitoring wells were installed in the shallow and intermediate hydrostratigraphic zones (the upper fine sand and upper portion of the lower fine sand unit, respectively) at each of the three well cluster locations. In addition monitoring wells were installed in the deep hydrostratigraphic zone (the lower portion of the lower fine sand unit) at well clusters MW-28 and MW-30 since the lower fine sand unit was greater than 30 feet thick.

Following completion of the till investigation activities, BBL surveyed the locations and elevations (as appropriate) for each of the new soil borings and new monitoring wells. Soil boring and monitoring well completion logs are included as Appendices A and B, respectively.

7.3 Geotechnical Testing of Till Unit

As indicated above, SPT was conducted at each of the soil borings completed to facilitate installation of a till monitoring well. During the completion of the drilling activities, soil samples recovered from the split-spoon samplers were placed in jars, labeled, and archived in boxes. Following completion of the drilling activities, individual soil samples (i.e., consisting of the different soil types observed during drilling) were selected for geotechnical testing for grain size analysis and Atterberg limits.

In addition to SPT, attempts were made to collect undisturbed till soil samples from each till monitoring well location for triaxial permeability testing. Shelby Tube samples were successfully collected at MW-13T (68-70' bgs) and at MW-19T (64-66' bgs). Due to the density of the till at MW-28T and MW-29T, initial attempts using the Shelby Tube samplers and second attempts using brass-lined 3-inch diameter split-spoons failed to recover undisturbed soil samples. Running sands and borehole cave-in created difficult drilling conditions at MW-30T and prevented sampling attempts. However, three samples of solid, intact soil recovered from 2-inch diameter split spoon samplers collected from MW-28T (50-54' bgs) and MW-30T (48-50' bgs and 56-58' bgs) and were submitted for geotechnical testing to Geotechnics, Inc.

The results of the geotechnical testing were used to confirm the visual classification of soils and will be used to evaluate potential remedial alternatives as part of the FS. A geotechnical testing sample summary is presented in Table 1.

7.4 Barrier Wall/In-Situ Stabilization Bench-Scale Study Data Acquisition

In support of the Feasibility Study (FS), data were acquired during the till investigation activities to facilitate a bench-scale study to evaluate a slurry wall and in-situ soil stabilization (ISS) as potential remedial technologies. Data acquisition activities consisted of:

- Collecting a composite bulk soil sample, in the vicinity of the anticipated location of a potential barrier wall, representative of the entire soil column from the ground surface to the top of till;
- Collecting a composite bulk NAPL-impacted soil sample from the area immediately east of the Open Garage, adjacent to several former MGP structures;
- Collecting a bulk impacted groundwater sample from monitoring well MW-26 to be used as "worst case" conditions for compatibility testing during the bench-scale testing; and
- Collecting a bulk "mix water" sample that is representative of the water source that would likely be used during the construction of a cement-bentonite or soil-bentonite slurry wall.

The results of the bench-scale study will be incorporated into the Revised Feasibility Study.

7.4.1 Soil Sampling

Two soil borings (BB-149 and BB-150) were advanced to facilitate collection of soil samples to be utilized during the completion of the bench-scale testing activities.

Soil boring BBL-149 was advanced to a depth of 26 feet bgs to collect a bulk composite soil sample at this location. The soil sample collected from BB-149 was then combined with soil collected from 26 feet to the depth of the till at soil boring MW-28T to form a composite sample representative of the entire soil column from the ground surface to the top of till.

Soil boring BB-150 was completed to a depth of approximately 24 feet bgs to collect the bulk composite soil sample at this location. The location of this soil boring was selected to target an area with known NAPL impacts, and the soil sample appeared representative of the material encountered during previous investigation activities. BBL's onsite personnel collected two 5-gallon pails of soil directly from each borehole at BB-149 and BB-150. Two 5-gallon pails were collected from each sampling location to form the composite soil samples. The samples were then shipped to Geo-Solutions testing laboratory, Geotechnics, for the bench-scale testing activities.

Following completion, soil borings BB-149 and BB-150 were backfilled to the ground surface using cement bentonite grout. The soil boring logs for BB-149 and BB-150 are included in Appendix A. Results of the bench-scale study will be incorporated into the Revised Feasibility Study.

Three composite samples representative of the entire soil column at soil borings MW-28T, MW-29T, and MW-30T also were collected and submitted for grain size analysis to be used during the evaluation of potential remedial alternatives as part of the FS. The three composite soil samples were placed in plastic baggies and submitted to Geotechnics for grain size analysis.

7.4.2 Groundwater and Mix Water Sampling

BBL collected an impacted groundwater sample from monitoring well MW-26 and a mix water sample from an onsite municipal water tap to facilitate bench-scale testing activities. Descriptions of the sample collection activities are presented below.

Impacted Groundwater Sample Collection

As indicated above, a bulk groundwater sample was collected from existing monitoring well MW-26 for use in the bench-scale testing activities. Prior to sampling, the monitoring well was purged using a peristaltic pump and disposable tubing. During well purging, water quality parameters consisting of pH, temperature, conductivity, dissolved oxygen, oxidation reduction potential, and turbidity were measured and recorded every 5 minutes. Approximately 8 gallons of water were then pumped from the well and shipped to Geotechnics for use in the bench-scale testing.

Mix Water Sample Collection

A sample of the municipal water supply was collected from an onsite municipal water supply tap. Tap water would be used to prepare the slurry mix and soil stabilization mix during theoretical remedial construction activities. Prior to collecting the water sample, the tap was opened and water was allowed to run for a period of time to flush potentially stagnant water from the piping. Approximately 8 gallons of water were then collected in two 5-gallon pails and shipped to Geotechnics for use in the bench-scale study.

The sampling logs for monitoring well MW-26 and the mix water are included in Appendix C. As indicated above, information obtained from the bench-scale study will be incorporated into the revised FS and a bench-scale study report will be included as an appendix to the revised FS.

7.5 Groundwater Model Data Acquisition

A site-specific numerical, three-dimensional groundwater model will be developed for the site. National Grid plans to use the flow model, as a quantitative tool, to calculate groundwater levels, flow directions, flow velocity, hydraulic gradients, and flow rate at the site under current site conditions as well as under site conditions following construction of the selected remedial measure for addressing the site. Additional data acquired during these activities in support of developing the groundwater flow model consisted of:

- Completing specific capacity testing during well development activities to obtain additional hydraulic conductivity estimates for the different hydrostratigraphic zones at the site;

- Conducting a comprehensive round of water levels to evaluate vertical hydraulic gradients; and

- Probing creek sediment, collecting a sediment core sample for grain size analysis, and measuring the flow rate in the onsite portion of Schermerhorn Creek.

7.5.1 Hydraulic Conductivity Testing

Well ID	Hydraulic Conductivity (cm/sec)
MW-13T	2.41x10^{-6}
MW-19T	3.00x10^{-7}
MW-28S	8.71x10^{-5}
MW-28I	3.60x10^{-5}
MW-28D	8.25x10^{-2}
MW-28T	4.67x10^{-7}
MW-29S	5.23x10^{-4}
MW-29I	5.52x10^{-5}
MW-29T	2.80x10^{-8}
MW-30S	1.07x10^{-3}
MW-30I	5.57x10^{-5}
MW-30D	2.28x10^{-2}
MW-30T	2.10x10^{-8}

Specific capacity tests were conducted during well development for the 13 wells installed as part of the till investigation activities as well as at existing monitoring wells MW-6I, MW-13SR, MW-19I, and MW-27S (to verify the results obtained during previous investigation activities). The monitoring wells installed during the till investigation were developed to remove fine-grained materials from the well screens and well sand pack**.** Each well was surged using an inertial pump. After surging, up to 10 well volumes of groundwater were purged from each well. During purging, groundwater physical parameters and water levels were monitored and recorded. Well development logs are included in Appendix B.

The hydraulic conductivity of the overburden was calculated for monitoring wells installed during the till investigation using a specific-capacity test reduction method based on the analytical solution described in Walton (1962), with the exception of a till monitoring wells MW-13T, MW-28T, MW-29T, and MW-30T. Due to the low permeability of the till unit, the hydraulic conductivity at these four wells was calculated using recovery data collected April 22, 2005, and April 29, 2005, based on the analytical solution described in Domenico and Schwartz, 1998. Results of the hydraulic conductivity analysis are summarized in the adjacent table and presented in Table 12. Further discussion of the hydraulic conductivities for the various hydrostratigraphic zones at the property is presented in Subsection 8.2.2.

7.5.2 Water Level Measurements

BBL collected a complete round of water level measurements from the property monitoring wells and surface water gauging locations on May 9, 2005. Water levels were measured using an electronic water level probe or an oil/water interface probe (as appropriate) relative to a surveyed mark at the top of the well casing. Groundwater elevations are presented in Table 13, and a May 2005 groundwater water table elevation contour map is presented in Figure 7. Based on a review of the water level data, it appears that three of the till wells (MW-19T, MW-29T, and MW-30T) had not fully recovered at the time of the water level monitoring event. As a result, a groundwater elevation contour map for the till unit was not prepared. The water level data were also used to evaluate vertical hydraulic gradients as discussed in Section 8.2.4.

7.5.3 Schermerhorn Creek Sediment Sampling and Flow Rate Measurement

BBL conducted additional investigation activities on May 10, 2005 along the onsite portion of Schermerhorn creek to collect data that will be used in the development of the site-specific groundwater flow model. Additional data acquisition activities included probing the sediment at three transects across the creek; collecting and submitting one sediment core sample for geotechnical testing for grain size analysis; and measuring the creek flow rate. The flow within the creek represented base flow for this time of year as the week prior to the monitoring event the City of Schenectady only received trace amounts of precipitation.

Probing activities were completed using a 1-inch diameter steel pipe manually advanced to the depth of refusal. The probing activities were completed along three transects positioned immediately adjacent to the three staff gauges (SG-1 through SG-3) established along the onsite reach of the creek. Field personnel recorded the total width of the creek and probed the creek at points 25, 50, and 75% of the distance across the creek profile.

One sediment core was obtained near staff gauge SG-2 (shown on Figure 3). The sediment core was collected by advancing 2-inch diameter Lexan tubing with a stainless-steel core driver to the depth of refusal, withdrawing the tubing, and capping and cutting the tubing at the top of the sediment core. Refusal was encountered approximately 1 foot below the top of sediment and the Lexan tubing could not be advanced beyond that point. The sample was packaged and shipped to Geotechnics for grain size analysis.

Creek flow rate measurements were obtained by estimating the cross-sectional area of the creek at the three transect locations and measuring creek velocity using a JDC Electronic "Flowatch" Liquid/air flow measurement device. Depth of water and creek velocities was measured at the same locations as the sediment probing activities (i.e., 25, 50, and 75% of the creek width). Depending on the depth of water at each point creek velocities were either measured at 50% of the creek depth or at 20 and 80% of the creek depth. Using the data obtained from the creek flow measurements, an average creek flow rate was determined and incorporated into the site-specific groundwater flow model.

7.6 Monitoring Well Repair & Maintenance

During the additional field activities, several monitoring wells were observed to be damaged or missing components of surface completions (e.g., well caps, curb box covers, locks). BBL visually assessed each of the onsite monitoring wells for obvious damage or missing well materials. Based on the results of this assessment, BBL's subcontractor, Parratt-Wolff, conducted monitoring well repair and maintenance of the damaged onsite monitoring wells. A summary of the observed conditions and completed repairs and/or maintenance is presented in the following table.

Monitoring Well Location	Observed Damage	Repair Completed
MW-1, MW-6S, MW-13I, MW-13R, MW-19S, and MW-29S	Surface completion damaged.	New curb boxes installed with flush mount covers, locking caps, and surface completions.
MW-17 and MW-19D	Locking cap missing.	New locking cap installed.
MW-20R	Top of inner casing set high, not allowing flush mount cover to seat properly.	PVC casing cut and resurveyed.
MW-24 and MW-29I	Flush mount cover damaged/ missing.	New flush mount cover installed.
MW-6S	Several feet of sediment accumulated at the bottom of the well.	MW-6S was redeveloped using the purge and surge method.

7.7 Till Investigation Results

The results obtained relative to the till geology and hydrogeology for the investigation activities described in this section are presented below.

7.7.1 Till Geology

Visual characterization of the till beneath the site indicated trace amounts of fine to coarse sand and gravel in a matrix of gray clayey silt. The sand and gravel portion of the till contained a high-degree of variability in color and mineralogy, suggesting glacial transport from many different source-rocks. The clayey silt matrix was a uniform gray color and most likely derived from local sedimentary rocks (i.e., Canajoharie Shale).

The till appeared to have an upper and a lower portion as evidenced by blow counts and N-values obtained SPT information. Although compositionally similar, the upper portion of the till was less dense (N-values generally ranged from 10 to 20) than the lower portion (N-values ranged from 20 to refusal [e.g., greater than 50 blows over 6 inches]). The lower portion of the till may represent a lodgment till deposited during glacial advance. The upper less-dense portion of the till may represent a water-lain till deposited in a proglacial lake during deglaciation or ablation till.

As indicated on the top of till surface contour map included on Figure 8, the presence and orientation of a northward-trending trough was confirmed during the till investigation. The top of till contour map was prepared using interpreted information obtained from boring logs prepared for previous investigations as well as this investigation. The elevation of the top of till surface ranged from 153.8 ft AMSL at MW-11/BB-70 to 192.9 ft AMSL at MW-10/BB-68. As indicated on the top of till contour map, the change in relief of the top of till surface is approximately 39 feet from the base of the linear trough to higher elevations observed near the north-central portion of the property.

A cross-section location map is included on Figure 9 and the geologic cross-sections are shown on Figures 10 and 11. The most significant adjustment to the geologic cross-sections based on the data obtained during the till investigation was the addition of the lower lacustrine silt unit observed below the lower fine sand unit and above the till unit in each of the till soil borings. This unit was characterized as soft, dark-gray homogenous silt containing substantial water content. There was an abrupt contact between the silt and the overlying and underlying units. The dark-gray silt may be representative of the initial post-glacial lake deposits pro-grading into glacial Lake Albany, filling localized depressions in the till surface.

7.7.2 Till Hydrogeology

The hydraulic conductivity of the till unit was calculated for the five monitoring wells installed during the till investigation, as previously discussed in Section 7.5.1. The hydraulic conductivity value for monitoring well MW-27D (the only other till well installed during a previous investigation) was also calculated using a specific-capacity test reduction method based on the analytical solution described in Walton, 1962. Hydraulic conductivity for the till unit based on the in-situ test results ranges from 2.10 x 10^{-8} cm/sec (MW-30T) to 2.47 x 10^{-5} cm/sec (MW-27D). The triaxial permeability results (e.g., vertical hydraulic conductivity) for the five undisturbed soil samples (two Shelby Tubes, and three 2-inch diameter split spoon samples) collected from the till unit also fell within that range, as summarized in the adjacent table.

Sample ID	Vertical Hydraulic Conductivity (cm/sec)
MW-13T (68-70’)	7.3 x 10^{-8}
MW-19T (64-66’)	1.2 x 10^{-6}
MW-28T (50-54’)	3.2 x 10^{-8}
MW-29T (48-50’)	5.8 x 10^{-7}
MW-30T (56-58’)	9.6 x 10^{-8}

As previously discussed in Section 7.5.2, it appears that three of the till wells (MW-19T, MW-29T, and MW-30T) had not fully recovered after monitoring well development, over a period of approximately one month. As a result, a groundwater elevation contour map for the till unit was not prepared, therefore, flow direction and horizontal gradients within the till unit could not be accurately determined at the time of this report. The groundwater elevation data were also used to evaluate vertical hydraulic gradients at each of the monitoring well clusters. The vertical hydraulic gradient results are discussed further in Subsection 8.2.4.

8. Site Characterization

8.1 General

This section presents an overall property characterization based on the findings from the previous and current investigation activities. The property characterization includes the following:

- The property geology and hydrogeology;
- An evaluation of the presence, extent, and nature of NAPL at the property; and
- The nature and extent of impacts to soil, groundwater, and sediment at the property.

8.2 Site Geology and Hydrogeology

This section summarizes the property geologic and hydrogeologic conditions based on field observations and testing conducted as part of the site investigations.

8.2.1 Site Geology

Based on the visual characterization of subsurface soil samples collected during the site investigations, three primary unconsolidated geologic units have been identified beneath the property, as presented in the adjacent Generalized Geologic Column table. These geologic units are described below.

Generalized Geologic Column

Stratigraphic Unit	Thickness Range (ft)	Approximate Upper Contact Elev.(ft. AMSL)
Fill – silt, sand, gravel, ash, cinders, slag. Also includes demolition debris, foundation remnants, and buried utilities.	2 to 13	Ground surface - 228
Glaciolacustrine - interbedded and laminated fine-grained deposits of varying grain size.	26 to 66	Upper Fine Sand – 228 Silt and Clay – 215 Lower Fine Sand – 205
Till – dense basal till, consisting of poorly-sorted silt, sand, clay, and gravel. Locally, a less dense till was encountered that may represent a water-lain till deposited in a proglacial lake during deglaciation or ablation till	>45	174

Note: elevations from approximate center of site

- Fill: man-placed fill materials and various man-made structures, including those related to the former MGP and the current utility service center operations. The fill is comprised of a mixture of silt, sand, and gravel and to a lesser extent debris (including ash, coal, coke, concrete, bricks, glass, and wood).

- An interbedded sequence of fine sand, silt, and clay, representing glaciolacustrine deposits in proglacial Lake Albany. In some portions of the property, deposits that are likely recent alluvial floodplain deposits consisting of interbedded fine sand, silt, and clay from the Mohawk River are present above the glaciolacustrine deposits, but are not distinguished from this unit. Based on the results of the site investigation activities, the glaciolacustrine deposits appear to have filled in the trough and other low spots observed in the till. Three subunits were identified within the glaciolacustrine deposits:

  - An upper subunit (3 to greater than [>]13 feet thick) comprised of very fine sand and silt and silt and clay, with lesser amounts

  - of gravel and sand, and no peat; orange staining and small roots. Locally, clay was encountered within this subunit with thicknesses greater than 10 feet (this unit may contain recent alluvial floodplain deposits, as described above);

  - An intermediate subunit (23 to 29 feet thick) comprised of silt and fine to medium sand, with organic material (roots, wood, plant debris, peat), occurring in alternating layers of sand and silt in many locations; and

  - A deeper subunit (0 to >28 feet thick) comprised of very fine sand and silt, with lesser amounts of gravel and orange staining and small roots. Locally, clay was encountered within this subunit with thicknesses greater than 10 feet.

- Till deposits consisting primarily of dense, poorly-sorted silt, sand, clay, and gravel that was left behind during Pleistocene glaciation. As discussed in Section 7 and illustrated on Figure 8, a trough exists in the upper surface of the till, extending from west of the office building to the northeast corner of the property, Results of the till investigation confirmed that this unit is a confining layer underlying the property.

Bedrock (identified as Canajoharie Shale (Simpson, 1952)) has not been confirmed by coring at the property, but was assumed to be encountered in three RI borings (BB-27, BB-55, and BB-65), based on drill cuttings and regional information (see Section 2.1.3.2).

Figure 9 shows the location of two generalized geologic cross-sections. As shown on the two geologic cross-sections included as Figures 10 and 11, the composition of the silt and clay subunit of the glaciolacustrine unit is variable across the property, ranging from predominantly silt to silty clay, with frequent interbeds of fine sand and silt. Due to the variable nature of the glaciolacustrine subunit, the silt and clay unit does not appear to constitute a continuous confining subunit at the property. While the silt and clay unit was observed across most of the property, the unit was not observed at soil borings MW-8D/BB-64 (located immediately north of CSX), BB-33 (located in the northern portion of the property, beneath the former 150,000 CF gas holder), and BB-42 (located in the south-central portion of the property, south of the tar tank and tar separator and Schermerhorn Creek). As indicated in Section 6.3, the typical silt and clay unit that underlies the majority of the property was not encountered during completion of soil boring BB-134 located along the fence line at the northwestern property boundary.

8.2.2 Site Hydrogeology

The site hydrogeology was characterized using information from regional hydrogeologic references (Subsection 2.1.3.2), and information obtained during site investigations. The site-specific information included:

- Water level measurements obtained from 49 monitoring wells and three staff gauges;

- Results from in-situ hydraulic conductivity (slug) tests conducted in six monitoring wells;

- Specific capacity hydraulic conductivity tests conducted in 43 monitoring wells;

- Well recovery hydraulic conductivity tests conducted in 4 monitoring wells;

- Geotechnical analyses of subsurface samples including triaxial permeability analyses of 9 undisturbed soil samples; and

- Geologic data from over 150 soil borings.

Hydrostratigraphic zones comprise one or more geologic units of similar hydrogeologic properties (e.g., hydraulic conductivity) that may be grouped together to aid interpretation and simplify the discussion of groundwater flow. Based on a review of this information, the following four hydrostratigraphic zones were defined based on their relative position to the silt and clay subunit:

- A shallow zone, comprised of saturated fill and the upper fine sand unit, located above the silt and clay unit;
- A silt and clay unit that includes seams of interbedded fine sands – classified as a "leaky" semi-confining unit;
- An intermediate zone, comprised of the upper portion of the lower fine sand subunit below the silt and clay subunit;
- A deep zone, comprised of the lower portion of the lacustrine lower fine sand subunit, below the silt and clay subunit; and
- A till zone located below the glaciolacustrine deposits.

Hydrostratigraphic Zone	Monitoring Well ID
Shallow	MW-3, MW-6S, MW-7, MW-8S, MW-9S, MW-13SR, MW-14S, MW-19S, MW-22, MW-23, MW-26, MW-27S, MW-28S, MW-29S, MW-30S
Intermediate	MW-6I, MW-8I, MW-9I, MW-10, MW-11, MW-13P, MW-14P, MW-15S, MW-19I, MW-24, MW-25, MW-28I, MW-29I, and MW-30I
Deep	MW-8D, MW-9D, MW-12, MW-13I, MW-14I, MW-15I, MW-19D, MW-28D, and MW-30D
Till	MW-13T, MW-19T, MW-27D, MW-28T, MW-29T, MW-30T

Note:

1. Well construction information for monitoring well MW-1 is not available. Therefore the hydrostratigraphic zone in which the well is screened cannot be determined.

Existing monitoring wells grouped into these hydrostratigraphic zones are presented in the adjacent table. Monitoring wells MW-17, MW-20R, and MW-21 were installed such that their screens straddle the shallow and intermediate hydrostratigraphic zones, therefore, groundwater data obtained from these wells were not utilized to evaluate the hydrogeologic properties of the hydrostratigraphic zones.

As described in Subsection 3.3.4, Parsons conducted slug tests during the RI at six monitoring wells (MW-7, MW-9S, MW-9I, MW-9D, MW-13P, and MW-19D). The results obtained from the slug tests indicate that the lacustrine unit may be characterized as a single hydrostratigraphic zone. However, since the hydraulic conductivity values calculated from the results of the slug test performed by Parsons ranged over five orders of magnitude, the four hydrostratigraphic zones described above were assigned for the purposes of this report.

Specific capacity test data collected from 46 monitoring wells during the November 2004 groundwater sampling event, and the April 2005 till investigation were used to evaluate the horizontal hydraulic conductivity of the formation surrounding the monitoring wells. Each of the wells previously tested by Parsons (monitoring wells MW-7, MW-9S, MW-9I, MW-9D, MW-13P, and MW-19D) were re-tested by BBL and therefore the most recent hydraulic conductivity results were used in this evaluation. A successful specific capacity test was not able to be completed at monitoring well MW-25 since the pumping test was not long enough and water was not drawn in from the surrounding formation. Therefore an estimated hydraulic conductivity could not be calculated for this location. The hydraulic conductivity values for the 46 wells tested are summarized in Table 12. Hydraulic conductivity values calculated from specific capacity and well recovery tests range from 2.10 x 10^{-8} cm/sec (MW-30T) to 1.14 x 10^{-1} cm/sec (MW-6I). The geometric mean calculated for the four hydrostratigraphic zones identified at the property are summarized in the adjacent table.

Hydrostratigraphic Zone	Geometric Mean Horizontal Hydraulic Conductivity (cm/sec)
Shallow (15 Wells)	9.70 x 10^{-4}
Intermediate (12 Wells)	8.59 x 10^{-4}
Deep (9 Wells)	2.50 x 10^{-3}
Till (6 Wells)	4.15 x 10^{-7}

Parsons collected two undisturbed subsurface soil samples from soil boring BB-28H and BB-83 from the silt and clay subunit. As discussed in Section 6, additional undisturbed subsurface soil samples were collected from the silt and clay subunit by BBL in 2004 at soil borings MW-24 and MW-25. BBL also collected five undisturbed subsurface soil samples from the till unit during the till investigation at soil borings MW-13T, MW-19T, MW-28T, and MW-30T. Each of the undisturbed soil samples was submitted for laboratory testing for vertical hydraulic conductivity using a triaxial permeameter. The triaxial permeability results summarized in the adjacent table indicate that the silt and clay subunit inhibits or forms a barrier to vertical fluid movement.

Sample ID	Vertical Hydraulic Conductivity (cm/sec)
Silt and Clay Unit	
BB-28H (14-16')	3.3×10^{-7}
BB-83 (12-14')	4.1×10^{-8}
MW-24 (12-13.6')	4.5×10^{-6}
MW-25 (10-12')	7.3×10^{-8}
Geometric Mean	2.6×10^{-7}
Till Unit	
MW-13T (68-70')	7.3×10^{-8}
MW-19T (64-66')	1.2×10^{-6}
MW-28T (50-54')	3.2×10^{-8}
MW-30T (48-50')	5.8×10^{-7}
MW-30T (56-58')	9.6×10^{-8}
Geometric Mean	1.7×10^{-7}

The triaxial permeability results for till samples summarized in the above table and hydraulic conductivity values for the six monitoring wells installed within the underlying till unit (geometric mean values of 1.7 x 10^{-7} cm/sec and 4.15 x 10^{-7} cm/sec, respectively) indicate that the till unit also inhibits or forms a barrier for vertical migration of fluids. Additionally, as previously stated, the till unit is relatively dense, poorly-sorted, and appears to be continuous across the property with a thickness of greater than 45 feet. Section 7.0 presents a detailed description of the findings of the till investigation.

8.2.3 Groundwater Occurrence and Flow

The November 11, 2004, January 12, 2005, and May 9, 2005 rounds of groundwater level measurements were used to evaluate groundwater flow beneath the property. Measurements were obtained from both onsite and offsite monitoring wells. Monitoring wells were grouped according to the hydrostratigraphic zone in which they are primarily screened as summarized above. These groupings were used to assess the degree of hydraulic connections and vertical gradients between the hydrostratigraphic zones. A summary of the water levels measured at each of the onsite and offsite monitoring wells for these monitoring events is presented in Table 13.

Average Groundwater Level (feet below ground surface)

Hydrostratigraphic Unit	Monitoring Event		
	11/11/04	1/12/05	5/9/05
Shallow	6.1	7.7	6.2
Intermediate	8.3	9.1	8.4
Deep	9.5	10.1	9.2
Till	NM	NM	12.0*

Note:
* - Three of the till wells did not appear to be fully recovered one month after well development

A water table elevation contour map for the May 9, 2005 monitoring event is presented as Figure 7. Generally, the pattern of contours indicates that shallow groundwater beneath the property and surrounding areas generally flows to the northwest toward the Mohawk River, with localized northern and northeastern flow components. As indicated on Figure 7, Schermerhorn Creek is a losing stream in the property vicinity, meaning that surface water is discharging to groundwater and that locally, groundwater flow is away from the creek. Estimated shallow horizontal hydraulic gradients, based on Figure 7, range from 0.002 feet/foot to 0.022 feet/foot.

Due to the complex hydrostratigraphy beneath the site (e.g., strong vertical gradients between hydrostratigraphic units, numerous regional hydraulic influences), it is very difficult to depict groundwater flow patterns on plan view potentiometric surface maps. Therefore the potentiometric surfaces for the intermediate, deep, and till hydrostratigraphic units are not depicted on figures included with this report. Based on the complexity of the system additional data may be required in order to fully understand groundwater flow and construct a usable 3-D groundwater flow model. These additional data may be collected as part of a pre-design investigation after the selection of a remedial measure to address the site.

8.2.4 Vertical Hydraulic Gradients

Vertical hydraulic gradients were calculated using water level measurements obtained on May 9, 2005 from three monitoring well pairs and seven monitoring well clusters as summarized in the following table.

	Shallow to Intermediate	**Intermediate to Deep**	**Deep to Till**
Well ID	**Vertical Gradient (ft/ft) (5/9/05)**		
MW-6	0.071	--	--
MW-8	0.106	0.007	--
MW-13	0.23	0.053	-0.226
MW-14	0.211	0.029	--
MW-15	0.027	--	--
MW-19	0.134	-0.023	*
MW-27	0.045 (Shallow to Till)		
MW-28	0.371	0.005	*
MW-29	0.245	*	
MW-30	0.257	0.006	*

Note:

1. * - Indicates that associated till well did not appear to be fully recovered at the time of water level measurement. Therefore, vertical gradient was not calculated.
2. Negative value indicates upward vertical gradient.

An upward gradient of 0.226 feet/foot was observed between the till and deep monitoring wells in the MW-13 well cluster. A slight upward gradient of 0.023 feet/foot was also observed between the deep and intermediate monitoring wells in the MW-19 well cluster. Downward gradients ranging from 0.005 feet/foot (MW-28I to MW-28D) to 0.371 feet/foot (MW-28S to MW-28I) were observed at the remaining well clusters. The geometric mean calculated for the vertical hydraulic gradients between shallow and intermediate wells was 0.163 feet/foot, which is approaching an order of magnitude higher than the geometric mean calculated between the intermediate and deep wells (0.0140 feet/foot). The predominantly downward gradients indicate that the property is located within a recharge area for the underlying saturated zone. Consistent with previous findings, the magnitude of the vertical hydraulic gradient exceeds the magnitude of the horizontal hydraulic gradient (i.e., vertical to horizontal anisotropy). The presence of upward vertical hydraulic gradients between the till and the deep and the deep and intermediate hydrostratigraphic zones at select wells (MW-13 and MW-19 during May 2005; MW-14 during January 2005; and MW-13 during the RI in October 1996) indicates a limited extent of upward vertical groundwater flow. Since these upward vertical gradients were not observed during each of the monitoring events, they may be of limited or seasonal nature. However; as previously discussed in Section 7.5.2, it appears that three of the till wells (MW-19T, MW-28T, MW-29T, and MW-30T) had not fully recovered after monitoring well development, over a period of approximately one month. As a result, vertical hydraulic gradients within the till unit at these three monitoring well clusters could not be accurately determined at the time of this report. A summary of the vertical hydraulic gradients (including water table elevations used to calculate the gradients) is presented in Table 14.

8.3 NAPL and Soil Quality Evaluation

Based on its immiscible nature and the generally low solubility of its chemical constituents, coal tar NAPL can persist for many years in the subsurface acting as a continuing source of dissolved-phase chemical constituents to groundwater as the chemical constituents of the NAPL slowly dissolve. NAPL also tends to migrate to a limited degree into low permeability zones (e.g., silt and clay) via capillary forces , which then in turn act as an ongoing source of chemical constituents to groundwater. Therefore, characterizing the nature and extent of

NAPL is a challenging component of a remedial investigation. The NAPL evaluation for the property is presented below and consists of NAPL characterization (to assess the potential nature and origin of the NAPL) and NAPL distribution to summarize the extent of visual observations of NAPL in soil at the property.

8.3.1 NAPL Characterization

The primary approach used to characterize the nature of the NAPL encountered at the property was “source evaluation,” which consisted of reviewing chromatograms and analytical results for a limited number of soil samples. The samples chosen for a preliminary forensic evaluation were selected based on their location (i.e., to provide distribution across the areas where NAPL-impacted soil was observed) and the results obtained from laboratory analysis of the soil samples. The purpose of the source evaluation was to provide information about the potential origin of the NAPL observed at the property.

Based on the nature of the DNAPL encountered at the property and the relative low volume of DNAPL in existing onsite groundwater monitoring wells, where encountered, a sample of the DNAPL material has not been able to be collected during recent investigation activities. However, an LNAPL sample was collected from monitoring well MW-20 on November 12, 2004 and submitted for laboratory analysis to characterize the physical and chemical characteristics of the material.

BBL’s forensic specialist performed a preliminary source evaluation (on a subset of soil samples that were believed to contain NAPL) by reviewing the total-ion-current (TIC) chromatograms generated during laboratory analysis for organic compounds and comparing ratios of target compounds to describe the compositional characteristics of the NAPL.

The results of the preliminary source evaluation indicated whether the sample observed within an impacted soil sample exhibited the characteristics of:

- Coal tar, including whether the sample had the characteristics of the coal carbonization or carbureted water gas manufacturing processes (which were both utilized at this property);
- Petroleum, including whether the sample had the characteristics of gasoline-range organics; diesel-range organics; or heavy-range petroleum distillates; or
- A mixture of coal tar and petroleum products.

The following table summarizes the findings of the evaluation.

Sample ID	Depth (ft)	Boring Location	Coal Tar Characteristics			Petroleum Characteristics			Soil Sample Results (ppm)	
			Creosote	CC	CWG	Gas Range	Diesel Range	Heavy Distillate	BTEX	TPAH
BB-111	4-6.5	Former Oil Tank	✓	✓		✓	✓		1,320	1,793
BB-112B	2.5-6.5	Former Condenser House			✓				11.2	1,287
BB-124	6-8	Between former Tar Tank and Condenser House				✓			777	1.8
BB-128	2-4	Adjacent to 800,000 CF Holder			✓			✓	3,351	1,928
BB-135	8-10	Adjacent to western fence line			✓				191	6,883

Notes:
1. The locations of these samples are shown on Figure 3.
2. CC = Coal carbonization coal tar.
CWG = Carbureted water gas coal tar.

Field personnel collected and submitted an LNAPL sample from monitoring well MW-20 to characterize the physical and chemical properties of the material. The LNAPL sample was submitted to Queen's University in Kingston, Ontario for laboratory testing for kinematics viscosity, density, and interfacial tension. The sample was analyzed at a temperature of 12.5°C to approximate the in-situ temperature characteristics of the material. The results obtained for the physical characterization of the LNAPL sample are presented in the table below. As indicated in the table, the viscosity of the LNAPL was approximately 45 times that of water at the same temperature. However, the density of the NAPL was only slightly less than water.

A sample of the LNAPL was also submitted to BBL's analytical laboratory subcontractor (CompuChem) for laboratory analysis for total petroleum hydrocarbons [diesel range organics (DRO) and gasoline-range organics (GRO)] and priority pollutant PAHs. Based on a preliminary forensic evaluation of the LNAPL sample, the material appeared to be weathered middle-distillate oil (No. 2 fuel oil, diesel) with more than 20% co-mingled carbureted water gas coal tar. The results obtained for the laboratory analysis of the LNAPL sample are presented in Table 15.

LNAPL Physical Characteristics

Analysis	LNAPL	Water
Kinematics Viscosity (cP)	58.59	1.3
Density (g/mL)	0.985	1.0
Interfacial Tension (mN/m)	15.39	--

Notes;

1. Kinematics viscosity, density, and interfacial tension were measured at 12.5° C.
2. g/mL = grams per milliliter
3. cP = centiPoise
4. mN/m = milliNewtons/meter
5. -- = not applicable

8.3.2 NAPL Delineation

Delineating the extent of NAPL is often challenging at former MGP sites due to many factors, including lack of information regarding plant operations and waste handling; the potential for multiple release points; and the complicated nature of coal tar DNAPL migration in the subsurface. According to Pankow and Cherry (1996), it is not possible to predict the paths that DNAPL will take in any but the broadest sense. Similarly, BBL's experience at numerous MGP sites is that residual and pooled (i.e., potentially mobile and/or recoverable) DNAPL rarely can be reliably distinguished by visual examination of split-spoon samples. Such a distinction is best made by installing a properly constructed monitoring well screened across the NAPL-containing zone.

Because of these factors, NAPL delineation for the property has focused on an assessment of the general location of NAPL in the subsurface without regard for differentiating between residual, pooled, or potentially mobile NAPL. The evaluation of the extent of NAPL at the property consisted of periodic monitoring of groundwater monitoring wells, visual observation of soil samples collected during subsurface boring, and test pitting activities.

Summaries of LNAPL and DNAPL observations for each monitoring event are presented in Tables 7 and 8, respectively**.** A summary of locations where NAPL has been identified within monitoring wells at the property is presented in the following table.

As discussed in the next section, BBL developed a three dimensional (3-D) model of NAPL distribution at the site. This involved reviewing available soil boring for the property, identifying soil samples and depth intervals that contained NAPL, and tabulating those data in a database, which was used as input for the 3-D model.

Monitoring Well	June 2001		July 2001		Sept 2001		Oct 2001		Nov 2001		Dec 2001		June 2002		Nov 2004		Jan 2005		May 2005	
	D	L	D	L	D	L	D	L	D	L	D	L	D	L	D	L	D	L	D	L
MW-2**	NM	NM	✓	✓	--	✓	--	✓	--	✓	--	✓	--	--	NM	NM	NM	NM	--	--
MW-3	✓*	✓	✓*	✓	✓*	✓	--	--	--	--	--	--	--	--	--	✓	--	✓	--	--
MW-4**	✓*	--	--	✓	--	✓	--	✓	--	✓	--	✓		✓	NM	NM	NM	NM	--	--
MW-5**	✓	✓	✓	✓	✓		✓		✓	--	✓	--	✓	--	NM	NM	NM	NM	--	--
MW-20***	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	--	✓	--	✓	--	✓
MW-21	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	✓	✓	✓	✓	✓	--

Notes:

1. NAPL Monitoring activities were conducted by Blasland, Bouck & Lee, Inc. (BBL) on June 13, 2001; July 31 and August 1, 2001; September 6 and 7, 2001; October 9, 2001; November 6, 2001; December 6, 2001; June 2002; November 11, 2004; and January 12, 2005.
2. * - Based on field notes from the June 2001 monitoring event, the nature of the material at the bottom of monitoring wells MW-3 and MW-4 is unknown. The material in the bottom of the wells may be a mixture of sediment and DNAPL.
3. ** - Monitoring wells MW-2, MW-4, and MW-5 were replaced prior to the November 2004 monitoring event with monitoring wells MW-20, MW-22, and MW-21, respectively.
4. *** - MW-20 was replaced by MW-20R on November 18, 2004.
5. NM = Not measured.
6. -- = Not present.
7. D = DNAPL
8. L = LNAPL

8.3.2.1 Development of NAPL Distribution Visual Model

As indicated above, a database of NAPL observation for the site borings was developed in the process of building the 3-D site NAPL model. As part of the modeling process, the NAPL-observation data from soil boring and test-pit logs were transformed into numerical values in the database. A BBL geologist assigned one of three numerical values to each soil sample as follows:

- A value of “0” represented a sample with no visual indications of NAPL or sheens.

- A value of “0.5” represented a sample where no separate-phase NAPL was evident, but sheens were present.

- A value of “1” was assigned to any sample were NAPL was identified at any point in the soil sample regardless of the degree of NAPL saturation.

These values were used as input for the Mining Visualization Software (MVS) package (a 3-dimensional visualization software platform). The output of the MVS model is a 3-dimensional visual representation of the interpreted vertical and horizontal extents of NAPL in soil at the site. The NAPL distribution model and the software to install a small viewing program are located on a CD-ROM in Appendix F.

The approximate extent of NAPL-impacted soil is depicted on Figure 12a in three “panes”, one plan view and two oblique views. The following information is useful for interpreting the figure:

- The three panes across the top of the figure represent NAPL distribution in the subsurface soil based on visual identification of NAPL in soil samples collected during previous investigation activities. The three panes across the bottom of the figure represent the distribution of soil containing total PAHs at concentrations > 500 ppm based on laboratory analysis of soil samples collected during previous investigation activities.

- The silt and clay unit surface is shown to facilitate the comparison of the NAPL extent relative to the silt and clay surface. In plan view, the silt and clay surface is shown using contours. In the oblique views, the silt and clay surface is depicted as a semi-transparent surface (the shading reflects the surface topography of the silt and clay unit).

- The May 2005 water table appears as a light-blue colored, semi-transparent surface and the shaded areas representing NAPL impacted soil change tint relative to whether the impacted soil is above or below the water table.

- The actual presence and (if present) distribution of DNAPL beneath the water table is expected to be highly irregular, due to the stratified, heterogeneous nature of the silt and clay unit and lower fine sand units (Pankow and Cherry, 1996). As such, NAPL extents shown are mathematical interpretations based on the existing data and may only be considered a general representation of the actual distribution.

- As indicated above, to evaluate the extent of NAPL in the subsurface, the model incorporates visual indications of NAPL in soil samples collected from previous investigation. However, visual indications of NAPL observed in soil samples collected during the test boring activities conducted during the Historical Subsurface Structure Investigation were not incorporated in the model. Specifically, as indicated in Section 5.3, NAPL-impacted soil was identified in soil samples collected from depths of 1 to 6 feet bgs in test borings completed in the vicinity of the Ammonia Concentrator, Tar Tank, and Tar Separator.

The modeled extent of NAPL at the site is described below relative to three "subareas," (Figure 12a) as defined below:

- Northern Portion of the Site – The portion of the property near the former 800,000 CF and 2-million CF gas holders, extending along northern portion of the property from soil borings BB-51 to BB-55;

- Central Portion of the Site - The portion of the property between the former oil tank and 150,000 CF gas holder, and former retort and eastward to the tar tank.

- Western Fence Line Portion of the Site - The portion of the property near the western fence line extending from the small garage northward to monitoring well MW-22, west of the former retort.

An oblique view (facing northeast) of the combined distribution of NAPL-impacted soil and soil containing total PAHs at concentrations > 500 ppm based on laboratory analysis is shown on Figure 12b.

The distribution of NAPL-impacted soil and soil containing total PAHs shown on Figures 12a and 12b includes NAPL-impacted soils delineated based on computer modeling using MVS software. As indicated above, the MVS model interpolated the extent of NAPL-impacted soil from a database formed from visual observations of NAPL in samples collected from soil borings completed at the site. Interpreted areas of potential NAPL-impacted soil depicted on Figure 13 include areas where test borings, test pits, and subsurface excavations were completed and where NAPL-impacted soils were noted but not included in the MVS database. Areas where no soil information was available indicating visually clean soil between NAPL-impacted soil sampling locations were also included as areas of potentially NAPL-impacted soil on Figure 13.

8.3.2.2 Northern Portion of the Site

Former MGP structures in the northern portion of the property include the 800,000 CF and 2 million CF gas holders. NAPL observations in this area of the property consisted of the following:

- Generally NAPL in this area was observed in the fill and upper fine sand units.
- NAPL was also observed in the uppermost portion of the silt and clay at soil borings BB-9, BB-51, BB-55, and BB-85.
- Refusal was met on a subsurface steel structure at several locations within the vicinity of the former 800,000 CF gas holder prohibiting visual assessment of the subsurface soil conditions below the former gas holder. Further investigation in this area is not practicable without significant excavation efforts to remove the steel subsurface structure. Based on visual characterization of soil samples collected from borings BB-51, BB-82 and BB-102, areas indicating interpreted areas of potentially NAPL-impacted soil in the vicinity of the 800,000 CF holder are shown on Figure 13.
- The BB-58 soil boring log indicates the presence of "strong HC (hydrocarbon) odor, sheen, free phase" and "wood, black stained fill, free phase wet" at 4 feet and 7 feet bgs, respectively. Five borings (soil borings BB-95 through BB-99) were completed during 2004 and were advanced to depths between 7.4 and 8.6 feet bgs. None of these borings encountered "free phase" material that was indicated in the BB-58 soil boring log.

8.3.2.3 Central Portion of the Site

Former MGP structures in this portion of the property include the 150,000 CF gas holder, oil tank, tar tank, tar separator, condenser house, ammonia concentrator, and the southern-most purifier house. The former MGP structures located in this area of the property were primarily associated with the production of manufactured gas. NAPL observations in this area of the property consisted of the following:

- NAPL was observed in soil samples collected slightly beneath the bottom of the former 150,000 CF gas holder at soil boring locations BB-8 and BB-118.
- NAPL observed in the vicinity of the 150,000 CF holder appears to be confined to the immediate vicinity of the holder and does not appear to significantly penetrate the upper surface of the silt and clay unit.
- NAPL was observed in soil boring B-112B above the subsurface slab associated with the former condenser house (soil sample BB-112B).
- LNAPL has consistently been encountered in monitoring well MW-20.
- DNAPL was encountered at several of the soil borings completed in the vicinity of the ammonia concentrator, tar tank, and tar separator. NAPL was observed above the water table and above a number of the historical subsurface structures located in the Central Portion of the site (i.e., the ammonia concentration, tar separator, tar tank) during the test boring activities described in Section 5.2. During the PSA, Atlantic's field personnel noted the visual presence of NAPL in soil at depths up to 40 feet bgs in soil boring BB-4.

NAPL also was observed by BBL personnel at soil boring BB-150 during the till investigation described in Section 7.

On June 1, 2004, S&W Services, Inc., under contract to National Grid, removed an 8,000-gallon gasoline underground storage tank (UST). Visual indications of coal tar-related impacts were observed in subsurface soil in the north-northwest corner of the excavation. Visual impacts consisted of stained soil (starting at approximately 1 foot bgs) and sheen (started between 3 and 4 feet bgs). These soils also had an obvious coal tar-like odor. A memorandum to file prepared by Brown and Caldwell (who observed the UST removal activities) is included as Appendix G.

8.3.2.4 Western Portion of the Site

Former MGP structures in this portion of the property include the retort building, trestle, and coal bin. Additional features include the former rail siding and indications that this area was utilized for storage of coal that was used as raw material for the gas manufacturing process. NAPL observations in this portion of the property consisted of the following:

- NAPL was observed in soil beginning very near the ground surface at several soil borings along the western fence and west of the former rail spur.
- NAPL in this area was observed in the upper fine sand unit primarily located immediately above the silt and clay unit, within rootlets through the silt and clay, in higher concentrations within fine sand seams throughout the silt and clay unit, and into the upper portion of the lower fine sand unit.
- During the PSA, Atlantic's field personnel noted the presence of NAPL to a maximum depth of approximately 30 feet bgs in this portion of the property observed at soil boring BB-18. NAPL was observed by BBL personnel at soil boring BB-149 during the till investigation described in Section 7.

8.3.3 Soil Quality

A summary of soil quality is presented in conjunction with the NAPL evaluation since a considerable portion of the organic compounds in the site soil are likely associated with NAPL (primarily coal tar DNAPL). Limited areas of the property have been impacted by petroleum products outside of the interpreted extent of NAPL-impacted soil.

Principal components of coal tar that are typically analyzed for at MGP sites are BTEX and PAHs. Because coal tar contains elevated concentrations of these compounds, soil samples that contained visual indications of coal tar were not always analyzed; instead, BTEX and PAHs were conservatively assumed to be present in the visibly NAPL-impacted soil at concentrations greater than applicable Standards, Criteria, and Guidance (SCGs).

SCGs for this property were obtained from NYSDEC's TAGM 4046 and a follow-up NYSDEC memorandum from Michael J. O'Toole, Jr. dated December 20, 2000. These SCGs (guidance values) establish limits for total detected VOCs and SVOCs as ≤ 10 ppm and ≤ 500 ppm, respectively.

Similar to the visual depiction of NAPL-impacted soil described in Subsection 8.3.2, the modeled extent of soil containing PAHs at concentrations > 500 ppm is depicted on Figure 12a in three "panes", one plan view and two oblique views and an oblique view of the combined distribution of NAPL-impacted soil and soil containing total

PAHs at concentrations > 500 ppm is shown on Figure 12b. In addition, the extent of NAPL-impacted soil (including interpreted areas of potential NAPL distribution as described above in Section 8.3.2.1) and soil containing total PAHs at concentrations > 500 ppm is shown on Figure 14.

8.3.3.1 Surface Soil

Parsons collected a total of 18 surface soil samples from a depth of 0-6 inches bgs. during the RI between 1994 and 1996. In addition, BBL collected one soil sample [BB-92(0-2')] during the Historical Subsurface Structure Investigation activities in the immediate vicinity of the former Coal Bin near the western fence line of the property. Results obtained for the analysis of the surface soil samples indicated the following:

- None of the soil samples collected during the RI indicated the presence of BTEX at concentrations exceeding the 10 ppm guidance value.

- Soil sample BB-92 (0-2') indicated the presence of total BTEX at concentrations exceeding the 10 ppm guidance value (48.2 ppm).

- Two soil samples [BSS-4 (0-0.5'), located along the former railroad siding in the western portion of the property and BB-84 (0-2') located east of Schermerhorn creek near a former gasoline distribution area] contained total PAHs at concentrations of 554.5 and 3,158 ppm, respectively.

Analytical results for soil samples collected during the RI are presented in the RI Report (Parsons, January 1999). An analytical sample summary is presented in Table 1 and results obtained for surface soil sample BB-92 (0-2') for BTEX and PAHs are presented in Tables 9 and 10, respectively. The human health risk assessment conducted as part of the RI evaluated the risk to humans by the constituents detected in the surface soil samples.

8.3.3.2 Subsurface Soil

As a conservative measure, soil containing NAPL is assumed to contain BTEX and PAHs at concentrations exceeding the TAGM 4046 recommended soil cleanup objectives. Therefore, the extent of impacted soil at the property requires discussing both analytical results and the extent of NAPL together. During the PSA/IRM, RI, NAPL investigation, historical subsurface structure investigation, and additional subsurface investigation activities, a total of 234 soil samples were submitted for laboratory analysis for BTEX and 261 soil samples were submitted for laboratory analysis for PAHs, as summarized in the adjacent table.

Soil Sampling Summary

	Number of Samples/Investigation					
Analysis	**PSA/IRM**	**RI**	**NAPL Investigation**	**HSSI**	**ASI**	**Totals**
BTEX[1]	73	152	0	8	1	234
PAHs[1]	73	152	27	8	1	261

Notes:
1. [1] For some investigations, samples were analyzed for an expanded list of VOCs and SVOCs.
2. HSSI = Historical Subsurface Structure Investigation.
3. ASI = Additional Subsurface Investigations.
4. Number of samples does not include QA/QC or waste characterization samples.

Analytical results for soil samples collected during the PSA/IRM and the RI are presented in their respective reports. Results obtained for the analysis of soil samples for BTEX and PAHs collected since the completion of the RI are presented in Tables 9 and 10, respectively. For the purposes of this report, the distribution of impacted soil is based on soil containing PAHs at concentrations greater than the 500 ppm guidance value.

The extent of soil containing PAHs at concentrations > 500 ppm (based on laboratory analysis of soil samples) is shown on Figure 12a. As shown on Figure 12a, the following observations can be made regarding the extent of soil containing PAHs at concentrations greater than the 500 ppm guidance value:

- Similar to NAPL distribution, soil containing PAHs at concentrations greater than the guidance value was concentrated in the northern portion of the property near the 800,000 CF holder (soil borings BB-9 and BB-128); in the central portion of the property near the former condenser house, oil tank, tar tank, and tar separator (soil borings BB-11, BB-41R, BB-81, BB-111, and BB-112B); and along the western fence line near the former railroad siding and former coal stock pile area (soil borings BB-13, BB-14, BB-29, BB-30, BB-32, BB-86, and BB-135).

- PAH-impacted soil also extends south of Schermerhorn Creek in the vicinity of a former UST previously located west of the existing Garage/Office Building. The soil impacts in this area are believed to primarily be due to a petroleum source formerly located west of the Garage/Office Building.

- The majority of the NAPL-impacted soil and soil containing PAHs at concentrations exceeding 500 ppm is located below the water table.

- Relatively high PID readings (i.e., levels greater than 500 ppm) were detected in soil samples collected from soil borings BB-104, BB-105, BB-111, and BB-128; however, only MGP-type odors were noted by field personnel (i.e., presence of NAPL and/or NAPL-impacted soils was not noted). Although there is the potential for NAPL to be present in areas of elevated PID readings, these readings are used for field screening, but are not a direct indicator of NAPL presence.

As a conservative measure, all soils containing visual indications of NAPL may also be considered to contain total PAHs at concentrations > 500 ppm. An oblique view (facing northeast) showing the combined modeled distribution of NAPL-impacted soil and soil containing PAHs at concentrations > 500 ppm is included on Figure 12b.

8.3.4 Conceptual Model for NAPL Migration

Based on information obtained during the site investigations, NAPL at the property can be attributed to historical site operations associated with the former MGP process and multiple petroleum sources. Based on the observed NAPL distribution, there appear to be multiple NAPL release points, which are supported by the long operational history of the property and the apparent poor waste handling practices typical of the era and specifically of MGP sites. The most likely sources based on the MGP process and the distribution of NAPL observed in subsurface soil are the condenser house; the tar tank, tar separator; and ammonia concentrator; the 150,000 and 800,000 CF gas holders, the former railroad siding and coal stockpile area along the western fence line; and the former oil tank. These specific structures are noted because NAPL was either handled or generated in larger quantities at these locations and many of these features are often the source of NAPL at MGP sites. Equally important, NAPL was not encountered beneath several historical subsurface structures (e.g., the 2 million CF gas holder).

As indicated above, a sufficient volume of DNAPL was not able to be collected during the recent investigation activities to assess its physical characteristics that influence its migration potential. Therefore, the only conclusions that can be made regarding NAPL migration are indications of where NAPL has been identified in the subsurface strata.

- NAPL was observed at several locations across the property immediately above the silt and clay unit;

- Coal tar-type odors, blebs, and coal tar-saturated rootlets were also observed throughout the silt and clay unit with greater degrees of NAPL saturation within coarser-grained interbedded fine sand seams within the silt and clay unit;

- At some locations NAPL was observed in the upper portion of the lower fine sand unit, below the silt and clay unit;

- No NAPL was observed in the lower portion of the lower fine sand unit near the upper surface of the till unit, or within the till unit itself;

- Vertical migration of historic NAPL releases has apparently ceased based on the absence of NAPL observations in the lower fine sand unit and underlying till;

- NAPL was not observed in offsite monitoring wells; and

- NAPL does not appear to be migrating horizontally.

8.4 Groundwater Quality

This section summarizes groundwater characteristics at and near the property based on the results obtained for groundwater sampling conducted since 1992. The individual groundwater investigations are described in more detail in previous sections of this report as well as in summary reports for the individual investigations. The adjacent table summarizes known groundwater sampling events conducted during the site investigations:

Groundwater Sampling Events

Site Investigation	Groundwater Sampling Event	Number of Wells Sampled	TCL VOCs	BTEX	TCL SVOCs	PAHs	PCBs/Pesticides	TAL Metals	Cyanide	NA Parameters
PSA/IRM	July 1992	1	✓		✓				✓	
RI	June 1996	28	✓		✓		✓	✓	✓	
	July 1996	28	✓		✓		✓	✓	✓	
NAPL/Groundwater Investigation	June 2002	26	✓			✓			✓	
Additional Subsurface Investigation	August 2004	2		✓		✓				
	November 2004/January 2005	34		✓		✓				✓

Notes:
1. VOCs = volatile organic compounds
2. SVOCs = semi-volatile organic compounds
3. PCBs = polychlorinated biphenyls
4. PAHs = polynuclear aromatic hydrocarbons
5. NA Parameters = natural attenuation indicator parameters

As previously discussed, the primary dissolved-phase chemical constituents at the property are BTEX and PAHs. A summary of the results obtained for the analysis of the groundwater samples for BTEX and PAHs are presented in Tables 4 and 5, respectively and for the shallow and intermediate hydrostratigraphic zones are shown on Figures 4a and 4b, respectively. Results obtained for the analysis of natural attenuation parameters will be discussed in detail as part of the Monitored Natural Attenuation Evaluation Report to be included as an attachment to the revised Feasibility Study Report.

Analytical results are discussed below respective to their hydrostratigraphic zone (i.e., shallow, intermediate, deep, and till as defined in Subsection 8.2.3).

8.4.1 Shallow Hydrostratigraphic Zone Groundwater Monitoring Results

As presented above in Subsection 8.2.2, a total of 19 monitoring wells are currently screened in the shallow hydrostratigraphic zone. This zone is generally defined as the saturated zone above the silt and clay unit and in most cases the well screen straddles the water table (Figures 10 and 11). However, some of the wells included in the discussion of this hydrostratigraphic zone were included because their hydraulic properties (e.g., hydraulic head, hydraulic conductivity) are more consistent with the shallow zone. As presented above under Subsection 6.6 (Monitoring Well Abandonment/Replacement Activities), BBL abandoned and replaced monitoring wells MW-4, MW-5, MW-16, and MW-18 with monitoring wells MW-22, MW-21, MW-26, and MW-23, respectively, because the original monitoring wells were constructed with their well screens straddling the low permeability silt and clay unit. For the purposes of this summary, the results obtained for the analysis of the groundwater samples collected from the abandoned monitoring wells are discussed under this section. Results obtained for the laboratory analysis of groundwater samples collected from the shallow groundwater hydrostratigraphic zone are summarized below.

<u>BTEX</u>

As presented above in Subsection 6.9, BTEX compounds were detected at concentrations greater than the Class GA NYSDEC groundwater standards/guidance values presented in TOGS 1.1.1 in groundwater samples collected from 8 of the 15 shallow monitoring wells (monitoring wells MW-3, MW-9S, MW-13SR, MW-20, MW-21, MW-22, MW-23, MW-24, and MW-26) that were sampled during the November 2004/January 2005 sampling event.

Generally, the monitoring wells where BTEX compounds were detected at concentrations exceeding TOGS 1.1.1 standards and guidance values correspond to the locations where NAPL was observed (i.e., the northern, central, and western areas described above). Elevated BTEX concentrations (212 ppb and 1,780 ppb) were also detected in the groundwater samples collected from monitoring well MW-24 (located on the south side on Schermerhorn Creek) and monitoring well MW-26 (located hydraulically downgradient from the former oil tank), respectively. The time series data presented in the adjacent table do not indicate identifiable trends toward greater or lesser BTEX concentrations.

Time Series Groundwater BTEX and PAH Concentrations in Shallow Overburden Wells

Well ID	Total BTEX (ppb)			
	6/96	7/96	6/02	11/04-1/05
MW-2/MW-20	1,500	1,417	4,299	NS
MW-9S	1,166	328	3,828	387
MW-16/MW-26	993	758	NS	1,780
MW-18/MW-23	20,700	17,400	7,160	13,530
	Total PAHs (ppb)			
MW-2/MW-20	1,804	197	3,254	NS
MW-9S	140	130	452	100
MW-16/MW-26	4,476	5,890	NS	6,280
MW-18/MW-23	2,224	968	596	531

<u>Notes:</u>

1. Monitoring well MW-20 installed during January 2002 to replace monitoring well MW-2.
2. MW-23 installed in August 2004 to replace monitoring well MW-18. MW-18 screened within both shallow and intermediate hydrostratigraphic units.
3. MW-26 installed in August 2004 to replace monitoring well MW-16. MW-16 screened within both shallow and intermediate hydrostratigraphic units.
4. NS = Not sampled

<u>PAHs</u>

As discussed in Subsection 6.9, PAHs were detected at concentrations above NYSDEC groundwater standards/guidance values presented in TOGS 1.1.1 in groundwater samples collected from 8 of the 15 shallow monitoring wells (monitoring wells MW-3, MW-9S, MW-20, MW-21, MW-22, MW-23, MW-24, and MW-26) that were sampled during the November 2004/January 2005 sampling event. With the exception of monitoring well MW-13SR, PAH and BTEX compounds detections in groundwater were found to be co-located, (i.e., PAHs were detected in groundwater samples collected from the same wells where analytical results indicated the presence of BTEX).

As indicated in the adjacent time series table, PAH concentrations appear to have generally been decreasing in monitoring well MW-18 and replacement well MW-23 located to the east of the storage building in the central portion of the property. PAHs appear to have generally increased in groundwater samples collected from monitoring well MW-16 and replacement well MW-26 located to the south of the open garage hydraulically downgradient from the former oil storage tank. The remaining time series data do not indicate identifiable trends in PAH concentrations.

8.4.2 Intermediate Hydrostratigraphic Zone Groundwater Monitoring Results

As presented in Subsection 8.2.2, a total of 13 monitoring wells are currently screened within the intermediate hydrostratigraphic zone. This zone is generally defined as the fine sand unit below the silt and clay unit (Figures 10 and 11). Results obtained for the laboratory analysis of groundwater samples collected from the intermediate groundwater zone are summarized below.

<u>BTEX</u>

As presented above in Subsection 6.9, BTEX was detected at concentrations greater than the Class GA NYSDEC groundwater standards/guidance values presented in TOGS 1.1.1 in groundwater samples collected from 4 of the 12 intermediate monitoring wells (monitoring wells MW-8I, MW-9I, MW-17, and MW-25) that were sampled during the November 2004/January 2005 sampling event.

Generally, the monitoring wells where BTEX was detected at concentrations greater than TOGS 1.1.1 standards and guidance values correspond to the locations where NAPL was observed (i.e., the northern, central, and western areas described above). However, groundwater monitoring wells MW-8I and MW-9I are located offsite, hydraulically downgradient of the western and northern portions of the property (respectively). The time series evaluation of groundwater BTEX concentrations presented in the adjacent table does not indicate consistent trends toward increasing or decreasing BTEX concentrations.

Time Series Groundwater BTEX and PAH Concentrations in Intermediate Overburden Wells

Well ID	Total BTEX (ppb)			
	6/96	7/96	6/02	11/04-1/05
MW-8I	1,435	113	28	589
MW-9I	739	274	712	581
MW-17	626	124	NS	475
	Total PAHs (ppb)			
MW-8I	<10	2	28.3	61
MW-9I	79	<37	110	52
MW-17	116	28	NS	86

<u>Notes:</u>
1. NS = Not sampled

<u>PAHs</u>

PAHs were detected at concentrations exceeding NYSDEC groundwater standards/guidance values presented in TOGS 1.1.1 in 4 of the 12 intermediate monitoring wells (MW-8I, MW-9I, MW-17, and MW-25) that were sampled during the November 2004/January 2005 sampling event. Note that these are the same wells where BTEX concentrations were detected at concentrations greater than groundwater standards and guidance values.

As indicated in the adjacent time series evaluation of groundwater PAH concentrations, a general upward trend in groundwater PAH concentrations is inferred by groundwater samples collected from monitoring well MW-8I (from non-detect in 1992 to 61 ppb in 2004). Monitoring well MW-8I is located offsite west of the CSX railroad right-of-way. None of the other time series results obtained for the analysis of groundwater samples collected from intermediate monitoring wells indicated a distinguishable trend toward increasing or decreasing PAH concentrations.

8.4.3 Deep Hydrostratigraphic Zone Groundwater Monitoring Results

As presented in Subsection 8.2.2, a total of 9 monitoring wells are currently screened within the deep hydrostratigraphic zone. The deep zone is generally defined as the lower portion of the lower fine sand unit below the silt and clay unit at the property (Figures 10 and 11). Results obtained for the laboratory analysis of groundwater samples collected from the deep aquifer zone are summarized below.

BTEX

Based on the results obtained for the analysis of groundwater samples collected from the deep monitoring wells during the November 2004/January 2005 sampling event, groundwater sample MW-9D (19 ppb total BTEX) was the only groundwater sample that indicated the presence of BTEX at concentrations exceeding Class GA groundwater standards/guidance values. Monitoring well MW-9D is located northwest of the Service Center property on the west side of the D&H railroad right-of-way

PAHs

Based on the results obtained for the laboratory analysis of the groundwater samples, none of the groundwater samples collected from the deep monitoring wells during the November 2004/January 2005 groundwater sampling event contained PAHs at concentrations exceeding Class GA groundwater standards/guidance values.

8.4.4 Till Groundwater Monitoring Results

As presented in Subsection 8.2.2, a total of six monitoring wells are currently screened within the till unit beneath the property. However, with the exception of monitoring well MW-27D, each of the till wells was installed following the November 2004/January 2005 groundwater sampling event. None of the till wells installed in 2005 were sampled to assess groundwater quality at these locations.

The results obtained for the analysis of the groundwater sample collected from monitoring well MW-27D, did not indicate the presence of BTEX or PAHs at concentrations exceeding laboratory detection limits.

8.5 Sediment Quality

Sediment investigations were conducted during the PSA/IRM and RI activities between 1994 and 1997. A total of 2 sediment samples were collected during PSA/IRM activities and a total of 34 sediment samples were collected at 20 sampling locations during RI activities.

Area	Sediment Sampling Locations
Area 1	BSD-1 (PSA), BSD-14
Area 2	BSD-12, BSD-13
Area 3	BSD-2 (PSA), BSD-11
Area 4	BSD-9

VOCs were not detected at concentrations greater than the sediment screening criteria for the protection of benthic aquatic life (chronic toxicity). SVOCs [including acenaphthene, anthracene, benzo(a)anthracene, fluoranthene, fluorene, naphthalene, phenanthrene, phenol, and pyrene] were detected in sediment samples collected at several sampling locations at concentrations greater than the sediment screening criteria for the protection of benthic aquatic life (chronic toxicity). The most elevated concentration of total PAHs were detected in sediment samples collected from sediment sampling locations BSD-2(0.11') [PSA/IRM Study] 617.26 ppm and BSD-14(0-4') [RI] 278.29 ppm. In addition, PCBs were detected at concentrations exceeding the sediment screening criteria for the protection of benthic aquatic life (chronic toxicity) in 4 of the 34 samples analyzed at concentrations up to 15 ppm [sediment sample BSD-13(0-4')]. Four areas encompassing several individual sediment sampling locations were identified along the creek where SVOCs and PCBs were detected in sediment samples at concentrations exceeding the sediment screening criteria for the protection of benthic aquatic life (chronic toxicity). As presented above, the screening values are not intended to serve as cleanup criteria. These areas are indicated on Figure 15 and are summarized in the adjacent table.

8.6 Summary

Based on the results and findings of site investigation activities, the nature and extent of environmental impacts from former site operations has been sufficiently characterized in order to proceed with a Feasibility Study. As detailed in the previous sections of this report, investigation activities were conducted at the property to facilitate a detailed analysis of the following:

- Site geology and hydrogeology;
- The nature and extent of impacts to soil, groundwater, and sediment; and
- The presence, extent, and nature of NAPL.

This section summarizes these findings and presents conclusions that will facilitate the evaluation of remedial alternatives as part of the Feasibility Study.

Based on the results obtained from the investigation activities conducted at the Schenectady (Broadway) former MGP site, the following summaries can be made:

- Impacts to soil and groundwater appear to be from both MGP- and petroleum-related historical operations at the property.

- NAPL-impacted soil is present at the property and is primarily limited to three general areas (the Northern, Central, and Western portions) of the property.

- NAPL was encountered adjacent to several of the former historical MGP subsurface structures. However, significant amounts of NAPL were not encountered directly below the former historical MGP subsurface structures.

- The majority of NAPL-impacted soil appears to be located above the silt and clay unit and within fine sand seams interbedded with the silt and clay. The majority of the NAPL-impacted soils are below the groundwater table.

- No NAPL-impacted soil has been encountered offsite.

- NAPL has been encountered in soil along the downgradient western property boundary (adjacent to the CSX railroad right-of-way).

- The till unit beneath the property is a hydraulic confining layer and would provide a hydraulic barrier for the downward migration of NAPL if NAPL ever migrated to this depth. NAPL has not been encountered below the upper portion of the lower fine sand unit.

- Relatively strong vertically downward vertical hydraulic gradients are present between the shallow and intermediate, and intermediate and deep hydrostratigraphic zones. An upward hydraulic gradient appears to be present between the till and deep hydrostratigraphic zones further providing a deterrent to the downward migration of NAPL or DPH. However, based on limited information due to four of the till wells not being fully recovered more than one month following well development, the vertical gradients between the till and deep hydrostratigraphic zones will be further evaluated during the FS.

- LNAPL and DNAPL have been encountered sporadically in a limited number of groundwater monitoring wells at the property.

- NAPL has not been encountered in any of the offsite groundwater monitoring wells or associated soil samples.

- Impacted groundwater is present offsite hydraulically downgradient from the Western and Northern Portions of the property.

- Analytical data provided by NYSDEC for groundwater sampling conducted at two neighboring property offsite monitoring well clusters indicated that MGP-related dissolved-phase groundwater impacts were not detected. National Grid will further review available information for these wells by either reviewing relevant groundwater sampling reports and data (if available) at the public repository or by submitting a FOIL request to the NYSDEC to obtain additional information related to groundwater sampling at these offsite wells.

An FS will be prepared to evaluate potential remedial measures to address the environmental concerns identified by the investigation activities conducted at the Schenectady (Broadway) Service Center.

Tables

Table 1

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Analytical Sample Summary

Sample ID	Depth Interval (ft bgs)	Date	Matrix	VOCs	BTEX	SVOCs	PAHs	Inorganics	PCBs	Total Cyanide
Preliminary Site Assessment/Interim Remedial Measure										
BB-1	21.0-22.0	7/13/92	Soil	X			X			
	22.0-23.0			X			X			
BB-2	13.0-15.0	7/13/92	Soil	X			X			
	23.0-25.0			X			X			
	28.0-30.0			X			X			
BB-4	11.0-13.0	7/14/92	Soil	X			X			
	55.0-57.0			X			X			
BB-5	8.0-10.0	7/14/92	Soil	X			X			
	19.0-21.0			X			X			
	26.0-28.0			X			X			
BB-6	9.0-11.0	7/15/92	Soil	X			X			
	17.0-19.0			X			X			
	36.0-38.0			X			X			
BB-7	16.0-18.0	7/15/92	Soil	X			X			
	26.0-28.0			X			X			
BB-8	6.0-8.0	7/15/92	Soil	X			X			
	14.0-16.0			X			X			
	24.0-26.0			X			X			
BB-9	6.0-8.0	7/16/92	Soil	X			X			
	15.0-17.0			X			X			
BB-10	5.0-7.0	7/16/92	Soil	X			X			
	10.0-12.0			X			X			
	20.0-22.0			X			X			
BB-11	7.0-9.0	7/16/92	Soil	X			X			
	37.0-39.0			X			X			
	50.0-52.0			X			X			
BB-12	5.0-7.0	7/16/92	Soil	X			X			
BB-13	6.0-8.0	7/17/92	Soil	X			X			
	24.0-26.0			X			X			
	34.0-36.0			X			X			
BB-14	8.0-10.0	7/17/92	Soil	X			X			
	23.0-25.0			X			X			
	33.0-35.0			X			X			
BB-15	4.0-6.0	7/17/92	Soil	X			X			
	20.0-22.0			X			X			
BB-16	6.0-8.0	7/17/92	Soil	X			X			
	24.0-26.0			X			X			
	75.0-77.0			X			X			
BB-17	4.0-6.0	7/20/92	Soil	X			X			
	25.0-27.0			X			X			
BB-18	6.0-8.0	7/20/92	Soil	X			X			
	24.0-26.0			X			X			
	42.0-44.0			X			X			
BB-19	10.0-12.0	7/21/92	Soil	X			X			
	24.0-26.0			X			X			
BB-20	1.3-2.3	7/21/92	Soil	X			X			
	10.0-12.0			X			X			
	24.0-26.0			X			X			
BB-21	4.0-6.0	7/21/92	Soil	X			X			
	24.0-26.0			X			X			
BB-22	24.0-26.0	7/21/92	Soil	X			X			
	30.0-32.0			X			X			
BB-23	12.0-14.0	7/21/92	Soil	X			X			
	24.0-26.0			X			X			

Table 1

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Analytical Sample Summary

Sample ID	Depth Interval (ft bgs)	Date	Matrix	VOCs	BTEX	SVOCs	PAHs	Inorganics	PCBs	Total Cyanide
BB-24	4.0-6.0	7/22/92	Soil	X			X			
	24.0-26.0			X			X			
BB-25	4.0-6.0	7/22/92	Soil	X			X			
	24.0-26.0			X			X			
BB-26	8.0-10.0	7/22/92	Soil	X			X			
	24.0-26.0			X			X			
BT-1	7.0	7/9/92	Soil	X			X			
BT-2	13.0	7/9/92	Soil	X			X			
BT-3	6.0	7/9/92	Soil	X			X			
BT-5	7.0	7/9/92	Soil	X			X			
BT-6	5.0	7/9/92	Soil	X			X			
BT-7	6.0	7/9/92	Soil	X			X			
BT-8	6.0	7/9/92	Soil	X			X			
BT-9	6.0	7/9/92	Soil	X			X			
BT-10	6.0	7/9/92	Soil	X			X			
BT-11	5.0	7/9/92	Soil	X			X			
BT-12	12.0	7/9/92	Soil	X			X			
BT-13	4.0	7/10/92	Soil	X			X			
BT-15	4.0	7/10/92	Soil	X			X			
MW-2	--	7/23/92	Groundwater	X		X		X	X	X
BSD-1	1.45	7/24/92	Sediment	X			X			
BSD-2	0.11	7/24/92	Sediment	X			X			
Remedial Investigation										
BSS-1	0.0-0.5	8/30/94	Soil	X		X		X	X	X
BSS-2	0.0-0.5	8/30/94	Soil	X		X		X	X	X
BSS-3	0.0-0.5	8/30/94	Soil	X		X		X	X	X
BSS-4	0.0-0.5	8/30/94	Soil	X		X		X	X	X
BSS-5	0.0-0.5	8/30/94	Soil	X		X		X	X	X
BSS-6	0.0-0.5	8/30/94	Soil	X		X		X	X	X
BSS-7	0.0-0.5	8/30/94	Soil	X		X		X	X	X
BSS-8	0.0-0.5	8/30/94	Soil	X		X		X	X	X
BSS-9	0.0-0.5	8/30/94	Soil	X		X		X	X	X
BSS-10	0.0-0.5	8/30/94	Soil	X		X		X	X	X
BSS-11	0.0-0.5	8/30/94	Soil	X		X		X	X	X
BSS-12	0.0-0.5	8/30/94	Soil	X		X		X	X	X
BSS-13	0.0-0.5	5/16/96	Soil	X		X		X	X	X
BSS-14	0.0-0.5	5/16/96	Soil	X		X		X	X	X
BSS-15	0.0-0.5	5/16/96	Soil	X		X		X	X	X
BSS-16	0.0-0.5	5/16/96	Soil	X		X		X	X	X
BSS-17	0.0-0.5	6/4/96	Soil		X		X			X
BB-27	8.0-12.0	8/25/94	Soil		X		X			X
	12.0-16.0				X		X			X
BB-28	12.0-14.0	8/10/94	Soil	X		X		X	X	X
	18.0-20.0			X		X		X	X	X
BB-29	8.0-12.0	8/24/94	Soil		X		X			X
	30.0-32.0				X		X			X
	38.0-40.0				X		X			X
BB-30	4.0-6.0	9/1/94	Soil		X		X			X
	16.0-18.0				X		X			X
	24.0-26.0				X		X			X
	28.0-30.0				X		X			X
BB-31	4.0-8.0	8/30/94	Soil		X		X			X
	6.0-8.0				X		X			X
	16.0-18.0				X		X			X
	30.0-36.0				X		X			X
	40.0-44.0	8/31/94			X		X			X

Table 1

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Analytical Sample Summary

Sample ID	Depth Interval (ft bgs)	Date	Matrix	VOCs	BTEX	SVOCs	PAHs	Inorganics	PCBs	Total Cyanide
BB-32	6.0-8.0	9/1/94	Soil		X		X			X
	32.0-36.0	9/2/94			X		X			X
BB-33	8.0-12.0	9/6/94	Soil		X		X			X
	12.0-14.0				X		X			X
	30.0-32.0				X		X			X
	34.0-38.0				X		X			X
BB-34	6.0-8.0	8/3/94	Soil		X		X			X
	12.0-14.0				X		X			X
BB-35	20.0-22.0	8/9/94	Soil		X		X			X
	28.0-30.0				X		X			X
BB-36	10.0-12.0	8/2/94	Soil	X		X		X	X	X
	16.0-24.0	8/3/94		X		X		X	X	X
BB-37	10.0-12.0	9/7/94	Soil		X		X			X
	25.0-27.0				X		X			X
BB-38	6.0-8.0	9/7/94	Soil		X		X			X
	20.0-22.0				X		X			X
	30.0-34.0				X		X			X
BB-39	6.0-8.0	7/12/94	Soil		X		X			X
BB-40	6.0-8.0	7/29/94	Soil		X		X			X
	6.0-8.0 (DUP)				X		X			X
	14.0-16.0				X		X			X
BB-41	6.0-10.0	9/13/94	Soil		X		X			X
	6.0-10.0 (DUP)				X		X			X
	10.0-18.0				X		X			X
BB-41R	4.0-5.0	9/13/94	Soil		X		X			X
BB-42	8.0-10.0	7/13/94	Soil		X		X			X
	24.0-26.0				X		X			X
	32.0-34.0				X		X			X
BB-43	8.0-10.0	7/12/94	Soil		X		X			X
	26.0-28.0				X		X			X
BB-44	8.0-10.0	7/14/94	Soil		X		X			X
	12.0-14.0				X		X			X
BB-45	2.0-8.0	8/1/94	Soil	X		X		X	X	X
	2.0-8.0 (DUP)			X		X				X
	12.0-14.0			X		X		X	X	X
BB-46	8.0-10.0	7/14/94	Soil		X		X			X
	8.0-10.0 (DUP)				X		X			X
BB-47	6.0-8.0	7/19/94	Soil		X		X			X
	12.0-14.0				X		X			X
BB-48	6.0-8.0	7/18/94	Soil		X		X			X
	12.0-14.0	7/14/94			X		X			X
BB-49	6.0-8.0	7/13/94	Soil		X		X			X
	8.0-10.0				X		X			X
BB-50	28.0-30.0	7/19/94	Soil		X		X			X
BB-51	6.0-8.0	8/11/94	Soil	X		X		X	X	X
	14.0-16.0			X		X		X	X	X
BB-52	6.0-10.0	9/14/94	Soil		X		X			X
	10.0-14.0				X		X			X
BB-55	6.0-10.0	9/12/94	Soil		X		X			X
	12.0-16.0				X		X			X
BB-56	6.0-10.0	9/16/94	Soil		X		X			X
	12.0-16.0				X		X			X
BB-57	6.0-8.0	8/1/94	Soil		X		X			X
	14.0-16.0				X		X			X
BB-58	4.0-8.0	9/15/94	Soil		X		X			X
	8.0-12.0				X		X			X

Table 1

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Analytical Sample Summary

Sample ID	Depth Interval (ft bgs)	Date	Matrix	VOCs	BTEX	SVOCs	PAHs	Inorganics	PCBs	Total Cyanide
BB-59	6.0-10.0	7/25/94	Soil		X		X			X
BB-60	8.0-12.0	7/22/94	Soil		X		X			X
BB-61	6.0-8.0	5/10/96	Soil		X		X			X
	24.0-28.0	5/28/96		X		X		X	X	X
	50.0-52.0			X		X		X	X	X
BB-62	4.0-6.0	5/7/96	Soil		X		X			X
	24.0-26.0				X		X			X
	46.0-48.0				X		X			X
BB-63	6.0-8.0	5/13/96	Soil		X		X			X
	22.0-24.0				X		X			X
	44.0-48.0				X		X			X
BB-64	4.0-6.0	5/13/96	Soil		X		X			X
	12.0-14.0	5/14/96			X		X			X
	30.0-32.0	5/13/96			X		X			X
	44.0-46.0				X		X			X
BB-65	14.0-16.0	5/29/96	Soil		X		X			X
	54.0-56.0	5/30/96		X		X		X	X	X
	100.0-102.0				X		X			X
BB-66	4.0-8.0	5/22/96	Soil		X		X			X
	18.0-20.0	5/24/96		X		X		X	X	X
	38.0-40.0	5/22/96			X		X			X
BB-67	4.0-6.0	5/22/96	Soil		X		X			X
	14.0-16.0				X		X			X
	38.0-40.0				X		X			X
BB-68	6.0-8.0	5/21/96	Soil		X		X			X
	20.0-22.0				X		X			X
	38.0-40.0				X		X			X
BB-69	4.0-6.0	5/15/96	Soil		X		X			X
	20.0-22.0				X		X			X
	38.0-40.0				X		X			X
BB-70	6.0-8.0	5/15/96	Soil		X		X			X
	18.0-20.0				X		X			X
	44.0-46.0				X		X			X
BB-71	4.0-6.0	5/29/96	Soil		X		X			X
	10.0-12.0	5/28/96		X		X		X	X	X
BB-72	4.0-8.0	5/8/96	Soil		X		X			X
	22.0-24.0				X		X			X
	48.0-50.0				X		X			X
BB-73	4.0-6.0	5/9/96	Soil		X		X			X
	20.0-22.0				X		X			X
	50.0-52.0				X		X			X
BB-74	12.0-14.0	6/4/96	Soil		X		X			X
	28.0-30.0				X		X			X
BB-75	6.0-8.0	5/20/96	Soil		X		X			X
	16.0-18.0				X		X			X
	58.0-60.0				X		X			X
BB-76	10.0-12.0	8/11/94	Soil		X		X			X
	10.0-12.0 (DUP)				X		X			X
	20.0-22.0			X		X		X	X	X
BB-77	6.0-10.0	7/25/94	Soil		X		X			X
BB-78	10.0-12.0	7/20/94	Soil		X		X			X
BB-79	8.0-10.0	8/5/94	Soil	X		X		X	X	X
	16.0-18.0				X		X			X

Table 1

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Analytical Sample Summary

Sample ID	Depth Interval (ft bgs)	Date	Matrix	VOCs	BTEX	SVOCs	PAHs	Inorganics	PCBs	Total Cyanide
BB-80	10.0-12.0	8/10/94	Soil	X		X		X	X	X
	10.0-12.0 (DUP)			X			X			X
	18.0-20.0				X		X			X
	24.0-26.0				X		X			X
BB-81	4.0-12.0	9/8/94	Soil		X		X			X
	18.0-24.0				X		X			X
	18.0-24.0 (DUP)				X		X			X
BB-82	8.0-10.0	8/8/94	Soil	X		X		X	X	X
	22.0-24.0			X		X		X	X	X
	28.0-30.0			X		X		X	X	X
BB-84	0.0-2.0	6/4/96	Soil		X		X			X
	2.0-4.0				X		X			X
BTP-1	2.0	3/12/97	Soil		X		X		X	X
	4.0				X		X		X	X
BTP-2	3.0	3/12/97	Soil		X		X		X	X
	5.0				X		X		X	X
BTP-3	2.0	3/12/97	Soil		X		X		X	X
	7.5				X		X		X	X
BSD-1	0.0-0.5	8/23/94	Sediment	X		X		X	X	X
	0.5-1.0			X		X		X	X	X
BSD-2	0.0-0.5	8/22/94	Sediment	X		X		X	X	X
	0.5-1.0			X		X		X	X	X
BSD-3	0.0-0.5	8/22/94	Sediment	X		X		X	X	X
	0.5-1.0			X		X		X	X	X
BSD-4	0.0-0.5	8/22/94	Sediment	X		X		X	X	X
	0.5-1.0			X		X		X	X	X
BSD-5	0.0-0.5	8/23/94	Sediment	X		X		X	X	X
	0.5-1.0			X		X		X	X	X
BSD-6	0.0-0.5	5/16/96	Sediment	X		X		X	X	X
BSD-7	0.0-0.5	5/16/96	Sediment	X		X		X	X	X
BSD-8	0.0-0.5	5/16/96	Sediment	X		X		X	X	X
BSD-9	0.0-2.0	3/11/97	Sediment		X		X		X	X
	2.0-3.0				X		X		X	X
BSD-10	0.0-4.0	3/11/97	Sediment		X		X		X	X
	5.0-6.0				X		X		X	X
BSD-11	0.0-4.0	3/11/97	Sediment		X		X		X	X
	4.7-5.7				X		X		X	X
BSD-12	0.0-0.5	8/22/94	Sediment	X		X		X	X	X
	0.0-4.0	3/11/97			X		X		X	X
BSD-13	0.0-4.0	3/12/97	Sediment		X		X		X	X
	5.0-6.0				X		X		X	X
BSD-14	0.0-4.0	3/12/97	Sediment		X		X		X	X
	3.7-4.7				X		X		X	X
BSD-15	0.0-4.0	3/12/97	Sediment		X		X		X	X
	4.5-5.5				X		X		X	X
BSD-16	0.0-3.5	3/12/97	Sediment		X		X		X	X
	3.5-4.5				X		X		X	X
BSD-17	0.0-4.0	3/12/97	Sediment		X		X		X	X
	5.0-6.0				X		X		X	X
BSD-18	0.0-2.0	3/18/97	Sediment		X		X		X	X
BSD-19	0.0-2.0	3/18/97	Sediment		X		X		X	X
BSD-20	0.0-2.0	3/18/97	Sediment		X		X		X	X
MW-1	--	6/20/96	Groundwater	X		X		X	X	X
	--	7/31/96		X		X		X	X	X
MW-2	--	6/20/96	Groundwater	X		X		X	X	X
	--	7/31/96		X		X		X	X	X

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Schenectady (Broadway) Service Center
Schenectady, New York

Analytical Sample Summary

Sample ID	Depth Interval (ft bgs)	Date	Matrix	VOCs	BTEX	SVOCs	PAHs	Inorganics	PCBs	Total Cyanide
MW-6S	--	6/21/96	Groundwater	X		X		X	X	X
	--	7/30/96		X		X		X	X	X
MW-6I	--	6/21/96	Groundwater	X		X		X	X	X
	--	7/30/96		X		X		X	X	X
MW-7	--	6/18/96	Groundwater	X		X		X	X	X
	--	7/31/96		X		X		X	X	X
MW-8S	--	6/19/96	Groundwater	X		X		X	X	X
	--	7/31/96		X		X		X	X	X
MW-8I	--	6/19/96	Groundwater	X		X		X	X	X
	--	7/31/96		X		X		X	X	X
MW-8D	--	6/19/96	Groundwater	X		X		X	X	X
	--	7/31/96		X		X		X	X	X
MW-9S	--	6/20/96	Groundwater	X		X		X	X	X
	--	7/31/96		X		X		X	X	X
MW-9I	--	6/20/96	Groundwater	X		X		X	X	X
	--	8/1/96		X		X		X	X	X
MW-9D	--	6/20/96	Groundwater	X		X		X	X	X
	--	8/1/96		X		X		X	X	X
MW-10	--	6/20/96	Groundwater	X		X		X	X	X
	--	7/31/96		X		X		X	X	X
MW-11	--	6/19/96	Groundwater	X		X		X	X	X
	--	7/31/96		X		X		X	X	X
MW-12	--	6/19/96	Groundwater	X		X		X	X	X
	--	7/31/96		X		X		X	X	X
MW-13S	--	6/18/96	Groundwater	X		X		X	X	X
	--	7/30/96		X		X		X	X	X
MW-13P	--	6/18/96	Groundwater	X		X		X	X	X
	--	7/30/96		X		X		X	X	X
MW-13I	--	6/18/96	Groundwater	X		X		X	X	X
	--	7/30/96		X		X		X	X	X
MW-14S	--	6/18/96	Groundwater	X		X		X	X	X
	--	7/30/96		X		X		X	X	X
MW-14P	--	6/18/96	Groundwater	X		X		X	X	X
	--	7/30/96		X		X		X	X	X
MW-14I	--	6/18/96	Groundwater	X		X		X	X	X
	--	7/30/96		X		X		X	X	X
MW-15S	--	6/19/96	Groundwater	X		X		X	X	X
	--	7/31/96		X		X		X	X	X
MW-15I	--	6/19/96	Groundwater	X		X		X	X	X
	--	7/31/96		X		X		X	X	X
MW-16	--	6/21/96	Groundwater	X		X		X	X	X
	--	8/1/96		X		X		X	X	X
MW-17	--	6/20/96	Groundwater	X		X		X	X	X
	--	7/30/96		X		X		X	X	X
MW-18	--	6/20/96	Groundwater	X		X		X	X	X
	--	7/31/96		X		X		X	X	X
MW-19S	--	6/19/96	Groundwater	X		X		X	X	X
	--	7/30/96		X		X		X	X	X
MW-19I	--	6/19/96	Groundwater	X		X		X	X	X
	--	7/30/96		X		X		X	X	X
MW-19D	--	6/19/96	Groundwater	X		X		X	X	X
		7/30/96		X		X		X	X	X

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Schenectady (Broadway) Service Center
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Analytical Sample Summary

Sample ID	Depth Interval (ft bgs)	Date	Matrix	VOCs	BTEX	SVOCs	PAHs	Inorganics	PCBs	Total Cyanide
NAPL Investigation Activities										
BB-85	5.0-5.7	12/19/01	Soil				X			
	10.0-10.5						X			
	14.0-16.0						X			
	20.0-22.0						X			
BB-86	4.0-5.3	12/19/01	Soil				X			
	8.0-9.0						X			
	15.4-15.7	12/20/01					X			
	15.4-15.7 (DUP)						X			
	19.2-19.5						X			
	24.0-26.0						X			
	28.0-30.0						X			
BB-87	4.0-5.1	12/18/01	Soil				X			
	10.0-12.0						X			
	14.0-16.0						X			
	19.6-20.0						X			
	24.0-26.0						X			
	28.0-28.7						X			
BB-88	4.0-4.6	12/17/01	Soil				X			
	10.0-12.0						X			
	10.0-12.0 (DUP)						X			
	14.0-16.0						X			
	18.0-20.0						X			
	24.0-26.0						X			
	26.8-28.0						X			
BB-89	4.0-6.0	12/19/01	Soil				X			
	10.0-12.0						X			
	16.0-18.0						X			
	22.0-24.0						X			
	28.0-30.0						X			
Historical Subsurface Structure Investigation										
BB-92	0.0-2.0	6/23/04	Soil		X		X			X
BB-102	3.0-5.0	7/28/04	Soil		X		X			X
BB-107	2.0-4.0	6/24/04	Soil		X		X			X
BB-111	4.0-6.5	7/26/04	Soil		X		X			X
BB-112B	2.5-5.6	7/20/04	Soil		X		X			X
BB-124	6.0-8.0	6/28/04	Soil		X		X			X
BB-127	6.0-8.0	6/29/04	Soil		X		X			X
BB-128	2.0-4.0	6/29/04	Soil		X		X			X
Additional Subsurface Investigation										
BB-135	8.0-10.0	9/10/04	Soil		X		X			X
	8.0-10.0 (DUP-1)	9/10/04	Soil		X		X			X
Groundwater Sampling										
MW-1	--	6/11/02	Groundwater	X			X			X
	--	11/5/04			X		X			
MW-3	--	11/11/04	Groundwater		X		X			
	DUP	11/11/04	Groundwater		X		X			
MW-6S	--	6/12/02	Groundwater	X			X			X
	--	11/9/04			X		X			
MW-6I	--	6/12/02	Groundwater	X			X			X
	--	11/10/04			X		X			
MW-7	--	6/12/02	Groundwater	X			X			X
	--	11/4/04			X		X			
MW-8S	--	6/12/02	Groundwater	X			X			X
	--	11/9/04			X		X			

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Analytical Sample Summary

Sample ID	Depth Interval (ft bgs)	Date	Matrix	VOCs	BTEX	SVOCs	PAHs	Inorganics	PCBs	Total Cyanide
MW-8I	--	6/12/02	Groundwater	X			X			X
	--	8/11/04			X		X			
	--	11/10/04			X		X			
MW-8D	--	6/12/02	Groundwater	X			X			X
	--	8/11/04			X		X			
	--	11/11/04			X		X			
MW-9S	--	6/13/02	Groundwater	X			X			X
	--	1/12/05			X		X			
	DUP	1/12/05			X		X			
MW-9I	--	6/13/02	Groundwater	X			X			X
	--	6/13/02 (DUP-1)		X			X			X
	--	1/12/05			X		X			
MW-9D	--	6/13/02	Groundwater	X			X			X
	--	1/12/05			X		X			
MW-10	--	6/13/02	Groundwater	X			X			X
	--	6/13/02 (DUP-2)		X			X			X
	--	1/12/05			X		X			
MW-11	--	6/12/02	Groundwater	X			X			X
	--	11/1/04			X		X			
MW-12	--	6/12/02	Groundwater	X			X			X
	--	11/2/04			X		X			
MW-13S	--	6/11/02	Groundwater	X			X			X
MW-13SR	--	11/4/04	Groundwater		X		X			
MW-13P	--	6/11/02	Groundwater	X			X			X
	--	11/2/04			X		X			
	--	11/2/04			X		X			
MW-13I	--	6/11/02	Groundwater	X			X			X
	--	11/2/04			X		X			
MW-14S	--	6/11/02	Groundwater	X			X			X
	--	11/3/04			X		X			
MW-14P	--	6/11/02	Groundwater	X			X			X
	--	11/3/04			X		X			
MW-14I	--	6/11/02	Groundwater	X			X			X
	--	11/3/04			X		X			
MW-15S	--	6/12/02	Groundwater	X			X			X
	--	11/9/04			X		X			
MW-15I	--	6/12/02	Groundwater	X			X			X
	--	11/9/04			X		X			
MW-17	--	11/5/04	Groundwater		X		X			
MW-18	--	6/11/02	Groundwater	X			X			X
MW-19S	--	6/11/02	Groundwater	X			X			X
	--	11/3/04			X		X			
MW-19I	--	6/11/02	Groundwater	X			X			X
	--	11/3/04			X		X			
MW-19D	--	6/11/02	Groundwater	X			X			X
	--	11/3/04			X		X			
MW-20	--	6/13/02	Groundwater	X			X			X
MW-21	--	11/10/04	Groundwater		X		X			
MW-22	--	11/10/04	Groundwater		X		X			
MW-23	--	11/8/04	Groundwater		X		X			
MW-24	--	11/4/04	Groundwater		X		X			
MW-25	--	11/2/04	Groundwater		X		X			
MW-26	--	11/8/04	Groundwater		X		X			
MW-27S	--	11/4/04	Groundwater		X		X			

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National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Analytical Sample Summary

Sample ID	Depth Interval (ft bgs)	Date	Matrix	VOCs	BTEX	SVOCs	PAHs	Inorganics	PCBs	Total Cyanide
MW-27D	--	11/4/04	Groundwater		X		X			
Surface Water Sampling										
BSW-1	--	6/20/96	Surface Water	X		X		X	X	X
BSW-2	--	6/20/96	Surface Water	X		X		X	X	X
BSW-4	--	6/20/96	Surface Water	X		X		X	X	X
BSW-5	--	6/20/96	Surface Water	X		X		X	X	X

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Analytical Sample Summary

BORING ID	DEPTH (ft)	DATE COLLECTED	Sieve (ASTM D422)	Hydrometer (ASTM D1140)	Atterberg Limits (ASTM D4318)	Bulk (Natural) Soil Density (ACOE EM-1110-2-1906)	Hydraulic Conductivity Flex Wall Permeameter (ASTM D5084)	Porosity (ACOE EM-1110-2-1906 Appendix II)
MW-13T	68-70	3/9/2005	X	X	X	X	X	X
MW-19T	64-66	3/23/2005	X	X	X	X	X	X
MW-28T	8-10	3/17/2005	X	X				
	12-14		X	X	X			
	16.3-18		X	X	X			
	20-22		X	X				
	28-30		X					
	34-36		X					
	42-44		X					
	48-50		X					
	50-54	4/29/2005	X	X	X	X	X	
	54-56	3/18/2005	X	X	X			
	60-62		X	X	X			
	70-72		X	X	X			
	comp1	4/15/2005	X					
	comp2		X					
MW-29T	10.2-11	3/14/2005	X					
	14-16		X	X	X			
	18-20		X	X	X			
	24-26		X	X	X			
	28-30		X					
	34-36		X	X	X			
	36-38		X					
	44-46		X	X	X			
	48-50	3/15/2005	X	X	X			
	60-62		X	X	X			
	comp1	4/15/2005	X					
	comp2		X					
MW-30T	8-10	3/25/2005	X	X	X			
	12-14		X	X	X			
	16-18		X	X	X			
	24-26		X					
	28-30		X					
	34-36		X					
	42-44		X					
	46-48		X					
	48-50	4/29/2005	X	X	X	X	X	
	52-54	3/25/2005	X					
	56-58	4/29/2005	X	X	X	X	X	
	58-60	3/25/2005	X	X	X			
	60-62		X	X	X			
	comp1	4/15/2005	X					
	comp2		X					

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National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Analytical Sample Summary

Sample ID	Date	Matrix	Toluene Dioxygenase	Catechol Dioxygenase	DNA	PLFA	Bicarbonate Alkalinity	Iron*	Manganese*	Methane	Nitrate	Nitrogen	Sulfate	Sulfide	TOC
Monitored Natural Attenuation															
MW-3	11/11/04	Groundwater	X	X	X	X	X	X	X	X	X	X	X	X	X
	1/12/05	Micob. Trap				X									
MW-6S	11/9/04	Groundwater	X	X	X	X	X	X	X	X	X	X	X	X	X
	1/12/05	Micob. Trap				X									
MW-8D	11/9/04	Groundwater	X	X	X	X	X	X	X	X	X	X	X	X	X
	1/12/05	Micob. Trap				X									
MW-9S	1/11/05	Groundwater	X	X	X	X	X	X	X	X	X	X	X	X	X
		Micob. Trap													
MW-21	11/12/04	Groundwater	X	X	X	X	X	X	X	X	X	X	X	X	X
	1/12/05	Micob. Trap				X									
MW-22	11/10/04	Groundwater	X	X	X	X	X	X	X	X	X	X	X	X	X
	1/12/05	Micob. Trap				X									

Table 1

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Analytical Sample Summary

Sample ID	Date	Matrix	GRO	DRO	PAHs	Viscosity	Density	Interfacial Tension
Light Non-Aqueous Phase Liquid								
MW-20	11/12/04	Oil	X	X	X	X	X	X

Notes:

1. PSA/IRM samples collected by Atlantic Environmental Services, Inc. between June and August 1992.
2. RI samples collected by Parsons Engineering Science, Inc. between July and September 1994; May and August 1996; and March 1997.
3. NAPL Investigation samples collected by Blasland, Bouck & Lee, Inc. (BBL) during December 2001 and June 2002.
4. Historical Subsurface Structure Investigation samples collected by BBL between June and September 2004.
5. Additional Subsurface Investigation samples collected by BBL between August 2004 and January 2005.
6. MNA samples collected by BBL during November 2004, January 2005, and April 2005.
7. NAPL sample collected by BBL during November 2004.
8. DNA = deoxyribonucleic acid.
9. PLFA = phospholipid fatty acid. .
10. * = total and dissolved.
11. VOCs = volatile organic compounds.
12. BTEX = benzene, toluene, ethylbenzene, and total xylenes.
13. SVOCs = semi-volatile organic compounds.
14. PAHs = polynuclear aromatic hydrocarbons.
15. PCBs = polychlorinated biphenyls.
16. TOC = total organic carbon.
17. GRO = Gasoline-range organics.
18. DRO = Diesel-range organics.
19. Additional testing on PSA groundwater sample MW-2 included: pesticides, biological oxygen demand (BOD), chemical oxygen demand (COD), pH, total suspended solids (TSS), and total organic carbon (TOC).
20. Additional testing on RI surface soil samples BSS-1 through BSS-7 included: pesticides and TOC.
21. Additional testing on RI surface water samples BSW-1, -2, -4, -5 included pesticides.
22. Additional testing on RI groundwater samples MW-6S, -7, -8I, -9S, -9I, -9D, -12, -13I, -16, -17, -18, -19D included: BOD, COD, chloride, hardness, nitrate, nitrite, oil and grease, sulfate, sulfite, total dissolved solids (TDS), pH, and alkalinity.
23. Additional testing on RI sediment samples BSD-1 through BSD-20 included: pesticides and TOC.

Table 2

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Monitoring Well Construction Information Summary

Monitoring Well ID	Hydro-stratigraphic Zone	Investigation By	Date Installed	Ground Elevation (ft. AMSL)	Top of Casing Elevation (ft. AMSL)	Boring Depth (ft. bgs)	Well Depth (ft. bgs)	Screen Depth (ft. bgs)	Screen Elevation (ft. AMSL)
MW-1	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-2*	--	Atlantic	7/22/92	NA	228.54	14.0	14.0	4.0-14.0	NA
MW-3	S	Parsons	8/24/94	228.98	231.14	56.0	22.0	10.0-20.0	209.0-219.0
MW-4*	--	Parsons	8/31/94	228.23	230.53	44.0	18.0	6.0-16.0	212.2-222.2
MW-5*	--	Parsons	9/8/94	228.10	227.8	24.0	20.0	8.0-18.0	210.1-220.1
MW-6S	S	Parsons	8/2/94	227.76	227.35	54.0	18.0	6.0-16.0	211.8-221.8
MW-6I	I	Parsons	8/16/94	227.72	227.34	54.0	50.5	38.5-48.5	179.2-189.2
MW-7	S	Parsons	5/10/96	226.41	228.55	62.0	20.0	8.0-18.0	208.4-218.4
MW-8S	S	Parsons	6/4/96	227.15	229.87	50.0	18.0	6.0-16.0	211.2-221.2
MW-8I	I	Parsons	5/17/96	227.27	229.28	50.0	37.0	25.0-35.0	192.3-202.3
MW-8D	D	Parsons	5/14/96	227.16	229.09	50.0	48.0	41.0-46.0	181.2-186.2
MW-9S	S	Parsons	5/23/96	228.98	231.86	42.0	15.0	5.0-15.0	214.0-224.0
MW-9I	I	Parsons	5/24/96	228.92	230.84	42.0	26.0	19.0-24.0	204.9-209.9
MW-9D	D	Parsons	5/23/96	229.12	230.96	42.0	42.0	35.0-40.0	189.1-194.1
MW-10	I	Parsons	5/21/96	232.09	234.04	42.0	30.0	18.0-28.0	204.1-214.1
MW-11	I	Parsons	6/5/96	224.35	225.94	72.8	22.0	10.0-20.0	204.4-214.4
MW-12	D	Parsons	6/5/96	224.99	226.74	62.0	25.0	13.0-23.0	202.0-212.0
MW-13S*	--	Parsons	8/11/94	226.85	226.55	66.0	22.0	10.0-20.0	206.9-216.9
MW-13SR	S	BBL	9/9/04	227.16	226.87	22.0	22.0	10.0-20.0	207.2-217.2
MW-13P	I	Parsons	8/23/94	226.95	226.62	66.0	37.0	30.0-35.0	192.0-197.0
MW-13I	D	Parsons	8/23/94	226.89	226.55	66.0	66.0	54.0-64.0	162.9-172.9
MW-13T	T	BBL	3/11/05	226.73	226.54	90.0	85.0	75.0-85.0	141.7-151.7
MW-14S	S	Parsons	7/28/94	228.59	228.24	57.0	22.0	10.0-20.0	208.6-218.6
MW-14P	I	Parsons	7/28/94	228.61	228.23	57.0	37.0	30.0-35.0	193.6-198.6
MW-14I	D	Parsons	7/28/94	228.63	228.15	57.0	57.0	45.0-55.0	173.6-183.6
MW-15S	I	Parsons	7/21/94	226.98	228.95	48.0	22.0	10.0-20.0	207.0-217.0
MW-15I	D	Parsons	7/21/94	226.59	228.61	48.0	48.0	36.0-46.0	180.6-190.6
MW-16*	--	Parsons	8/16/94	228.59	228.04	26.0	18.0	6.0-16.0	212.6-222.6
MW-17	I	Parsons	8/15/94	226.74	226.21	20.0	20.0	8.0-18.0	208.7-218.7
MW-18*	--	Parsons	8/9/94	226.67	226.24	30.0	16.0	4.0-14.0	212.7-222.7
MW-19S	S	Parsons	9/21/94	225.70	225.41	77.5	20.0	8.0-18.0	207.7-217.7
MW-19I	I	Parsons	9/20/94	225.92	225.5	77.5	50.0	38.0-48.0	177.9-187.9

Table 2

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Schenectady (Broadway) Service Center
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Monitoring Well Construction Information Summary

Monitoring Well ID	Hydro-stratigraphic Zone	Investigation By	Date Installed	Ground Elevation (ft. AMSL)	Top of Casing Elevation (ft. AMSL)	Boring Depth (ft. bgs)	Well Depth (ft. bgs)	Screen Depth (ft. bgs)	Screen Elevation (ft. AMSL)
MW-19D	D	Parsons	9/20/94	225.98	225.56	77.5	76.0	64.0-74.0	152.0-162.0
MW-19T	T	BBL	3/30/05	226.01	225.60	81.2	81.2	71.2-81.2	144.8-154.8
MW-20	S	BBL	12/18/01	227.40	227.28	30.0	28.0	6.3-21.3	206.1-221.1
MW-21	S	BBL	7/23/04	228.10	227.88	16.5	16.5	9.5-14.5	213.6-218.5
MW-22	S	BBL	7/21/04	229.00	231.55	14.0	13.0	6.0-11.0	218.0-223.0
MW-23	S	BBL	7/21/04	227.00	226.64	12.0	11.0	4.0-9.0	218.0-223.0
MW-24	I	BBL	7/22/04	226.90	226.52	18.0	15.5	12.0-15.0	211.9-214.9
MW-25	I	BBL	7/27/04	225.80	225.51	16.0	14.5	11.5-14.5	211.3-214.3
MW-26	S	BBL	7/29/04	229.10	228.84	14.0	13.5	6.5-11.5	217.6-222.6
MW-27S	S	BBL	8/2/04	224.60	226.52	8.3	8.3	3.0-8.0	216.6-221.6
MW-27D	T	BBL	8/2/04	224.60	227.35	66.0	66.0	55.7-65.7	158.9-168.9
MW-28S	S	BBL	3/25/05	228.88	228.37	13.0	13.0	6.0-11.0	217.9-222.9
MW-28I	I	BBL	3/25/05	228.94	228.57	28.0	28.0	23.0-28.0	200.9-205.9
MW-28D	D	BBL	3/24/05	228.97	228.52	47.0	47.0	42.0-47.0	181.0-186.0
MW-28T	T	BBL	3/21/05	228.88	228.61	74.0	74.0	64.0-74.0	154.9-164.9
MW-29S	S	BBL	3/17/05	230.39	230.12	14.0	14.0	4.0-14.0	216.4-206.4
MW-29I	I	BBL	3/17/05	230.31	230.09	39.0	39.0	28.0-38.0	192.3-182.3
MW-29T	T	BBL	3/16/05	230.45	230.13	62.0	62.0	52.0-62.0	168.5-158.5
MW-30S	S	BBL	4/4/05	226.72	226.42	12.0	12.0	2.0-12.0	214.4-204.7
MW-30I	I	BBL	4/4/05	226.69	226.34	30.0	30.0	25.0-30.0	196.7-201.7
MW-30D	D	BBL	4/1/05	226.72	226.37	46.0	46.0	41.0-46.0	180.4-185.4
MW-30T	T	BBL	3/31/05	226.73	226.38	78.0	78.0	68.0-78.0	148.7-158.7

Notes:

1. Monitoring well MW-1 was installed prior to the PSA/IRM investigation activities. No additional well construction information is available.
2. Atlantic = Atlantic Environmental Services, Inc.
3. Parsons = Parsons Engineering Science, Inc.
4. BBL = Blasland, Bouck & Lee, Inc.
5. NA = Not available.
6. ft. AMSL = Feet above mean sea level.
7. ft. bgs = Feet below ground surface.
8. Hydrostratigraphic zone determined based on a review of screened interval and hydraulic conductivity data:

Table 2

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Schenectady (Broadway) Service Center
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Monitoring Well Construction Information Summary

- S = shallow monitoring well
- I = Intermediate monitoring well.
- D = Deep monitoring well.
- T = Till monitoring well.

9. * = Indicates an abandoned monitoring well.

Table 3

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Visual Characterization of Impacted Soil

Boring ID	Depth (ft bgs)	Description
BB-1	1.8 - 3.1	Faint hydrocarbon (HC) odor
	3.1 - 5.5	Moderate HC odor
	5.5 - 6.5	Moderate HC odor, slight HC staining
	6.5 - 8.0	Moderate HC odor, moderate staining, and iridescent sheen
	8.0 - 11.8	Some black HC staining, heavy iridescent HC sheen, strong HC odor
	11.8 - 16.0	Some black HC staining, faint HC odor
	18.0 - 19.5	Faint HC odor, mdoerate black HC staining
BB-4	4.0 - 5.5	Heavy black tar staining, strong tar odor, and iridescent sheen
	5.5 - 6.1	Saturated with yellowish black tar
	7.0 - 9.5	Heavy black tar staining, saturated with tar, heavy iridescent sheen, moderate tar odor
	9.5 - 12.0	Saturated with yellowish black tar, heavy tar staining, strong tar odor
	12.0 - 14.0	Moderate tar odor and moderate black tar staining
	14.0 - 15.5	Saturated with yellowish black tar, strong odor
	15.5 - 16.5	Moderate tar odor, moderate tar staining
	16.5 - 19.5	Faint HC odor
	19.5 - 24.0	Faint HC odor
	27.75 - 28.0	Heavy black staining and faint HC odor
	28.0 - 31.6	Heavy black tar staining, strong tar odor, saturated with yellowish black tar, heavy iridescent sheen
	31.6 - 31.9	Saturated with yellowish black tar, heavy staining, odor and sheen
	31.9 - 34.0	Moderate tar odor, staining, iridescent sheen
	34.0 - 35.5	Saturated with black tar, strong tar odor, and iridescent sheen
	35.5 - 37.0	Moderate tar odor
	37.0 - 42.0	Faint HC odor
	42.0 - 44.0	Heavy purplish black tar stain mottling, strong tar odor, slight iridescent sheen
	45.0 - 46.0	Heavy purplish black tar stain mottling, strong tar odor, slight iridescent sheen
BB-8	4.0 - 6.0	Strong tar odor, heavy tar staining
	6.0 - 8.5	Strong tar odor, heavy tar staining, heavy iridescent sheen, saturated with tar
BB-9	4.0 - 6.5	Very strong HC odor, very heavy HC staining
	6.5 - 8.0	
	8.0 - 10.0	

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Visual Characterization of Impacted Soil

Boring ID	Depth (ft bgs)	Description
BB-11	4.5 - 11.0	Very strong HC odor, heavy HC staining, saturated with yellowish black HC
	12.0 - 14.0	Very strong HC odor, heavy yellowish black HC staining
	14.0 - 16.0	Very strong HC odor, very heavy HC staining, saturated with HC
	16.0 - 20.0	Very strong HC odor, heavy iridescent sheen, saturated with HC
	20.0 - 22.0	HC staining, strong HC odor
	22.0 - 28.0	Moderate HC odor, iridescent HC sheen, lenses of yellowish black HC saturated sediments
	28.0 - 36.0	Strong HC odor, slight iridescent sheen
	36.0 - 42.0	Faint HC odor
B-13	6.0 - 8.0	Strong HC odor, dark gray to black HC staining, sediment saturated with yellowish black HC
	8.0 - 10.0	Some yellowish black HC staining and iridescent sheen, strong HC odor
	10.0 - 12.0	Moderate HC odor, yellowish black HC staining and iridescent sheen, trace lenses of sediment saturated with tar
	12.0 - 14.0	Strong HC odor, some lenses of heavy yellowish black HC sheen and staining
	14.0 - 16.0	Strong HC odor, clay with some partings containing yellowish black HC and iridescent sheen
	16.0 - 20.0	Faint HC odor, yellowish black HC staining and iridescent sheen
	20.0 - 23.5	Strong HC odor, heavy yellowish black HC staining and iridescent sheen
	23.5 - 26.0	Trace black HC staining and iridescent sheen, faint HC odor
	26.0 - 30.0	iridescent HC staining, faint HC odor
BB-14	6.5 - 7.0	Moderate HC odor, heavy iridescent sheen, black HC staining
	8.0 - 10.0	Moderate HC odor, trace strong iridescent sheen
	15.8 - 16.5	Heavy yellowish black HC staining and strong odor, heavy iridescent sheen
	18.0 - 19.0	
	19.0 - 22.0	Clay contains partings with yellowish black HC and iridescent sheen, strong HC odor
	25.0 - 27.0	Yellowish black HC stained, saturated with HC, very strong HC odor, heavy staining and iridescent sheen
BB-15	3.1 - 3.3	Coal and ash cemented with pitch-like solidfied tar
	7.5 - 9.5	Heavy iridescent black staining, strong HC odor, saturated with HC
BB-18	2.0 - 4.0	Moderate HC odor, black stained purifier wood chips
	4.5 - 9.5	Moderate HC odor, some iridescent yellowish black staining
	9.5 - 10.0	Moderate HC odor
	10.0 - 11.0	Saturated with yellowish black iridescent HC
	11.0 - 15.0	Clay contains partings that with yellowish black iridescent HC
	15.0 - 18.5	Strong HC odor, saturated with yellowish black HC, heavy iridescent sheen
	18.5 - 23.0	Clay partings contain yellowish black iridescent HC, strong HC odor, heavy HC staining
	28.0 - 31.5	Saturated with yellowish black iridescent HC, very heavy HC staining, very heavy HC odor
	32.0 - 35.0	Strong HC odor, moderate yellowish black iridescent HC staining

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Visual Characterization of Impacted Soil

Boring ID	Depth (ft bgs)	Description
BB-22	4.0 - 7.0	Some purplish black staining, strong HC odor
	7.0 - 10.0	Heavy purplish black HC staining, v. strng HC odor, sediment sat. with HC at 7' bgs, moderate iridescent sheen
	10.0 - 15.0	Very strong HC odor, saturated with yellowish black HC
	15.0-19.0	Very strong HC odor, all partings filled with yellowish black HC
	19.0 - 21.0	Heavy HC staining, strong HC odor, sediments saturated with HC
	21.0 - 24.0	Slight HC odor and staining
MW-3 (BB-29)	1.5 - 10.0	Strong HC odor, sheen
	10.0 - 11.0	Heavy red stained liquid, strong HC odor, sheen
	16.0 - 21.0	Strong HC odor, heavy red-yellow staining, sheen
	21.0 - 42.0	HC odor, sheen
BB-30	4.0 - 12.0	Strong HC odor, black staining, sheen, red-yellow heavy free phase liquid
	13.5 - 18.0	HC odor, sheen, staining
	18.0 - 20.0	HC odor, yellow-red staining, sheen
	20.0 - 22.0	Sheen, staining
MW-4 (BB-31)	4.0 - 6.0	HC odor, black staining, sheen
	10.0 - 16.0	Strong HC odor, free phase, sheen
	16.0 - 24.0	Strong HC odor, blebs of free phase, sheen
	24.0 - 26.0	Reddish-brown free phase liquid, strong HC odor, sheen
BB-32	6.0 - 20.0	Free phase liquid
	6.0 - 28.0	Sheen, staining
	6.0 - 10.0	Strong HC odor
	12.0 - 17.7	Strong HC odor, sheen, staining
	17.7 - 20.5	Strong HC odor
BB-33	30.5 - 36.0	HC odor, sheen, yellow-red staining
BB-35	0.8 - 10.5	Staining
	2.0 - 10.5	Black free phase liquid
	6.0 - 10.5	Sheen
BB-36	1.5 - 6.0	HC odor, yellow black staining
	2.0 - 12.7	Staining
	10.0 - 16.0	Sheen, free phase liquid
	12.7 - 16.0	HC odor
BB-37	7.0 - 10.0	Black staining, sheen

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Visual Characterization of Impacted Soil

Boring ID	Depth (ft bgs)	Description
BB-38	1.0 - 1.5	Strong HC odor
	6.0 - 8.0	Strong HC odor, staining, free phase liquid
	10.0 - 20.0	Black staining
	20.0 - 25.8	HC odor, sheen, staining
	25.8 - 30.0	HC odor, sheen
BB-40	4.0 - 8.0	Black staining, coal, sheen
BB-41	4.0 - 8.0	Black free phase liquid, staining
	4.0 - 10.0	Sheen
	8.0 - 16.0	HC odor, sheen
BB-44	4.0 - 10.0	Black staining
	6.0 - 10.0	Black staining, sheen
BB-51	0.0 - 0.5	Strong HC odor
	3.5 - 8.5	Free phase liquid
	4.0 - 5.0	Strong HC odor, sheen
BB-55	0.0 - 0.5	HC odor
	2.0 - 2.5	HC odor
	4.0 - 4.5	HC odor, black staining
	6.0 - 6.5	Free phase liquid, sheen
	8.0 - 8.5	Free phase liquid, sheen, black staining
BB-56	4.5 - 9.4	Black staining, sheen
BB-57	6.0 - 8.0	HC odor, sheen
BB-58	2.4	Green-brown staining, slight HC odor
	4.0 - 8.0	Strong HC odor, sheen, free phase liquid
	7.0 - 8.0	Black stained fill, free phase liquid
BB-71	6.0 - 10.5	Oily sheen
BB-85	4.0 - 6.0	Black staining, trace sheen, odor
	8.0 - 8.3	Trace black staining
	10.0 - 10.3	
	14.5 - 14.8	Trace blebs of product in inclusions (<1mm)
BB-86	9.0	Trace sheen
	12.0 - 14.0	Trace staining and sheen
	14.0 - 18.0	Sand seams with staining, sheens, and odor
	19.3 - 19.4	Black staining with sheen and trace product

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Visual Characterization of Impacted Soil

Boring ID	Depth (ft bgs)	Description
MW-20 (BB-87)	6.3 - 6.6	Black flecking/staining
	6.6 - 7.0	Sheen, trace product
	8.0 -9.5	Black flecking, sheen
	9.5 - 10.0	Heavy sheen, trace blebs of product
	10.0 - 12.0	Heavy sheen
	12.0 - 12.3	Trace sheens
	12.3 - 12.9	Heavy black staining
	12.9 - 13.4	Trace black flecking
	14.0 - 16.5	Trace blebs of product
	16.0 - 19.5	Trace to some black flecking/staining and trace blebs of product
	19.5 - 20.0	Sheen, trace blebs of product
	20.0 - 22.5	Sheen
	24.6 - 24.7	Trace flecks of sheen
BB-88	9.5 - 10.0	Sheen, odor
	10.0 -12.0	Little blebs of product and black flecking, sheens
	12.0 - 13.5	Blebs of product, sheens
	13.5 - 16.0	Trace blebs of product
	16.0 - 17.0	Trace black flecking
BB-90	4.0 - 4.5	Staining with strong coal tar odor, sheen present on water
BB-92	0.0 - 2.0	Trace NAPL, strong odor
	2.0 - 2.5	Trace NAPL, odor
BB-108	2.0 - 4.0	Stong petroleum odor, sheen
BB-110	2.0 - 2.5	Strong tar odor
	2.5 - 4.0	Saturated with tar, strong odor
BB-112	1.7 - 3.1	Moderate MGP-type odor
	7.0	Sheen
BB-112B	1.5 - 5.6	Trace to little oil-like material (brownish-black liquid)
BB-113	1.0 - 1.6	Moderate MGP-type odor
	1.6 - 5.0	Trace oil-like material and MGP-type odor
BB-116	8.0 - 10.0	Trace sheen
BB-118	5.0 - 6.0	Trace brown oil-like material, sheen, moderate odor
	8.0 - 10.0	Trace brown oil-like material, little sheen, moderate odor
BB-121	2.0 - 5.0	Black coal tar soaked sand
BB-124	4.9 - 6.7	Trace NAPL
	5.0	Trace light brown to gold NAPL

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Visual Characterization of Impacted Soil

Boring ID	Depth (ft bgs)	Description
BB-125	4.0 - 6.0	Trace NAPL specs, strong coal tar odor
	6.0 - 8.0	Some NAPL, strong coal tar odor
BB-127	6.0 - 8.0	Trace blebs of NAPL
BB-128	1.0 - 4.0	Coal tar streaking on liner, strong odor
BB-129	2.5 - 4.0	Trace thick black tar-like material
BB-131	8.0 - 9.0	Trace sheen, slight odor
BB-132	6.0 - 8.0	Trace bleb of brown oil-like material, trace sheen
BB-134	8.5 - 10.5	Moderate petroleum type odor, heavy sheen
	11.5 - 13.5	Bleb of brown oil-like material, sheen, moderate petroleum-type odor
	16.0 - 18.0	Trace blebs of brown oil-like material
	18.0 - 20.0	Trace reddish-brown oil-like material
BB-135	0.75 - 2.25	Bluish staining, slight to moderate odor
	2.5 - 4.0	Black staining, slight to moderate odor
	7.8 - 10.0	Trace brown oily NAPL
BB-137	8.0 - 8.25	Brown non-viscous oil
	8.4	Brown oil
	8.4 - 10.0	Dark brown oil, strong MGP-like odor
	10.0 - 11.0	Strong MGP-like odor
	12.0 - 13.5	Dark brown oil
	13.5 - 16.0	Black staining, moderate odor
	16.0 - 17.25	Moderate MGP-type odor
	17.25 - 17.5	Dark brown oil, strong odor
	17.5 - 18.5	Moderate odor
	18.5 - 18.75	Dark brown oil
	20.5	
	21.2	
	21.5 - 22.0	Dark brown non-viscous oil
BB-138	0.5 - 4.0	Black stained, black oil
	4.0 - 4.5	Black oil, very strong MGP-like odor
	4.5 - 5.5	Sheen
	8.0 - 12.0	Rainbow sheen, trace blebs of brown oil, very strong odor
	12.0 - 12.5	Black staining, faint MGP-like odor
	12.5 - 13.0	Black staining
	20.0 - 24.75	Faint MGP-like odor

Table 3

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Schenectady (Broadway) Service Center
Schenectady, New York

Visual Characterization of Impacted Soil

Boring ID	Depth (ft bgs)	Description
BB-139	9.0 - 10.0	Black oily staining, NAPL saturated, odor
	10.0 - 12.0	Black NAPL staining
	12.0 - 14.0	Brown NAPL staining, slight odor
	14.0 - 16.0	Brown NAPL staining, sheen, odor
	16.0 - 20.0	Saturated with moderate to heavy sheens
BB-140	10.5 - 12.0	Black staining, MGP odor
	12.0 - 14.0	Black staining, moderate odor
	14.0 - 16.0	Black staining, brown oily sheens, strong odor
	20.0 - 23.0	Staining, odor
	23.0 - 24.0	Black staining, odor
BB-141	17.0 - 18.5	Gray staining, slight odor
	25.25 - 28.0	Slight sheen, MGP odor
BB-142	0.5 - 2.0	Black staining, moderate odor
	1.2	Sticky black tar
	2.6 - 2.8	Dark brown oil
	4.0 - 4.2	Dark brown oil, very strong odor
	4.2 - 6.0	Black taffy-like material
BB-142R	8.0 - 11.5	Heavy staining, strong odor
	11.5 - 12.5	Oily sheen
	12.5 - 14.0	Mottled staining, MGP odor
	14.0 - 16.0	MGP odor
	16.0 - 24.0	Slight odor
	24.0 - 28.0	Heavy sheens, strong MGP odor
BB-143	2.0 - 3.0	Black oily material
	4.0 - 8.0	Black oil
	8.0 - 12.0	Brownish-black oil, strong odor
	12.0 - 16.0	Dark brown non-viscous oil
	16.0 - 16.5	Saturated with dark brown non-viscous oil
	17.0 - 19.0	Sand lenses saturated with oil

Table 3

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Visual Characterization of Impacted Soil

Boring ID	Depth (ft bgs)	Description
BB-144	4.0 - 8.0	Dark brown oil, strong MGP-like odor
	8.0 - 9.25	Dark brown non-viscous oil, strong odor
	9.25 - 9.5	Saturated with dark brown oil, strong odor
	9.5 - 10.25	Dark brown oil
	10.25 - 11.0	Saturated with oil
	11.0 - 13.0	Black mottling, strong odor
	13.0 - 13.75	Dark brown non viscous oil
	13.75 - 16.0	Strong odor
	16.0 - 20.0	Trace dark brown oil
BB-145	6.5 - 8.0	Little sheen, moderate MGP-like odor
	8.0 - 9.0	Faint MGP-like odor
	9.0 - 10.0	Dark brown non-visous oil, strong MGP-like odor
	10.0 - 12.0	Moderate MGP-type odor
	12.0 - 12.8	Dark brown oil in root
	12.8	1-inch sand seam saturated with dark brown oil
	13.2	
	13.2 - 15.4	Black mottling, occasional bleb of dark brown oil
	15.4 - 16.5	Heavy sheen, trace dark brown oil
	16.5 - 20.25	Dark brown oil within sand seams
	23.5 - 24.0	Dark brown oil
	24.8	2-inch fine sand seam with some dark brown oil
	25.75 - 28.0	Dark brown oil
BB-147	5.5 - 7.0	Black staining, odor
	7.0 - 8.0	Black staining, sheens, odor
	8.0 - 10.5	Heavy brown to dark brown oil sheens, MGP odor
	10.5 - 12.0	Black staining, MGP odor
	12.0 - 13.5	Heavy brown to black oily sheen, MGP odor
	13.5 - 14.0	Staining
	16.0 - 18.5	Brown oily sheens and staining, MGP odor
	18.5 - 24.0	Heavy brown oily sheens, strong odor

Table 3

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Visual Characterization of Impacted Soil

Boring ID	Depth (ft bgs)	Description
BB-148	9.5 - 10.5	Heavy oil sheen, strong MGP odor
	10.5 - 12.0	Some oil sheens, MGP odor
	12.0 - 13.0	Oil Sheens and staining, strong MGP odor
	13.0 - 13.4	Blebs of NAPL and heavy sheens, strong odor
	13.4 - 17.0	Minor staining, slight odor
	17.0 - 17.25	Heavy NAPL sheen, strong MGP odor
	17.25 - 19.25	Minor staining
	19.25 - 19.5	NAPL saturated, odor
BB-149	2.5 - 4	Slight to moderate MGP-type odor
	4 - 5	Moderate to strong MGP-type odor some black staining
	5 - 7	Moderate to strong MGP-type odor little black staining
	8	Slight sheen, trace gold oily NAPL
	10 - 11	Moderate sheen, little to some black tar-like NAPL in silt matrix
	11 -15	Strong MGP odor, heavy sheen, some gold oily NAPL
	15 - 16	moderate MGP- odor, trace oily gold NAPL
BB-150	0.5 - 4	Strong motor-oil type odor
	4 - 5	Strong motor-oil type odor, some sheen, oil gold NAPL from 4.6 - 4.8 feet bgs
	5 - 22	Moderate to strong motor-oil type odor, little to some oily gold NAPL
MW-22	8.8 - 10.6	Strong petroleum odor
	10.0 - 14.0	Little to some sheen
MW-25	5.1 - 8.8	Moderate odor
	6.0 - 8.0	Trace sheen
	8.8 - 10.0	Slight odor
	14.9 - 16.0	Slight odor
MW-26	8.9 - 9.1	Little oil-like material, some sheen, odor
	11.0 - 11.5	Black staining

Notes:

1. Impacted material descriptions obtained from soil boring logs prepared by Atlantic Environmental Services, Inc., Parsons Engineering Science, Inc. or Blasland, Bouck & Lee, Inc.
2. HC = Hydrocarbon.
3. NAPL - Non-aqueous phase liquid.

Table 4

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Groundwater Analytical Results for Detected VOCs (ppb)

Sample ID:	Class GA Groundwater Criteria	MW-1				MW-2			MW-3		MW-6S	
Date Collected:		06/20/96	07/31/96	6/11/02	11/5/04	7/23/92	6/20/96	07/31/96	11/11/04	11/11/04 DUP	06/21/96	07/30/96
1,1,1-Trichloroethane	5	19	14	<5	NA	NA	<10	<10	NA	NA	<10	<10
1,1-Dichloroethane	5	4 J	5 J	<5	NA	NA	<10	<10	NA	NA	<10	<10
1,2-Dichloroethane	0.6	<10	<10	<5	NA	NA	<10	<10	NA	NA	<10	<10
2-Hexanone	50	<10	<10	<10	NA	NA	<10	<10	NA	NA	<10	<10
Acetone	50	<10 J	<10	6.4 J	NA	NA	<10 J	<10	NA	NA	<10	<10 J
Benzene	1	220 D	150	150	10	550	500 J	850 D	2,100 D	2,200	5 J	3 J
Bromodichloromethane	50	<10	<10	<5	NA	NA	<10	<10	NA	NA	<10	<10
Chlorobenzene	5	<10	<10	<5	NA	NA	<10	<10	NA	NA	<10	<10
Chloroform	7	<10	<10	<5	NA	NA	<10	<10	NA	NA	<10	<10
Chloromethane	5	<10	<10	3.4 J	NA	NA	<10	<10	NA	NA	<10	<10 J
Ethylbenzene	5	100	3 J	31	1 J	560	370 J	130	660 D	680	22 J	5 J
Methylene chloride	5	<10	<10	2.3 JB	NA	NA	<10	<10	NA	NA	<10	<10 J
Styrene	5	2 JN	<10	1.2 JB	NA	NA	<10	<10	NA	NA	<10	<10
Tetrachloroethene	5	3 J	<10	<5	NA	NA	<10	<10	NA	NA	<10	<10
Toluene	5	30	17	4.8 JB	2 J	39	120	77	18	<200	1 J	<10
Total Xylenes	5	110 D	52	14 J	3 J	500	510 J	360	580 D	570	4 J	<10
Total BTEX	**- -**	**460**	**222 J**	**199.8 J**	**16 J**	**1,649**	**1,500 J**	**1,417**	**3,358**	**3,450**	**32 J**	**8 J**

Sample ID:	Class GA Groundwater Criteria	MW-6S		MW-6I				MW-7				MW-8S
Date Collected:		6/12/02	11/9/04	06/21/96	07/30/96	6/12/02	11/10/04	06/18/96	07/31/96	6/12/02	11/4/04	06/19/96
1,1,1-Trichloroethane	5	<5	NA	<10	<10	<5	NA	<10	<10	<5	NA	<10
1,1-Dichloroethane	5	<5	NA	<10	<10	<5	NA	<10	<10	<5	NA	<10
1,2-Dichloroethane	0.6	3 J	NA	<10	3 J	2.2 J	NA	<10	<10	<5	NA	<10
2-Hexanone	50	<10	NA	<10	<10	<10	NA	<10	<10	<10	NA	<10
Acetone	50	<25	NA	<10	<10	<25	NA	<10	<10	5.1 J	NA	<10
Benzene	1	1.8 J	<10	<10	<10	<5	<10	<10	<10	<5	<10	<10
Bromodichloromethane	50	<5	NA	<10	<10	<5	NA	<10	<10	<5	NA	<10
Chlorobenzene	5	<5	NA	<10	<10	<5	NA	<10	<10	<5	NA	<10
Chloroform	7	<5	NA	1 J	<10	<5	NA	<10	<10	<5	NA	<10
Chloromethane	5	<10	NA	<10	<10	<10	NA	<10	<10	<10	NA	<10
Ethylbenzene	5	<5	<10	<10	<10	<5	<10	<10	<10	<5	<10	<10
Methylene chloride	5	<5	NA	<10	<16	<5	NA	<10	<10	<5	NA	<10
Styrene	5	<5	NA	<10	<10	<5	NA	<10	<10	<5	NA	<10
Tetrachloroethene	5	<5	NA	<10	<10	<5	NA	<10	<10	<5	NA	<10
Toluene	5	1 J	<10	<10	<10	<5	<10	<10	<10	<5	<10	<10
Total Xylenes	5	<15	<10	<10	<10	<15	<10	<10	<10	<15	<10	<10
Total BTEX	**- -**	**2.8 J**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

Table 4

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Groundwater Analytical Results for Detected VOCs (ppb)

Sample ID:	Class GA Groundwater Criteria	MW-8S			MW-8I					MW-8D		
Date Collected:		07/31/96	6/12/02	11/9/04	06/19/96	07/31/96	6/12/02	08/11/04	11/9/04	06/19/96	07/31/96	6/12/02
1,1,1-Trichloroethane	5	<10	<5	<5	<10	<10	<5	NA	NA	<10	<10	<5
1,1-Dichloroethane	5	<10	<5	<5	<10	<10	<5	NA	NA	<10	<10	<5
1,2-Dichloroethane	0.6	<10	<5	<5	<10	<10	<5	NA	NA	1 JN	<10	<5
2-Hexanone	50	<10	<10	<10	<10	<10	<10	NA	NA	<10	<10	<10
Acetone	50	<10	<25	<25	<10	<10	<25	NA	NA	<10	<10	<25
Benzene	1	<10	<5	<10	1,000 D	110	26	49	530 D	<10	<10	<5
Bromodichloromethane	50	<10	<5	<5	<10	<10	<5	NA	NA	<10	<10	<5
Chlorobenzene	5	<10	<5	<5	<10	<10	<5	NA	NA	<10	<10	<5
Chloroform	7	<10	<5	<5	<10	<10	<5	NA	NA	<10	<10	<5
Chloromethane	5	<10	<10	<10	<10	<10	<10	NA	NA	<10	<10	<10
Ethylbenzene	5	<10	<5	<10	410 D	<10	2.1 J	3 J	49	<10	<10	<5
Methylene chloride	5	<10	<5	<5	<10	<10	<5	NA	NA	<10	<10	<5
Styrene	5	<10	<5	<5	<10	<10	<5	NA	NA	<10	<10	<5
Tetrachloroethene	5	<10	<5	<5	<10	<10	<5	NA	NA	<10	<10	<5
Toluene	5	<10	<5	<10	1 J	<10	<5	< 10	0.8 J	<10	<10	<5
Total Xylenes	5	<10	<15	<10	24	3 J	<15	2 J	9 J	<10	<10	<15
Total BTEX	**- -**	**ND**	**ND**	**ND**	**1,435 J**	**113 J**	**28.1 J**	**54 J**	**588.8 J**	**ND**	**ND**	**ND**

Sample ID:	Class GA Groundwater Criteria	MW-8D		MW-9S					MW-9I			
Date Collected:		8/11/04	11/9/04	06/20/96	07/31/96	6/13/02	1/12/05	1/12/05 DUP	06/20/96	08/01/96	6/13/02	6/13/02 DUP
1,1,1-Trichloroethane	5	NA	NA	<10	<10	<5	NA	NA	<10	<10	<5	<5
1,1-Dichloroethane	5	NA	NA	<10	<10	<5	NA	NA	<10	<10	<5	<5
1,2-Dichloroethane	0.6	NA	NA	<10	<10	<5	NA	NA	<10	<10	<5	<5
2-Hexanone	50	NA	NA	<10	<10	<10	NA	NA	<10	<10	<10	<10
Acetone	50	NA	NA	<10	<10	<25	NA	NA	<10	<10	<25	<25
Benzene	1	< 10	<10	10	3 J	20	5 J	5 J	6 J	5 J	9.2	9.4
Bromodichloromethane	50	NA	NA	<10	<10	<5	NA	NA	<10	<10	<5	<5
Chlorobenzene	5	NA	NA	<10	<10	<5	NA	NA	<10	<10	<5	<5
Chloroform	7	NA	NA	<10	<10	<5	NA	NA	<10	<10	<5	<5
Chloromethane	5	NA	NA	<10	<10	<10	NA	NA	<10	<10	<10	<10
Ethylbenzene	5	< 10	<10	360 D	83	870 D	110	100	190	57	140	140 D
Methylene chloride	5	NA	NA	<10	<10	3.4 JB	NA	NA	<10	<10	2.7 JB	2.2 JB
Styrene	5	NA	NA	<10	<10	<5	NA	NA	<10	<10	<5	<5
Tetrachloroethene	5	NA	NA	<10	<10	<5	NA	NA	<10	<10	<5	<5
Toluene	5	< 10	<10	16	2 J	38 B	2 J	2 J	3 J	2 J	3 JB	2.8 JB
Total Xylenes	5	< 10	<10	780 D	240	2,900 D	270	270	540 D	210	560 D	590 D
Total BTEX	**- -**	**ND**	**ND**	**1,166**	**328 J**	**3,828**	**387 J**	**377 J**	**739 J**	**274 J**	**712.2 J**	**742.2 J**

Table 4

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Groundwater Analytical Results for Detected VOCs (ppb)

Sample ID:	Class GA Groundwater Criteria	MW-9I	MW-9D				MW-10					MW-11
Date Collected:		1/12/05	06/20/96	08/01/96	6/13/02	1/12/05	06/20/96	07/31/96	6/13/02	6/13/02 DUP	1/12/05	06/19/96
1,1,1-Trichloroethane	5	NA	<10	<10	<5	NA	<10	<10	<5	<5	NA	<10
1,1-Dichloroethane	5	NA	<10	<10	<5	NA	<10	<10	<5	<5	NA	<10
1,2-Dichloroethane	0.6	NA	<10	<10	<5	NA	<10	<10	<5	<5	NA	<10
2-Hexanone	50	NA	<10	<10	<10	NA	<10	<10	<10	<10	NA	<10
Acetone	50	NA	<10 J	<10	<25	NA	<10 J	<10	<25	<25	NA	<10
Benzene	1	4 J	15	27	20	18	<10	<10	<5	<5	<10	<10
Bromodichloromethane	50	NA	1 J	<10	<5	NA	<10	<10	<5	<5	NA	<10
Chlorobenzene	5	NA	<10	<10	<5	NA	<10	<10	<5	<5	NA	<10
Chloroform	7	NA	3 D	<10	<5	NA	<10	<10	<5	<5	NA	<10
Chloromethane	5	NA	<10	<10 J	<10	NA	<10	<10	<10	<10	NA	<10
Ethylbenzene	5	81	<10	<10	<5	<10	<10	<10	<5	<5	<10	<10
Methylene chloride	5	NA	<10	<10	2.6 JB	NA	<10	<10	3.9 JB	2.2 JB	NA	<10
Styrene	5	NA	<10	<10	<5	NA	<10	<10	<5	<5	NA	<10
Tetrachloroethene	5	NA	<10	<10	<5	NA	<10	<10	<5	<5	NA	<10
Toluene	5	1 J	<10	<10	<5	<10	<10	<10	<5	<5	<10	<10
Total Xylenes	5	520 D	2 J	2 J	1.2 J	<10	<10	<10	<15	<15	<10	<10
Total BTEX	**- -**	**606 J**	**17 J**	**29 J**	**21.2 J**	**18**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**

Sample ID:	Class GA Groundwater Criteria	MW-11			MW-12				MW-13S/MW-13SR			
Date Collected:		07/31/96	6/12/02	11/1/04	06/19/96	07/31/96	6/12/02	11/2/04	06/18/96	07/30/96	6/11/02	11/4/04
1,1,1-Trichloroethane	5	<10	<5	NA	<10	<10	<5	NA	<10	<10	<5	NA
1,1-Dichloroethane	5	<10	<5	NA	<10	<10	<5	NA	<10	<10	<5	NA
1,2-Dichloroethane	0.6	<10	<5	NA	<10	<10	<5	NA	<10	<10	<5	NA
2-Hexanone	50	<10	<10	NA	<10	<10	<10	NA	<10	<10	<10	NA
Acetone	50	<10	6.1 J	NA	<10	<10	6.8 J	NA	<10	<10	6.2 J	NA
Benzene	1	<10	<5	<10	<10	<10	<5	<10	<10	<10	<5	5 J
Bromodichloromethane	50	<10	<5	NA	<10	<10	<5	NA	<10	<10	<5	NA
Chlorobenzene	5	<10	<5	NA	<10	<10	<5	NA	<10	<10	<5	NA
Chloroform	7	<10	<5	NA	<10	<10	<5	NA	<10	<10	<5	NA
Chloromethane	5	<10	<10	NA	<10	<10	<10	NA	<10	<10	<10	NA
Ethylbenzene	5	<10	<5	<10	<10	<10	<5	<10	<10	<10	<5	2 J
Methylene chloride	5	<10	<5	NA	<10	<10	<5	NA	<10	<10	2.8 JB	NA
Styrene	5	<10	<5	NA	<10	<10	<5	NA	<10	<10	<5	NA
Tetrachloroethene	5	<10	<5	NA	<10	<10	<5	NA	<10	<10	<5	NA
Toluene	5	<10	<5	<10	<10	<10	<5	<10	<10	<10	<5	<10
Total Xylenes	5	<10	<15	<10	<10	<10	<15	<10	<10	<10	<15	1 J
Total BTEX	**- -**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**8 J**

Table 4

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Groundwater Analytical Results for Detected VOCs (ppb)

Sample ID:	Class GA Groundwater Criteria	MW-13P					MW-13I				MW-14S	
Date Collected:		06/18/96	07/30/96	6/11/02	11/2/04	11/2/04 DUP	06/18/96	07/30/96	6/11/02	11/2/04	06/18/96	07/30/96
1,1,1-Trichloroethane	5	<10	<10	<5	NA	NA	<10	<10	<5	NA	<10	<10
1,1-Dichloroethane	5	<10	<10	<5	NA	NA	<10	<10	<5	NA	<10	<10
1,2-Dichloroethane	0.6	<10	<10	<5	NA	NA	<10	<10	<5	NA	<10	<10
2-Hexanone	50	<10	<10	<10	NA	NA	<10	<10	<10	NA	<10	<10
Acetone	50	<10	<10 J	5.7 J	NA	NA	<10	<10 J	7.3 J	NA	<10	<10
Benzene	1	7 J	6 J	<5	<10	<10	<10	<10	9.2	5 J	<10	<10
Bromodichloromethane	50	<10	<10	<5	NA	NA	<10	<10	<5	NA	<10	<10
Chlorobenzene	5	<10	<10	<5	NA	NA	<10	<10	<5	NA	<10	<10
Chloroform	7	<10	<10	<5	NA	NA	<10	<10	<5	NA	<10	<10
Chloromethane	5	<10 J	<10 J	<10	NA	NA	<10 J	<10 J	<10	NA	<10 J	<10
Ethylbenzene	5	<10	<10	<5	<10	<10	<10	<10	<5	<10	<10	<10
Methylene chloride	5	<10 J	<10 J	2.6 JB	NA	NA	<10 J	<10 J	2.2 JB	NA	<10 J	<14 J
Styrene	5	<10	<10	<5	NA	NA	<10	<10	<5	NA	<10	<10
Tetrachloroethene	5	<10	<10	<5	NA	NA	<10	<10	<5	NA	<10	<10
Toluene	5	<10	<10	<5	<10	<10	<10	<10	1 J	<10	<10	<10
Total Xylenes	5	<10	<10	<15	<10	<10	<10	<10	<15	<10	<10	<10
Total BTEX	**- -**	**7 J**	**6 J**	**ND**	**ND**	**ND**	**ND**	**ND**	**10.2 J**	**5 J**	**ND**	**ND**

Sample ID:	Class GA Groundwater Criteria	MW-14S		MW-14P				MW-14I				MW-15S
Date Collected:		6/11/02	11/3/04	06/18/96	07/30/96	6/11/02	11/3/04	06/18/96	07/30/96	6/11/02	11/3/04	06/19/96
1,1,1-Trichloroethane	5	<5	NA	<10	<10	<5	NA	<10	<10	<5	NA	<10
1,1-Dichloroethane	5	<5	NA	<10	<10	<5	NA	<10	<10	<5	NA	<10
1,2-Dichloroethane	0.6	<5	NA	<10	<10	<5	NA	<10	<10	<5	NA	<10
2-Hexanone	50	<10	NA	<10	<10	<10	NA	<10	<10	<10	NA	<10
Acetone	50	<25	NA	<10	<10	7.4 J	NA	<10	<10	7.8 J	NA	<10
Benzene	1	<5	<10	<10	<10	<5	<10	<10	<10	<5	<10	<10
Bromodichloromethane	50	<5	NA	<10	<10	<5	NA	<10	<10	<5	NA	<10
Chlorobenzene	5	<5	NA	<10	<10	<5	NA	<10	<10	<5	NA	<10
Chloroform	7	<5	NA	<10	<10	<5	NA	<10	<10	<5	NA	<10
Chloromethane	5	2.4 J	NA	<10	<10	<10	NA	<10	<10	<10	NA	<10
Ethylbenzene	5	<5	<10	<10	<10	<5	<10	<10	<10	<5	<10	<10
Methylene chloride	5	3.5 JB	NA	<10	<10	3.1 JB	NA	<10	<10	2.8 JB	NA	<10
Styrene	5	<5	NA	<10	<10	<5	NA	<10	<10	<5	NA	<10
Tetrachloroethene	5	<5	NA	<10	<10	<5	NA	<10	<10	<5	NA	<10
Toluene	5	<5	<10	<10	<10	<5	<10	<10	<10	<5	<10	<10
Total Xylenes	5	<15	<10	<10	<10	<15	<10	<10	<10	<15	<10	<10
Total BTEX	**- -**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

Table 4

National Grid
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Groundwater Analytical Results for Detected VOCs (ppb)

Sample ID:	Class GA	MW-15S			MW-15I				MW-16		MW-17	
Date Collected:		07/31/96	6/12/02	11/9/04	06/19/96	07/31/96	6/12/02	11/9/04	06/21/96	08/01/96	06/20/96	07/30/96
1,1,1-Trichloroethane	5	<10	<5	NA	<10	<10	<5	NA	<10	<10	<10	<10
1,1-Dichloroethane	5	<10	2.2 J	NA	<10	<10	<5	NA	<10	<10	<10	<10
1,2-Dichloroethane	0.6	<10	<5	NA	<10	<10	<5	NA	<10	<10	<10	<10
2-Hexanone	50	<10	<10	NA	<10	<10	<10	NA	<10	<10	<10	<10
Acetone	50	<10	<25	NA	<10	<10	<25	NA	<10	<10	<10 J	<10
Benzene	1	<10	<5	<10	<10	<10	<5	<10	110	110	8 J	5 J
Bromodichloromethane	50	<10	<5	NA	<10	<10	<5	NA	<10	<10	<10	<10
Chlorobenzene	5	<10	<5	NA	<10	<10	<5	NA	<10	<10	<10	4 J
Chloroform	7	<10	<5	NA	<10	<10	<5	NA	<10	<10	<10	<10
Chloromethane	5	<10	<10	NA	<10	<10	<10	NA	<10	<10 J	<10	<10
Ethylbenzene	5	<10	<5	<10	<10	<10	<5	<10	630 D	350 D	430 D	95
Methylene chloride	5	<10	<5	NA	<10	<10	<5	NA	<10	<10	<10	<10
Styrene	5	<10	<5	NA	<10	<10	<5	NA	<10	<10	<10	<10
Tetrachloroethene	5	<10	<5	NA	<10	<10	<5	NA	<10	<10	<10	<10
Toluene	5	<10	<5	<10	<10	<10	<5	<10	18	18	8 J	4 J
Total Xylenes	5	<10	<15	<10	<10	<10	<15	<10	320	280	180	20
Total BTEX	**- -**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**1,078**	**758**	**626 J**	**124 J**

Sample ID:	Class GA Groundwater Criteria	MW-17	MW-18			MW-19S				MW-19I		
Date Collected:		11/5/04	06/20/96	07/31/96	6/11/02	06/19/96	07/30/96	6/11/02	11/3/04	06/19/96	07/30/96	6/11/02
1,1,1-Trichloroethane	5	NA	<10	<500	<5	<10	<10	<5	NA	<10	<10	<5
1,1-Dichloroethane	5	NA	<10	<500	<5	<10	<10	<5	NA	<10	<10	<5
1,2-Dichloroethane	0.6	NA	<10	<500	<5	<10	<10	<5	NA	<10	<10	<5
2-Hexanone	50	NA	<10	<500	40	<10	<10	<10	NA	<10	<10	<10
Acetone	50	NA	<10 J	<500	300	<10	<10	<25	NA	<10	<10	<25
Benzene	1	9 J	8,000 D	4,600 D	2,800 D	<10	<10	<5	<10	<10	<10	<5
Bromodichloromethane	50	NA	<10	<500	<5	<10	<10	<5	NA	<10	<10	<5
Chlorobenzene	5	NA	<10	<500	<5	<10	<10	<5	NA	<10	<10	<5
Chloroform	7	NA	<10	<500	<5	<10	<10	<5	NA	<10	<10	<5
Chloromethane	5	NA	<10	<500	<10	<10	<10	<10	NA	<10	<10	<10
Ethylbenzene	5	390 D	1,800 D	1,500 D	990 D	<10	<10	<5	<10	<10	<10	<5
Methylene chloride	5	NA	54	<430	<5	<10	<10	2 JB	NA	<10	<10	3.3 JB
Styrene	5	NA	<10	<500	<5	<10	<10	<5	NA	<10	<10	<5
Tetrachloroethene	5	NA	<10	<500	<5	<10	<10	<5	NA	<10	<10	<5
Toluene	5	6 J	3,100 D	3,000 D	470 D	<10	<10	<5	<10	<10	<10	<5
Total Xylenes	5	70	7,800 D	8,300 D	2,900 D	<10	<10	<15	<10	<10	<10	<15
Total BTEX	**- -**	**475 J**	**20,700 D**	**17,400 D**	**7,160 D**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

Table 4

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Groundwater Analytical Results for Detected VOCs (ppb)

Sample ID:	Class GA	MW-19I	MW-19D				MW-20	MW-21	MW-22	MW-23	MW-24	MW-25
Date Collected:		11/3/04	06/19/96	07/30/96	6/11/02	11/3/04	6/13/02	11/12/04	11/10/04	11/08/04	11/04/04	11/01/04
1,1,1-Trichloroethane	5	NA	<10	<10	<5	NA	<5	NA	NA	NA	NA	NA
1,1-Dichloroethane	5	NA	<10	<10	<5	NA	<5	NA	NA	NA	NA	NA
1,2-Dichloroethane	0.6	NA	<10	<10	<5	NA	<5	NA	NA	NA	NA	NA
2-Hexanone	50	NA	<10	<10	<10	NA	<10	NA	NA	NA	NA	NA
Acetone	50	NA	<10	<10	<25	NA	<25	NA	NA	NA	NA	NA
Benzene	1	<10	<10	<10	<5	<10	2,300 D	220 D	2 J	6,700 D	200	1,400 D
Bromodichloromethane	50	NA	<10	<10	<5	NA	<5	NA	NA	NA	NA	NA
Chlorobenzene	5	NA	<10	<10	<5	NA	<5	NA	NA	NA	NA	NA
Chloroform	7	NA	<10	<10	<5	NA	<5	NA	NA	NA	NA	NA
Chloromethane	5	NA	<10	<10	3.3 J	NA	<10	NA	NA	NA	NA	NA
Ethylbenzene	5	<10	<10	<10	<5	<10	940 D	320 D	2 J	2,100 D	5 J	650 D
Methylene chloride	5	NA	<10	<10	3.7 JB	NA	3.4 JB	NA	NA	NA	NA	NA
Styrene	5	NA	<10	<10	<5	NA	<5	NA	NA	NA	NA	NA
Tetrachloroethene	5	NA	<10	<10	<5	NA	<5	NA	NA	NA	NA	NA
Toluene	5	<10	<10	<10	<5	<10	59 B	110	2 J	330 JD	2 J	14
Total Xylenes	5	<10	<10	<10	<15	<10	1,000 D	400	3 J	4,400 D	5 J	180
Total BTEX	**- -**	**ND**	**ND**	**ND**	**ND**	**ND**	**4,299**	**1,050**	**9 J**	**13,530 JD**	**212 J**	**2,244**

Sample ID:	Class GA Groundwater Criteria	MW-26	MW-27S	MW-27D
Date Collected:		11/08/04	11/04/04	11/04/04
1,1,1-Trichloroethane	5	NA	NA	NA
1,1-Dichloroethane	5	NA	NA	NA
1,2-Dichloroethane	0.6	NA	NA	NA
2-Hexanone	50	NA	NA	NA
Acetone	50	NA	NA	NA
Benzene	1	69	<10	<10
Bromodichloromethane	50	NA	NA	NA
Chlorobenzene	5	NA	NA	NA
Chloroform	7	NA	NA	NA
Chloromethane	5	NA	NA	NA
Ethylbenzene	5	830 D	<10	<10
Methylene chloride	5	NA	NA	NA
Styrene	5	NA	NA	NA
Tetrachloroethene	5	NA	NA	NA
Toluene	5	41	<10	<10
Total Xylenes	5	840 D	<10	<10
Total BTEX	**- -**	**1,780**	**ND**	**ND**

Table 4

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Groundwater Analytical Results for Detected VOCs (ppb)

Notes:

1. Samples were collected by Atlantic Environmental Services during 1992; Parsons Engineering Science between 1994 and 1997; and Blasland, Bouck & Lee, Inc. between 2001 and 2005.
2. VOCs = volatile organic compounds.
3. Laboratory analysis was conducted by Energy and Environmental Engineering, Inc. for samples collected during 1992; Nytest Environmental, Inc. located in Port Washington, New York for samples collected during 1996; Severn Trent Laboratories, Inc. located in Amherst, New York for samples collected during 2002 and by CompuChem located in Cary, North Carolina for samples collected during 2004.
4. Samples were analyzed for VOCs using USEPA SW-846 Method 8260.
5. NYSDEC Class GA Standards/Guidance Values from New York State Department of Environmental Conservation (NYSDEC) document entitled, "Division of Water, Technical and Operational Guidance Series (TOGS 1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations" (NYSDEC, reissued June 1998 and addended April 2000).
6. Concentrations reported in micrograms per liter (µg/L) or parts per billion (ppb).
7. < = Compound was not detected at a concentration exceeding the presented laboratory detection limit.
8. ND = Compound was not detected at a concentration exceeding laboratory detection limits.
9. NA = Not Analyzed.
10. J = Indicates an estimated concentration. Presented concentration is less than the method detection limit but greater than the instrument detection limit.
11. B = Indicates that the compound was detected in the laboratory sample as well as the associated laboratory blank.
12. D = Indicates that the presented concentration is based on the analysis of a diluted sample.
13. Shaded values indicate that the compound was detected at a concentration greater than or equal to the NYSDEC Class GA (groundwater) standard or guidance value presented in TOGS 1.1.1.
14. Monitoring wells MW-16 and MW-17 were not able to be located during the 2002 sampling event, and therefore, were not sampled.
15. -- = Indicates that a Class GA water quality standard or guidance value was not available for this compound.

Table 5

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Groundwater Analytical Results for Detected SVOCs (ppb)

Sample ID:	**Class GA Groundwater Criteria**	**MW-1**				**MW-2**			**MW-3**	
Date Collected:		**6/20/96**	**7/31/96**	**6/11/02**	**11/5/04**	**7/23/92**	**6/20/96**	**7/31/96**	**11/11/04**	**11/11/04 DUP**
1,3-Dichlorobenzene	3	<10	<10	NA	NA	NA	<10	<10	NA	NA
1,4-Dichlorobenzene	3	<10	<10	NA	NA	NA	<10	<10	NA	NA
2,4-Dimethylphenol	50	67 J	<10	NA	NA	NA	700 JD	2000 D	NA	NA
2-Methyl phenol	- -	8 J	<10	NA	NA	NA	360 JD	940 D	NA	NA
2-Methylnaphthalene	- -	22	<10	<10	<10	NA	44	7 J	360 D	350 D
4-Methyl phenol	- -	3 J	<10	NA	NA	NA	240 JD	710 D	NA	NA
Acenaphthene	20	74	<10	4 J	4 J	43	82	65	120	140
Acenaphthylene	- -	7 J	6 J	3 J	<10	12	<10	5 J	8 J	7 J
Anthracene	50	10 J	2 J	1 J	<10	8	6 J	7 J	22	24
Benzo(a)anthracene	0.002	3 J	3 J	0.7 J	<10	2 J	2 J	1 J	8 J	7 J
Benzo(a)pyrene	ND	2 J	4 J	1 J	<10	1 J	1 J	1 J	7 J	6 J
Benzo(b)fluoranthene	0.002	1 J	2 J	0.6 J	<10	<5	<10	<10	3 J	3 J
Benzo(ghi)perylene	- -	<10	4 J	3 J	<10	<5	<10	<10	4 J	3 J
Benzo(k)fluoranthene	0.002	<10	2 J	<10	<10	<5	<10	<10	4 J	3 J
bis(2-Ethylhexyl)phthalate	5	<10	<10	NA	NA	NA	<10	<10	NA	NA
Carbazole	- -	4 J	<10	NA	NA	NA	53	45	NA	NA
Chrysene	0.002	3 J	3 J	0.6 J	<10	2 J	2 J	1 J	8 J	7 J
Dibenzo(a,h)anthracene	- -	<10	<10	<10	<10	<5	<10	<10	<10	<10
Dibenzofuran	- -	<10	<10	NA	NA	NA	22	17	NA	NA
Diethylphthalate	50	<10	<10	NA	NA	NA	<10	<10	NA	NA
Di-n-Octylphthalate	50	<10	<10	NA	NA	NA	<10	<10	NA	NA
Fluoranthene	50	9 J	3 J	<1	<10	7	7 J	6 J	18	18
Fluorene	50	33	<10	<10	<10	22	22	26	47	54
Indeno(1,2,3-cd)pyrene	0.002	<10	2 J	2 J	<10	<5	<10	<10	3 J	2 J
Naphthalene	10	500 D	2 JN	<10	<10	<5	1600 D	66 JD	1500 D	1500 D
Phenanthrene	50	47	2 J	<10	<10	37	32	6 J	78	88
Phenol	1	8 J	4 J	NA	NA	NA	360 J	300 JD	NA	NA
Pyrene	50	11	6 J	<1	<10	6	6 J	6 J	27	27
Total PAHs	**- -**	**722 J**	**41 J**	**15.9 J**	**4 J**	**122**	**1,804 J**	**197 J**	**2,217 J**	**2,239 J**

Table 5

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Groundwater Analytical Results for Detected SVOCs (ppb)

Sample ID:		**MW-6S**				**MW-6I**			
Date Collected:	**Class GA Groundwater Criteria**	**6/21/96**	**7/30/96**	**6/12/02**	**11/9/04**	**6/21/96**	**7/30/96**	**6/12/02**	**11/10/04**
1,3-Dichlorobenzene	3	<10	<10	NA	NA	<10	<10	NA	NA
1,4-Dichlorobenzene	3	<10	<10	NA	NA	<10	<10	NA	NA
2,4-Dimethylphenol	50	<10	<10	NA	NA	<10	<10	NA	NA
2-Methyl phenol	- -	<10	<10	NA	NA	<10	<10	NA	NA
2-Methylnaphthalene	- -	<10	<10	<10	NA	<10	<10	<10	<10
4-Methyl phenol	- -	<10	<10	NA	NA	<10	<10	NA	NA
Acenaphthene	20	<10	<10	<10	<10	<10	<10	<10	<10
Acenaphthylene	- -	<10	<10	<10	<10	<10	<10	<10	<10
Anthracene	50	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(a)anthracene	0.002	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(a)pyrene	ND	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(b)fluoranthene	0.002	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(ghi)perylene	- -	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(k)fluoranthene	0.002	<10	<10	<10	<10	<10	<10	<10	<10
bis(2-Ethylhexyl)phthalate	5	<10	<10	NA	NA	<10	<10	NA	NA
Carbazole	- -	<10	<10	NA	NA	<10	<10	NA	NA
Chrysene	0.002	<10	<10	<10	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	- -	<10	<10	<10	<10	<10	<10	<10	<10
Dibenzofuran	- -	<10	<10	NA	NA	<10	<10	NA	NA
Diethylphthalate	50	2 J	<10	NA	NA	1 J	<10	NA	NA
Di-n-Octylphthalate	50	<10	<10	NA	NA	<10	<10	NA	NA
Fluoranthene	50	<10	<10	<10	<10	<10	<10	<10	<10
Fluorene	50	<10	<10	<10	<10	<10	<10	<10	<10
Indeno(1,2,3-cd)pyrene	0.002	<10	<10	<10	<10	<10	<10	<10	<10
Naphthalene	10	2 J	<10	2 J	<10	<10	<10	<10	<10
Phenanthrene	50	<10	<10	<10	<10	<10	<10	<10	<10
Phenol	1	<10	<10	NA	NA	<10	<10	NA	NA
Pyrene	50	<10	<10	<10	<10	<10	<10	<10	<10
Total PAHs	**- -**	**2 J**	**ND**	**2 J**	**ND**	**ND**	**ND**	**ND**	**ND**

Table 5

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Groundwater Analytical Results for Detected SVOCs (ppb)

Sample ID:	Class GA Groundwater Criteria	MW-7				MW-8S			
Date Collected:		6/18/96	7/31/96	6/12/02	11/4/04	6/19/96	7/31/96	6/12/02	11/9/04
1,3-Dichlorobenzene	3	<10	<10	NA	NA	<10	<10	NA	NA
1,4-Dichlorobenzene	3	<10	<10	NA	NA	<10	<10	NA	NA
2,4-Dimethylphenol	50	<10	<10	NA	NA	<10	<10	NA	NA
2-Methyl phenol	- -	<10	<10	NA	NA	<10	<10	NA	NA
2-Methylnaphthalene	- -	<10	<10	<10	<10	<10	<10	<10	<10
4-Methyl phenol	- -	<10	<10	NA	NA	<10	<10	NA	NA
Acenaphthene	20	<10	<10	<10	<10	<10	<10	<10	<10
Acenaphthylene	- -	<10	<10	<10	<10	<10	<10	<10	<10
Anthracene	50	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(a)anthracene	0.002	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(a)pyrene	ND	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(b)fluoranthene	0.002	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(ghi)perylene	- -	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(k)fluoranthene	0.002	<10	<10	<10	<10	<10	<10	<10	<10
bis(2-Ethylhexyl)phthalate	5	<10	<10	NA	NA	<10	<10	NA	NA
Carbazole	- -	<10	<10	NA	NA	<10	<10	NA	NA
Chrysene	0.002	<10	<10	<10	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	- -	<10	<10	<10	<10	<10	<10	<10	<10
Dibenzofuran	- -	<10	<10	NA	NA	<10	<10	NA	NA
Diethylphthalate	50	<10	<10	NA	NA	2 JN	<10	NA	NA
Di-n-Octylphthalate	50	<10	<10	NA	NA	<10	<10	NA	NA
Fluoranthene	50	<10	<10	<10	<10	<10	<10	<10	<10
Fluorene	50	<10	<10	<10	<10	<10	<10	<10	<10
Indeno(1,2,3-cd)pyrene	0.002	<10	<10	<10	<10	<10	<10	<10	<10
Naphthalene	10	<10	<10	<10	<10	<10	<10	<10	<10
Phenanthrene	50	<10	<10	<10	<10	<10	<10	<10	<10
Phenol	1	<10	<10	NA	NA	<10	<10	NA	NA
Pyrene	50	<10	<10	<10	<10	<10	<10	<10	<10
Total PAHs	**- -**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

Table 5

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Groundwater Analytical Results for Detected SVOCs (ppb)

Sample ID:	Class GA Groundwater Criteria	MW-8I					MW-8D				
Date Collected:		6/19/96	7/31/96	6/12/02	8/11/04	11/9/04	6/19/96	7/31/96	6/12/02	8/11/04	11/9/04
1,3-Dichlorobenzene	3	<10	<11	NA	NA	NA	<10	<10	NA	NA	NA
1,4-Dichlorobenzene	3	<10	<11	NA	NA	NA	<10	<10	NA	NA	NA
2,4-Dimethylphenol	50	<10	<11	NA	NA	NA	<10 J	<10	NA	NA	NA
2-Methyl phenol	- -	<10	<11	NA	NA	NA	<10	<10	NA	NA	NA
2-Methylnaphthalene	- -	<10	<11	2 J	NA	13	150 JD	<10	<9	NA	<10
4-Methyl phenol	- -	<10	<11	NA	NA	NA	<10	<10	NA	NA	NA
Acenaphthene	20	<10	2 J	20	46	31	110 JD	<10	0.7 J	< 10	<10
Acenaphthylene	- -	<10	<6	<10	< 10	<10	<10	<10	<9	< 10	<10
Anthracene	50	<10	<11	0.7 J	< 10	<10	<10	<10	<9	< 10	<10
Benzo(a)anthracene	0.002	<10	<11	<10	< 10	<10	<10	<10	<9	< 10	<10
Benzo(a)pyrene	ND	<10	<11	<10	< 10	<10	<10 J	<10	<9	< 10	<10
Benzo(b)fluoranthene	0.002	<10	<11	<10	< 10	<10	<10 J	<10	<9	< 10	<10
Benzo(ghi)perylene	- -	<10	<11	<10	< 10	<10	<10 J	<10	<9	< 10	<10
Benzo(k)fluoranthene	0.002	<10	<11	<10	< 10	<10	<10 J	<10	<9	< 10	<10
bis(2-Ethylhexyl)phthalate	5	<10	<11	NA	NA	NA	<10	<10	NA	NA	NA
Carbazole	- -	<10	<11	NA	NA	NA	<10	<10	NA	NA	NA
Chrysene	0.002	<10	<11	<10	< 10	<10	<10	<10	<9	< 10	<10
Dibenzo(a,h)anthracene	- -	<10	<11	<10	< 10	<10	<10 J	<10	<9	< 10	<10
Dibenzofuran	- -	<10	<11	NA	NA	NA	6 J	<10	NA	NA	NA
Diethylphthalate	50	1 J	<11	NA	NA	NA	<10	<10	NA	NA	NA
Di-n-Octylphthalate	50	<10	<11	NA	NA	NA	<10 J	<10	NA	NA	NA
Fluoranthene	50	<10	<11	<10	< 10	<10	<10	<10	<9	< 10	<10
Fluorene	50	<10	<11	4 J	10	6 J	32	<10	<9	< 10	<10
Indeno(1,2,3-cd)pyrene	0.002	<10	<11	<10	< 10	<10	<10 J	<10	<9	< 10	<10
Naphthalene	10	<10	<2	0.9 J	2 J	11	1800 D	<10	<9	< 10	<10
Phenanthrene	50	<10	<11	0.7 J	< 10	<10	2 JN	<10	<9	< 10	<10
Phenol	1	<10	<10	NA	NA	NA	<10	<10	NA	NA	NA
Pyrene	50	<10	<11	<10	< 10	<10	<10	<10	<9	< 10	<10
Total PAHs	**- -**	**ND**	**2 J**	**28.3 J**	**58 J**	**61 J**	**2,094 J**	**ND**	**0.7 J**	**ND**	**ND**

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Groundwater Analytical Results for Detected SVOCs (ppb)

Sample ID:		**MW-9S**					**MW-9I**				
Date Collected:	**Class GA Groundwater Criteria**	**6/20/96**	**7/31/96**	**6/13/02**	**1/12/05**	**1/12/05 DUP**	**6/20/96**	**8/1/96**	**6/13/02**	**6/13/02 DUP**	**1/12/05**
1,3-Dichlorobenzene	3	<10	<10	NA	NA	NA	<10	<10	NA	NA	NA
1,4-Dichlorobenzene	3	<10	<10	NA	NA	NA	<10	<10	NA	NA	NA
2,4-Dimethylphenol	50	<10	5 J	NA	NA	NA	<10	<10	NA	NA	NA
2-Methyl phenol	- -	<10	<10	NA	NA	NA	<10	<10	NA	NA	NA
2-Methylnaphthalene	- -	<10	<10	2 J	<10	<10	<10	<10	<10	<10	<10
4-Methyl phenol	- -	<10	<10	NA	NA	NA	<10	<10	NA	NA	NA
Acenaphthene	20	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Acenaphthylene	- -	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Anthracene	50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(a)anthracene	0.002	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(a)pyrene	ND	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(b)fluoranthene	0.002	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(ghi)perylene	- -	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(k)fluoranthene	0.002	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
bis(2-Ethylhexyl)phthalate	5	<10	<10	NA	NA	NA	<10	<10	NA	NA	NA
Carbazole	- -	<10	<10	NA	NA	NA	<10	<10	NA	NA	NA
Chrysene	0.002	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	- -	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Dibenzofuran	- -	<10	<10	NA	NA	NA	<10	<10	NA	NA	NA
Diethylphthalate	50	<10	<10	NA	NA	NA	<10	<10	NA	NA	NA
Di-n-Octylphthalate	50	<10	<10	NA	NA	NA	<10	<10	NA	NA	NA
Fluoranthene	50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Fluorene	50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Indeno(1,2,3-cd)pyrene	0.002	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Naphthalene	10	140 D	130 D	450 D	100 J	68	79	<37	110	100	52
Phenanthrene	50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Phenol	1	<10	<10	NA	NA	NA	<10	<10	NA	NA	NA
Pyrene	50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Total PAHs	**- -**	**140 D**	**130 D**	**452 J**	**100 J**	**68**	**79**	**ND**	**110**	**100**	**52**

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Groundwater Analytical Results for Detected SVOCs (ppb)

Sample ID:	Class GA Groundwater Criteria	MW-9D				MW-10				
Date Collected:		6/20/96	8/1/96	6/13/02	1/12/05	6/20/96	7/31/96	6/13/02	6/13/02 DUP	1/12/05
1,3-Dichlorobenzene	3	<10	<11	NA	NA	<10	<10	NA	NA	NA
1,4-Dichlorobenzene	3	<10	<11	NA	NA	<10	<10	NA	NA	NA
2,4-Dimethylphenol	50	<10	<11	NA	NA	<10	<10	NA	NA	NA
2-Methyl phenol	- -	<10	<11	NA	NA	<10	<10	NA	NA	NA
2-Methylnaphthalene	- -	<10	<11	<10	<10	<10	<10	<10	<10	<10
4-Methyl phenol	- -	<10	<11	NA	NA	<10	<10	NA	NA	NA
Acenaphthene	20	<10	<11	<10	<10	<10	<10	<10	<10	<10
Acenaphthylene	- -	<10	<11	<10	<10	<10	<10	<10	<10	<10
Anthracene	50	<10	<11	<10	<10	<10	<10	<10	<10	<10
Benzo(a)anthracene	0.002	<10	<11	<10	<10	<10	<10	<10	<10	<10
Benzo(a)pyrene	ND	<10	<11	<10	<10	<10	<10	<10	<10	<10
Benzo(b)fluoranthene	0.002	<10	<11	<10	<10	<10	<10	<10	<10	<10
Benzo(ghi)perylene	- -	<10	<11	<10	<10	<10	<10	<10	<10	<10
Benzo(k)fluoranthene	0.002	<10	<11	<10	<10	<10	<10	<10	<10	<10
bis(2-Ethylhexyl)phthalate	5	<10	<11	NA	NA	<10	<10	NA	NA	NA
Carbazole	- -	<10	<11	NA	NA	<10	<10	NA	NA	NA
Chrysene	0.002	<10	<11	<10	<10	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	- -	<10	<11	<10	<10	<10	<10	<10	<10	<10
Dibenzofuran	- -	<10	<11	NA	NA	<10	<10	NA	NA	NA
Diethylphthalate	50	<10	<11	NA	NA	<10	<10	NA	NA	NA
Di-n-Octylphthalate	50	<10	<11	NA	NA	<10	<10	NA	NA	NA
Fluoranthene	50	<10	<11	<10	<10	<10	<10	<10	<10	<10
Fluorene	50	<10	<11	<10	<10	<10	<10	<10	<10	<10
Indeno(1,2,3-cd)pyrene	0.002	<10	<11	<10	<10	<10	<10	<10	<10	<10
Naphthalene	10	<10	<11	<10	<10	<10	<10	<10	<10	<10
Phenanthrene	50	<10	<11	<10	<10	<10	<10	<10	<10	<10
Phenol	1	<10	<11	NA	NA	<10	<10	NA	NA	NA
Pyrene	50	<10	<11	<10	<10	<10	<10	<10	<10	<10
Total PAHs	**- -**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

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Groundwater Analytical Results for Detected SVOCs (ppb)

Sample ID:	Class GA Groundwater Criteria	MW-11				MW-12			
Date Collected:		6/19/96	7/31/96	6/12/02	11/1/04	6/19/96	7/31/96	6/12/02	11/2/04
1,3-Dichlorobenzene	3	<10	<11	NA	NA	<10	<10	NA	NA
1,4-Dichlorobenzene	3	<10	<11	NA	NA	<10	<10	NA	NA
2,4-Dimethylphenol	50	<10	<11	NA	NA	<10	<10	NA	NA
2-Methyl phenol	- -	<10	<11	NA	NA	<10	<10	NA	NA
2-Methylnaphthalene	- -	<10	<11	<10	NA	<10	<10	<10	NA
4-Methyl phenol	- -	<10	<11	NA	NA	<10	<10	NA	NA
Acenaphthene	20	<10	<11	<10	<10	<10	<10	<10	<10
Acenaphthylene	- -	<10	<11	<10	<10	<10	<10	<10	<10
Anthracene	50	<10	<11	<10	<10	<10	<10	<10	<10
Benzo(a)anthracene	0.002	<10	<11	<10	<10	<10	<10	<10	<10
Benzo(a)pyrene	ND	<10	<11	<10	<10	<10	<10	<10	<10
Benzo(b)fluoranthene	0.002	<10	<11	<10	<10	<10	<10	<10	<10
Benzo(ghi)perylene	- -	<10	<11	<10	<10	<10	<10	<10	<10
Benzo(k)fluoranthene	0.002	<10	<11	<10	<10	<10	<10	<10	<10
bis(2-Ethylhexyl)phthalate	5	<10	<11	NA	NA	<10	<10	NA	NA
Carbazole	- -	<10	<11	NA	NA	<10	<10	NA	NA
Chrysene	0.002	<10	<11	<10	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	- -	<10	<11	<10	<10	<10	<10	<10	<10
Dibenzofuran	- -	<10	<11	NA	NA	<10	<10	NA	NA
Diethylphthalate	50	<10	<10	NA	NA	<10	<10	NA	NA
Di-n-Octylphthalate	50	<10	1 J	NA	NA	<10	1 J	NA	NA
Fluoranthene	50	<10	<11	<10	<10	<10	<10	<10	<10
Fluorene	50	<10	<11	<10	<10	<10	<10	<10	<10
Indeno(1,2,3-cd)pyrene	0.002	<10	<11	<10	<10	<10	<10	<10	<10
Naphthalene	10	<10	<11	<10	<10	<10	<10	<10	<10
Phenanthrene	50	<10	<11	<10	<10	<10	<10	<10	<10
Phenol	1	<10	<11	NA	NA	<10	<10	NA	NA
Pyrene	50	<10	<11	<10	<10	<10	<10	<10	<10
Total PAHs	**- -**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

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Groundwater Analytical Results for Detected SVOCs (ppb)

Sample ID:	**Class GA Groundwater Criteria**	**MW-13S**				**MW-13P**				
Date Collected:		**6/18/96**	**7/30/96**	**6/11/02**	**11/4/04**	**6/18/96**	**7/30/96**	**6/11/02**	**11/1/04**	**11/1/04 DUP**
1,3-Dichlorobenzene	3	<10	<10	NA	NA	<10	<10	NA	NA	NA
1,4-Dichlorobenzene	3	<10	<10	NA	NA	<10	<10	NA	NA	NA
2,4-Dimethylphenol	50	<10	<10	NA	NA	<10	<10	NA	NA	NA
2-Methyl phenol	- -	<10	<10	NA	NA	<10	<10	NA	NA	NA
2-Methylnaphthalene	- -	<10	<10	<10	<10	<10	<10	<10	NA	NA
4-Methyl phenol	- -	<10	<10	NA	NA	<10	<10	NA	NA	NA
Acenaphthene	20	<10	<10	<10	2 J	20	33 J	<10	<10	21
Acenaphthylene	- -	<10	<10	<10	<10	5 J	8 J	<10	<10	7 J
Anthracene	50	<10	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(a)anthracene	0.002	<10	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(a)pyrene	ND	<10	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(b)fluoranthene	0.002	<10	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(ghi)perylene	- -	<10	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(k)fluoranthene	0.002	<10	<10	<10	<10	<10	<10	<10	<10	<10
bis(2-Ethylhexyl)phthalate	5	<10	<10	NA	NA	<10	<10	NA	NA	NA
Carbazole	- -	<10	<10	NA	NA	<10	1 J	NA	NA	NA
Chrysene	0.002	<10	<10	<10	<10	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	- -	<10	<10	<10	<10	<10	<10	<10	<10	<10
Dibenzofuran	- -	<10	<10	NA	NA	<10	<10	NA	NA	NA
Diethylphthalate	50	<10	<10	NA	NA	2 J	<10	NA	NA	NA
Di-n-Octylphthalate	50	<10	<10	NA	NA	<10	<10	NA	NA	NA
Fluoranthene	50	<10	<10	<10	<10	<10	<10	<10	<10	<10
Fluorene	50	<10	<10	<10	<10	3 J	8 J	<10	<10	<10
Indeno(1,2,3-cd)pyrene	0.002	<10	<10	<10	<10	<10	<10	<10	<10	<10
Naphthalene	10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Phenanthrene	50	<10	<10	<10	<10	<10	2 J	<10	<10	<10
Phenol	1	<10	<10	NA	NA	<10	<10	NA	NA	NA
Pyrene	50	<10	<10	<10	<10	<10	<10	<10	<10	<10
Total PAHs	**- -**	**ND**	**ND**	**ND**	**2 J**	**28 J**	**51 J**	**ND**	**ND**	**28 J**

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Groundwater Analytical Results for Detected SVOCs (ppb)

Sample ID:	Class GA Groundwater Criteria	MW-13I				MW-14S			
Date Collected:		**6/18/96**	**7/30/96**	**6/11/02**	**11/1/04**	**6/18/96**	**7/30/96**	**6/11/02**	**11/3/04**
1,3-Dichlorobenzene	3	<10	<10	NA	NA	<10	<10	NA	NA
1,4-Dichlorobenzene	3	<10	<10	NA	NA	<10	<10	NA	NA
2,4-Dimethylphenol	50	<10	<10	NA	NA	<10	<10	NA	NA
2-Methyl phenol	- -	<10	<10	NA	NA	<10	<10	NA	NA
2-Methylnaphthalene	- -	<10	<10	<10	NA	<10	<10	<10	NA
4-Methyl phenol	- -	<10	<10	NA	NA	<10	<10	NA	NA
Acenaphthene	20	<10	<10	26	21	<10	<10	<10	<10
Acenaphthylene	- -	<10	<10	8 J	7 J	<10	<10	<10	<10
Anthracene	50	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(a)anthracene	0.002	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(a)pyrene	ND	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(b)fluoranthene	0.002	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(ghi)perylene	- -	<10	<10	<10	<10	<10	<10	<10	<10
Benzo(k)fluoranthene	0.002	<10	<10	<10	<10	<10	<10	<10	<10
bis(2-Ethylhexyl)phthalate	5	<10	<10	NA	NA	<10	<10	NA	NA
Carbazole	- -	<10	<10	NA	NA	<10	<10	NA	NA
Chrysene	0.002	<10	<10	<10	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	- -	<10	<10	<10	<10	<10	<10	<10	<10
Dibenzofuran	- -	<10	<10	NA	NA	<10	<10	NA	NA
Diethylphthalate	50	<10	<10	NA	NA	10 J	<10	NA	NA
Di-n-Octylphthalate	50	<10	<10	NA	NA	<10	<10	NA	NA
Fluoranthene	50	<10	<10	<10	<10	<10	<10	<10	<10
Fluorene	50	<10	<10	2 J	<10	<10	<10	<10	<10
Indeno(1,2,3-cd)pyrene	0.002	<10	<10	<10	<10	<10	<10	<10	<10
Naphthalene	10	<10	<10	<10	<10	<10	<10	<10	<10
Phenanthrene	50	<10	<10	<10	<10	<10	<10	<10	<10
Phenol	1	<10	<10	NA	NA	<10	<10	NA	NA
Pyrene	50	<10	<10	<10	<10	<10	<10	<10	<10
Total PAHs	**- -**	**ND**	**ND**	**36 J**	**28 J**	**ND**	**ND**	**ND**	**ND**

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Groundwater Analytical Results for Detected SVOCs (ppb)

Sample ID:		MW-14P				MW-14I			
Date Collected:	Class GA Groundwater Criteria	6/18/96	7/30/96	6/11/02	11/3/04	6/18/96	7/30/96	6/11/02	11/3/04
1,3-Dichlorobenzene	3	<10	<10	NA	NA	<10	<20	NA	NA
1,4-Dichlorobenzene	3	<10	<10	NA	NA	<10	<20	NA	NA
2,4-Dimethylphenol	50	<10	<10	NA	NA	<10	<20	NA	NA
2-Methyl phenol	- -	<10	<10	NA	NA	<10	<20	NA	NA
2-Methylnaphthalene	- -	<10	<10	<10	NA	<10	<20	<10	NA
4-Methyl phenol	- -	<10	<10	NA	NA	<10	<20	NA	NA
Acenaphthene	20	<20	<10	<10	<10	<10	<20	<10	<10
Acenaphthylene	- -	5 J	<10	<10	<10	<10	<20	<10	<10
Anthracene	50	<10	<10	<10	<10	<10	<20	<10	<10
Benzo(a)anthracene	0.002	<10	<10	<10	<10	<10	<20	<10	<10
Benzo(a)pyrene	ND	<10	<10	<10	<10	<10	<20	<10	<10
Benzo(b)fluoranthene	0.002	<10	<10	<10	<10	<10	<20	<10	<10
Benzo(ghi)perylene	- -	<10	<10	<10	<10	<10	<20	<10	<10
Benzo(k)fluoranthene	0.002	<10	<10	<10	<10	<10	<20	<10	<10
bis(2-Ethylhexyl)phthalate	5	<10	<10	NA	NA	<10	<20	NA	NA
Carbazole	- -	<10	<10	NA	NA	<10	<20	NA	NA
Chrysene	0.002	<10	<10	<10	<10	<10	<20	<10	<10
Dibenzo(a,h)anthracene	- -	<10	<10	<10	<10	<10	<20	<10	<10
Dibenzofuran	- -	<10	<10	NA	NA	<10	<20	NA	NA
Diethylphthalate	50	2 J	<10	NA	NA	2 J	<20	NA	NA
Di-n-Octylphthalate	50	<10	<10	NA	NA	<10	<20	NA	NA
Fluoranthene	50	<10	<10	<10	<10	<10	<20	<10	<10
Fluorene	50	3 J	<10	<10	<10	<10	<20	<10	<10
Indeno(1,2,3-cd)pyrene	0.002	<10	<10	<10	<10	<10	<20	<10	<10
Naphthalene	10	<10	<10	<10	<10	<10	<20	<10	<10
Phenanthrene	50	<10	<10	<10	<10	<10	<20	<10	<10
Phenol	1	<10	<10	NA	NA	46	66 J	NA	NA
Pyrene	50	<10	<10	<10	<10	<10	<20	<10	<10
Total PAHs	**- -**	**8 J**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

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Groundwater Analytical Results for Detected SVOCs (ppb)

Sample ID:		**MW-15S**				**MW-15I**			
Date Collected:	**Class GA Groundwater Criteria**	**6/19/96**	**7/31/96**	**6/12/02**	**11/9/04**	**6/19/96**	**7/31/96**	**6/12/02**	**11/9/04**
1,3-Dichlorobenzene	3	<10	<11	NA	NA	<10	<10	NA	NA
1,4-Dichlorobenzene	3	<10	<11	NA	NA	<10	<10	NA	NA
2,4-Dimethylphenol	50	<10	<11	NA	NA	<10	<10	NA	NA
2-Methyl phenol	- -	<10	<11	NA	NA	<10	<10	NA	NA
2-Methylnaphthalene	- -	<10	<11	<10	NA	<10	<10	<10	NA
4-Methyl phenol	- -	<10	<11	NA	NA	<10	<10	NA	NA
Acenaphthene	20	<10	<11	<10	<10	<10	<10	<10	<10
Acenaphthylene	- -	<10	<11	<10	<10	<10	<10	<10	<10
Anthracene	50	<10	<11	<10	<10	<10	<10	<10	<10
Benzo(a)anthracene	0.002	<10	<11	<10	<10	<10	<10	<10	<10
Benzo(a)pyrene	ND	<10	<11	<10	<10	<10	<10	<10	<10
Benzo(b)fluoranthene	0.002	<10	<11	<10	<10	<10	<10	<10	<10
Benzo(ghi)perylene	- -	<10	<11	<10	<10	<10	<10	<10	<10
Benzo(k)fluoranthene	0.002	<10	<11	<10	<10	<10	<10	<10	<10
bis(2-Ethylhexyl)phthalate	5	<10	<11	NA	NA	<10	<10	NA	NA
Carbazole	- -	<10	<11	NA	NA	<10	<10	NA	NA
Chrysene	0.002	<10	<11	<10	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	- -	<10	<11	<10	<10	<10	<10	<10	<10
Dibenzofuran	- -	<10	<11	NA	NA	<10	<10	NA	NA
Diethylphthalate	50	<10	<10	NA	NA	<10	<10	NA	NA
Di-n-Octylphthalate	50	<10	<11	NA	NA	<10	<10	NA	NA
Fluoranthene	50	<10	<11	<10	<10	<10	<10	<10	<10
Fluorene	50	<10	<11	<10	<10	<10	<10	<10	<10
Indeno(1,2,3-cd)pyrene	0.002	<10	<11	<10	<10	<10	<10	<10	<10
Naphthalene	10	<10	<11	<10	<10	<10	<10	<10	<10
Phenanthrene	50	<10	<11	<10	<10	<10	<10	<10	<10
Phenol	1	<10	<11	NA	NA	<10	<10	NA	NA
Pyrene	50	<10	<11	<10	<10	<10	<10	<10	<10
Total PAHs	**- -**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**

Table 5

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Groundwater Analytical Results for Detected SVOCs (ppb)

Sample ID:		MW-17			MW-18			MW-19S			
Date Collected:	Class GA Groundwater Criteria	6/20/96	7/30/96	11/5/04	6/20/96	7/31/96	6/11/02	6/19/96	7/30/96	6/11/02	11/3/04
1,3-Dichlorobenzene	3	1 J	2 J	NA	<10	<10	NA	<10	<10	NA	NA
1,4-Dichlorobenzene	3	<10	3 J	NA	<10	<10	NA	<10	<10	NA	NA
2,4-Dimethylphenol	50	<10 J	12	NA	<10 J	62	NA	<10	<10	NA	NA
2-Methyl phenol	- -	<10	<10	NA	31	57	NA	<10	<10	NA	NA
2-Methylnaphthalene	- -	1 J	<10	<10	130 JD	140 J	39 J	<10	<10	<10	NA
4-Methyl phenol	- -	<10	<10	NA	67	94 JD	NA	<10	<10	NA	NA
Acenaphthene	20	5 J	4 J	5 J	37	24	15 J	<10	<10	<10	<10
Acenaphthylene	- -	<10	<10	<10	5 J	6 J	<100	<10	<10	<10	<10
Anthracene	50	<10	<10	<10	6 JN	5 J	<100	<10	<10	<10	<10
Benzo(a)anthracene	0.002	<10	<10	<10	1 J	1 J	<100	<10	<10	<10	<10
Benzo(a)pyrene	ND	<10	<10	<10	<10	<10	<100	<10	<10	<10	<10
Benzo(b)fluoranthene	0.002	<10	<10	<10	<10	<10	<100	<10	<10	<10	<10
Benzo(ghi)perylene	- -	<10	<10	<10	<10	<10	<100	<10	<10	<10	<10
Benzo(k)fluoranthene	0.002	<10	<10	<10	<10	<10	<100	<10	<10	<10	<10
bis(2-Ethylhexyl)phthalate	5	<10	<10	NA	64	83	NA	<10	<10	NA	NA
Carbazole	- -	<10	<10	NA	10 J	9 J	NA	<10	<10	NA	NA
Chrysene	0.002	<10	<10	<10	1 J	1 J	<100	<10	<10	<10	<10
Dibenzo(a,h)anthracene	- -	<10	<10	<10	<10	<10	<100	<10	<10	<10	<10
Dibenzofuran	- -	<10	<10	NA	<10	3 J	NA	<10	<10	NA	NA
Diethylphthalate	50	<10	<10	NA	<10	<10	NA	<10	<10	NA	NA
Di-n-Octylphthalate	50	<10	<10	NA	<10	<10	NA	<10	<10	NA	NA
Fluoranthene	50	<10	<10	<10	3 J	3 J	<100	<10	<10	<10	<10
Fluorene	50	<10	<10	<10	18	16	<100	10 J	<10	<10	<10
Indeno(1,2,3-cd)pyrene	0.002	<10	<10	<10	<10	<10	<100	<10	<10	<10	<10
Naphthalene	10	110 D	24	81	2,000 D	750 D	520	<10	<10	<10	<10
Phenanthrene	50	<10	<10	<10	19	18	16 J	<10	<10	<10	<10
Phenol	1	<10	<10	NA	<10	380 D	NA	<10	<10	NA	NA
Pyrene	50	<10	<10	<10	4 J	4 J	6 J	<10	<10	<10	<10
Total PAHs	**- -**	**116 J**	**28 J**	**86 J**	**2,224 J**	**968 J**	**596 J**	**10 J**	**ND**	**ND**	**ND**

Table 5

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Groundwater Analytical Results for Detected SVOCs (ppb)

Sample ID:		**MW-19I**				**MW-19D**			
Date Collected:	**Class GA Groundwater Criteria**	**6/19/96**	**7/30/96**	**6/11/02**	**11/3/04**	**6/19/96**	**7/30/96**	**6/11/02**	**11/3/04**
1,3-Dichlorobenzene	3	<11	<10	NA	NA	<10	<10	NA	NA
1,4-Dichlorobenzene	3	<11	<10	NA	NA	<10	<10	NA	NA
2,4-Dimethylphenol	50	<11	<10	NA	NA	<10	<10	NA	NA
2-Methyl phenol	- -	<11	<10	NA	NA	<10	<10	NA	NA
2-Methylnaphthalene	- -	<11	<10	<10	NA	<10	<10	<10	NA
4-Methyl phenol	- -	<11	<10	NA	NA	<10	<10	NA	NA
Acenaphthene	20	<11	<10	<10	<10	<10	<10	<10	<10
Acenaphthylene	- -	<11	<10	<10	<10	<10	<10	<10	<10
Anthracene	50	<11	<10	<10	<10	<10	<10	<10	<10
Benzo(a)anthracene	0.002	<11	<10	<10	<10	<10	<10	<10	<10
Benzo(a)pyrene	ND	<11	<10	<10	<10	<10	<10	<10	<10
Benzo(b)fluoranthene	0.002	<11	<10	<10	<10	<10	<10	<10	<10
Benzo(ghi)perylene	- -	<11	<10	<10	<10	<10	<10	<10	<10
Benzo(k)fluoranthene	0.002	<11	<10	<10	<10	<10	<10	<10	<10
bis(2-Ethylhexyl)phthalate	5	<11	<10	NA	NA	<10	<10	NA	NA
Carbazole	- -	<11	<10	NA	NA	<10	<10	NA	NA
Chrysene	0.002	<11	<10	<10	<10	<10	<10	<10	<10
Dibenzo(a,h)anthracene	- -	<11	<10	<10	<10	<10	<10	<10	<10
Dibenzofuran	- -	<11	<10	NA	NA	<10	<10	NA	NA
Diethylphthalate	50	<11	<10	NA	NA	<10	<10	NA	NA
Di-n-Octylphthalate	50	<11	<10	NA	NA	<10	<10	NA	NA
Fluoranthene	50	<11	<10	<10	<10	<10	<10	<10	<10
Fluorene	50	<11	<10	<10	<10	10 J	<10	<10	<10
Indeno(1,2,3-cd)pyrene	0.002	<11	<10	<10	<10	<10	<10	<10	<10
Naphthalene	10	<11	<10	<10	<10	<10	<10	<10	<10
Phenanthrene	50	<11	<10	<10	<10	<10	<10	<10	<10
Phenol	1	19	<10	NA	NA	<10	<10	NA	NA
Pyrene	50	<11	<10	<10	<10	<10	<10	<10	<10
Total PAHs	**- -**	**ND**	**ND**	**ND**	**ND**	**10 J**	**ND**	**ND**	**ND**

Table 5

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Groundwater Analytical Results for Detected SVOCs (ppb)

Sample ID:	Class GA Groundwater Criteria	MW-20	MW-21	MW-22	MW-23	MW-24	MW-25
Date Collected:		6/13/02	11/12/04	11/10/04	11/8/04	11/4/04	11/1/04
1,3-Dichlorobenzene	3	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	3	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	50	NA	NA	NA	NA	NA	NA
2-Methyl phenol	- -	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	- -	380 D	250 D	<10	NA	24	NA
4-Methyl phenol	- -	NA	NA	NA	NA	NA	NA
Acenaphthene	20	140	280 D	78	26 J	32	45 J
Acenaphthylene	- -	11	44	42	<40	16	<120
Anthracene	50	19	52	6 J	<40	8 J	<120
Benzo(a)anthracene	0.002	6 J	28	<10	<40	<10	<120
Benzo(a)pyrene	ND	4 J	23	<10	<40	<10	<120
Benzo(b)fluoranthene	0.002	2 J	14	<10	<40	<10	<120
Benzo(ghi)perylene	- -	2 J	14	<10	<40	<10	<120
Benzo(k)fluoranthene	0.002	2 J	17	<10	<40	<10	<120
bis(2-Ethylhexyl)phthalate	5	NA	NA	NA	NA	NA	NA
Carbazole	- -	NA	NA	NA	NA	NA	NA
Chrysene	0.002	6 J	24	<10	<40	<10	<120
Dibenzo(a,h)anthracene	- -	0.6 J	3 J	<10	<40	<10	<120
Dibenzofuran	- -	NA	NA	NA	NA	NA	NA
Diethylphthalate	50	NA	NA	NA	NA	NA	NA
Di-n-Octylphthalate	50	NA	NA	NA	NA	NA	NA
Fluoranthene	50	12	80	<10	<40	3 J	<120
Fluorene	50	66	88	34	11 J	39	<120
Indeno(1,2,3-cd)pyrene	0.002	1 J	15	<10	<40	<10	<120
Naphthalene	10	2,500 D	2,200 D	110	480	86	1,700
Phenanthrene	50	84	290 D	21	14 J	33	<120
Phenol	1	NA	NA	NA	NA	NA	NA
Pyrene	50	18	78	2 J	<40	3 J	<120
Total PAHs	**- -**	**3,253.6 J**	**3,500 J**	**293 J**	**531 J**	**244 J**	**1,745 J**

Table 5

Niagara Mohawk, a National Grid Company
Schenectady (Broadway) Service Center
Schenectady, New York

Groundwater Analytical Results for Detected SVOCs (ppb)

Sample ID:	**Class GA Groundwater Criteria**	**MW-26**	**MW-27S**	**MW-27D**
Date Collected:		**11/8/04**	**11/4/04**	**11/4/04**
1,3-Dichlorobenzene	3	NA	NA	NA
1,4-Dichlorobenzene	3	NA	NA	NA
2,4-Dimethylphenol	50	NA	NA	NA
2-Methyl phenol	- -	NA	NA	NA
2-Methylnaphthalene	- -	NA	<10	<10
4-Methyl phenol	- -	NA	NA	NA
Acenaphthene	20	270 J	<10	<10
Acenaphthylene	- -	<500	<10	<10
Anthracene	50	<500	<10	<10
Benzo(a)anthracene	0.002	<500	<10	<10
Benzo(a)pyrene	ND	<500	<10	<10
Benzo(b)fluoranthene	0.002	<500	<10	<10
Benzo(ghi)perylene	- -	<500	<10	<10
Benzo(k)fluoranthene	0.002	<500	<10	<10
bis(2-Ethylhexyl)phthalate	5	NA	NA	NA
Carbazole	- -	NA	NA	NA
Chrysene	0.002	<500	<10	<10
Dibenzo(a,h)anthracene	- -	<500	<10	<10
Dibenzofuran	- -	NA	NA	NA
Diethylphthalate	50	NA	NA	NA
Di-n-Octylphthalate	50	NA	NA	NA
Fluoranthene	50	<500	3 J	<10
Fluorene	50	<500	<10	<10
Indeno(1,2,3-cd)pyrene	0.002	<500	<10	<10
Naphthalene	10	5,900	<10	<10
Phenanthrene	50	110 J	<10	<10
Phenol	1	NA	NA	NA
Pyrene	50	<500	2 J	<10
Total PAHs	**- -**	**6,280 J**	**5 J**	**<10**

Table 5

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Groundwater Analytical Results for Detected SVOCs (ppb)

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc. on the dates indicated.
2. SVOCs = semi-volatile organic compounds.
3. Laboratory analysis was conducted by Severn Trent Laboratories, Inc. located in Amherst, New York for samples collected during 2002 and by CompuChem located in Cary, North Carolina for samples collected during 2004.
4. Samples were analyzed for SVOCs using USEPA SW-846 Method 8270.
5. NYSDEC Class GA Standards/Guidance Values from New York State Department of Environmental Conservation (NYSDEC) document entitled, "Division of Water, Technical and Operational Guidance Series (TOGS 1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations" (NYSDEC, reissued June 1998 and addended April 2000).
6. Concentrations reported in micrograms per liter (µg/L) or parts per billion (ppb).
7. ND = Compound was not detected at a concentration exceeding laboratory detection limits.
8. NA = Not Analyzed.
9. < = Compound was not detected at a concentration exceeding the presented laboratory detection limit.
10. J = Indicates an estimated concentration. Presented concentration is less than the method detection limit but greater than the instrument detection limit.
11. D = Indicates that the presented concentration is based on the analysis of a diluted sample.
12. Shaded values indicate that the compound was detected at a concentration greater than or equal to the NYSDEC Class GA (groundwater) standard or guidance value presented in TOGS 1.1.1.
13. Monitoring wells MW-16 and MW-17 were not able to be located during the 2002 sampling event, and therefore, were not sampled.

Table 6

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Groundwater Analytical Results for Total Cyanide (ppb)

Sample ID	Date Collected	Total Cyanide
MW-1	6/11/02	220
MW-6S	6/12/02	1,100
MW-6I	6/12/02	18
MW-7	6/12/02	<10
MW-8S	6/12/02	<10
MW-8I	6/12/02	<10
MW-8D	6/12/02	42
MW-9S	6/13/02	<10
MW-9I	6/13/02	<10
	6/13/02 DUP	<10
MW-9D	6/13/02	<10
MW-10	6/13/02	<10
	6/13/02 DUP	<10
MW-11	6/12/02	<10
MW-12	6/12/02	<10
MW-13S	6/11/02	29
MW-13P	6/11/02	<10
MW-13I	6/11/02	580
MW-14S	6/11/02	<10
MW-14P	6/11/02	<10
MW-14I	6/11/02	<10
MW-15S	6/12/02	<10
MW-15I	6/12/02	<10
MW-18	6/11/02	720
MW-19S	6/11/02	<10
MW-19I	6/11/02	<10
MW-19D	6/11/02	<10
MW-20	6/13/02	240

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc. on the dates indicated.
2. Laboratory analysis was conducted by Severn Trent Laboratories, Inc. located in Amherst, New York.
3. Samples were analyzed for total cyanide using USEPA SW-846 Method 9010.
4. Concentrations reported in micrograms per liter (µg/L) or parts per billion (ppb).
5. < = Indicates that cyanide was not detected at a concentration exceeding the presented laboratory detection limit.
6. J = Indicates an estimated concentration. Presented concentration is less than the method detection limit but greater than the instrument detection limit.
7. Shaded value indicates that cyanide was detected at a concentration exceeding the 200 ppb Class GA Ambient Water Quality Standard presented in the New York State Department of Environmental Conservation (NYSDEC) document entitled, "Division of Water, Technical and Operational Guidance Series (TOGS 1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations" (NYSDEC, reissued June 1998 and addended April 2000).
8. Monitoring wells MW-16 and MW-17 were not able to be located during the 2002 sampling event, and therefore, were not sampled.

Table 7

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

LNAPL Monitoring Summary

Monitoring Well ID	Depth to LNAPL (feet TOC) / LNAPL Thickness (feet)								
	June 2001	July/August 2001	September 2001	October 2001	November 2001	December 2001	June 2002	November 2004	Jaunary 2005
MW-2	NM	5.80/0.02	6.18/0.20	6.65/0.02	6.79/0.09	6.71/0.08	NM	NM	NM
MW-3	8.58/Sheen	9.75/0.15	10.68/2.27	NP	NP	NP	NP	9.35/0.01	9.53/trace
MW-4	NP	10.92/2.11	12.10/0.85	12.71/1.18	13.01/0.81	13.39/0.56	9.49/1.07	NM	NM
MW-5	4.42/Sheen	5.80/0.02	NP	NP	NP	NP	NP	NM	NM
MW-20	NM	NM	NM	NM	NM	NM	NM	6.05/0.01	5.77/0.83
MW-21	NM	NM	NM	NM	NM	NM	NM	5.90/0.51	*

Notes:

1. Monitoring activities were conducted by Blasland, Bouck & Lee, Inc. (BBL) on June 13, 2001; July 31, 2001; August 1, 2001; September 6 and 7, 2001; October 9, 2001; November 6, 2001; and December 6, 2001, November 11, 2004; and January 12, 2005.
2. Depth to LNAPL measurements were obtained using an oil/water interface probe and are referenced to a surveyed mark on the top of the PVC well casing.
3. LNAPL thickness was calculated based on the difference between the measured depth to LNAPL and the measured depth to water.
4. NM = Not measured.
5. NP = No product observed.
6. Feet TOC = Depth measured from top of casing.
7. LNAPL = Light non-aqueous phase liquid.
8. * - Measuring tape covered in gold oily NAPL, intermittant signal. No measurable thickness.

Table 8

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

DNAPL Monitoring Summary

Monitoring Well ID	Construction Depth of Well (feet TOC)	Depth to DNAPL (feet TOC) / DNAPL Thickness (feet)								
		June 2001	July/August 2001	September 2001	October 2001	November 2001	December 2001	June 2002	November 2004	January 2005
MW-2	14.00	NM	NP	NP	NP	NP	NP	NM	NM	NM
MW-3	24.16	15.60/8.40*	24.15/0.01	24.08/0.08	NP	NP	NP	NP	NP	NP
MW-4	20.30	13.00/3.00*	NP	NP	NP	NP	NP	NP	NM	NM
MW-5	19.70	16.00/1.26	NP	13.38/4.06	14.65/2.79	14.00/3.55	14.78/2.77	12.47/5.08	NM	NM
MW-20	21.20	NM	NM	NM	NM	NM	NM	NM	NP	NP
MW-21	14.28	NM	NM	NM	NM	NM	NM	NM	NP	NP

Notes:

1. Monitoring activities were conducted by Blasland, Bouck & Lee, Inc. (BBL) on June 13, 2001; July 31, 2001; August 1, 2001; September 6 and 7, 2001; October 9, 2001; November 6, 2001; and December 6, 2001.
2. Depth to DNAPL measurements were obtained using an oil/water interface probe and are referenced to a surveyed mark on the top of the PVC well casing.
3. * - Based on field notes from the June 2001 monitoring event, the nature of the material at the bottom of monitoring wells MW-3 and MW-4 is unknown. The material in the bottom of the wells may be a mixture of sediment and DNAPL.
4. NM = Not measured.
5. NP = No product observed.
6. Feet TOC = Depth measured from top of casing.
7. DNAPL = Dense non-aqueous phase liquid.

Table 9

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Soil Analytical Results for BTEX (ppm)

Sample ID	Depth Interval (ft bgs)	Date Collected	Benzene	Toluene	Ethylbenzene	Total Xylenes	Total BTEX
BB-92	0 - 2	6/23/04	<1.6	1.2 J	21	26	**48.2 J**
BB-102	3 - 5	7/28/04	19	400 D	240 D	2,200 D	**2,859**
BB-107	2 - 4	6/24/04	<1.5	<1.5	0.35 J	1.9	**2.3 J**
BB-111	4 - 6.5	7/26/04	430 D	340 D	120	430	**1,320**
BB-112B	2.5 - 5.6	7/20/04	0.13	2.2 D	0.11	8.8 D	**11.2**
BB-124	6 - 8	6/28/04	17	150 D	270 D	340 D	**777**
BB-127	6 - 8	6/29/04	4	<1.7	38 D	34	**76**
BB-128	2 - 4	6/29/04	110 J	71 J	570	2,600	**3,351 J**
BB-135	8 - 10	9/10/04	33 JD	10	38 JD	110 JD	**191 J**
DUP-1 <BB-135>	8 - 10	9/10/04	13	17	41 D	78	**149**

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc. on the dates indicated.
2. BTEX = benzene, toluene, ethylbenzene, and total xylenes.
3. Samples were analyzed for BTEX compounds by CompuChem located in Cary, North Carolina using USEPA SW-846 Method
4. Shaded values indicate that the compound was detected at a concentration exceeding the recommended soil cleanup objectiv presented in the NYSDEC Technical and Administrative Guidance Memorandum (TAGM) titled "Determination of Soil Cleanup Objectives and Cleanup Levels," HWR-94-4046 (TAGM 4046) dated January 24, 1994. NYSDEC recommended soil cleanup objectives are as follows:
   - 0.06 ppm for benzene;
   - 1.5 ppm for toluene;
   - 5.5 ppm for ethylbenzene; and
   - 1.2 ppm for total xylenes.
5. Concentrations reported in parts per million (ppm), which is equivalent to milligrams per kilogram (mg/kg).
6. < = Compound was not detected at a concentration exceeding the presented laboratory detection limit.
7. J = Indicates an estimated concentration. Presented concentration is less than the method detection limit but greater than the instrument detection limit.
8. D = Indicates that the presented concentration is based on the analysis of a diluted sample.

Table 10

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Soil Analytical Results for Detected PAHs (ppm)

Sample ID:	TAGM 4046 Soil Cleanup Objectives	BB-85				BB-86					
Sample Depth (feet bgs):		5 - 5.7	10 - 10.5	14 - 16	20 - 22	4 - 5.3	8 - 9	15.4 - 15.7	15.4 - 15.7 DUP	19.2 - 19.5	24 - 26
Date Collected:		12/19/01	12/19/01	12/19/01	12/19/01	12/19/01	12/19/01	12/20/01	12/20/01	12/20/01	12/20/01
2-Methylnaphthalene	36.4	20	31	8.3 D	0.39 J	7.8 J	16	<3.8	<2	<2	<0.47
Acenaphthene	50	12	13	3.3	0.61	4.5 J	1.8 J	7.0	3.4	5.1	<0.47
Acenaphthylene	41	1.4 J	1.2 J	0.36 J	0.031 J	31 J	10	17	8.2	16	<0.47
Anthracene	50	6.8	5.6	1.5	0.023 J	19 J	6.2	19	8.8	14	<0.47
Benzo(a)anthracene	0.224	4.2	3.2 J	0.87	<0.44	47 J	3.3 J	10	4.6	7	<0.47
Benzo(a)pyrene	0.061	3 J	2.3 J	0.48	0.13 J	66 J	2.5 J	6.4	3.0	4.8	0.12 J
Benzo(b)fluoranthene	1.1	1.3 J	1.2 J	0.27 J	<0.44	46 J	1.4 J	2.9 J	1.3 J	2.2	<0.47
Benzo(g,h,i)perylene	50	1.2 J	1 J	0.14 J	<0.44	52 J	1.4 J	2 J	0.84 J	1.5 J	<0.47
Benzo(k)fluoranthene	1.1	1.6 J	1.2 J	0.21 J	<0.44	46 J	1.6 J	3.6 J	1.8 J	2.9	<0.47
Chrysene	0.4	3.9	2.9 J	0.79	<0.44	47 J	3.2 J	9.1	4.1	6.2	<0.47
Dibenzo(a,h)anthracene	0.014	0.34 J	0.26 J	0.058 J	<0.44	16 J	0.45 J	1 J	0.35 J	0.58 J	<0.47
Fluoranthene	50	6.8	5.4	1.2	<0.44	80	5.9	17	8.2	13	<0.47
Fluorene	50	7.4	6.5	1.8	0.25 J	7.1 J	1.5 J	18	8.3	14	<0.47
Indeno(1,2,3-cd)pyrene	3.2	<3.9	0.82 J	0.13 J	<0.44	6.4 J	1.2 J	2 J	0.82 J	1.5 J	<0.47
Naphthalene	13	0.42 J	48	14 D	2	<77	20	0.4 J	0.19 J	0.2 J	<0.47
Phenanthrene	50	21	18	4.5	0.16 J	63 J	19	50	24	42 D	<0.47
Pyrene	50	14	11	2.5	<0.44	95	10	29	14	21	<0.47
Total PAHs	--	**105.4 J**	**152.6 J**	**40.4 J**	**3.6 J**	**633.8 J**	**105.5 J**	**194.4 J**	**91.9 J**	**152 J**	**0.12 J**

Sample ID:	TAGM 4046 Soil Cleanup Objectives	BB-86	BB-87						BB-88		
Sample Depth (feet bgs):		28 - 30	4 - 5.1	10 - 12	14 - 16	19.6 - 20	24 - 26	28 - 28.7	4 - 4.6	10 - 12	10 - 12 DUP
Date Collected:		12/20/01	12/18/01	12/18/01	12/18/01	12/18/01	12/18/01	12/18/01	12/17/01	12/17/01	12/17/01
2-Methylnaphthalene	36.4	<0.45	<19	23	2	50 D	6	4.9	<40	3.5	5.0
Acenaphthene	50	<0.45	<19	10	2.6	67 D	2.6	1.8	<40	4.1	5.4
Acenaphthylene	41	<0.45	<19	1.1 J	0.53	10	0.15 J	0.035 J	8.3 J	3.7	4.8
Anthracene	50	<0.45	<19	4 J	1.9	31	0.3 J	0.28 J	<40	1.6 J	2.3
Benzo(a)anthracene	0.224	<0.45	1.5 J	2.4 J	0.92	16	0.17 J	<0.49	7.5 J	0.48 J	0.67 J
Benzo(a)pyrene	0.061	0.14 J	1.3 J	1.2 J	0.44	10	0.098 J	0.074 J	11 J	0.2 J	0.28 J
Benzo(b)fluoranthene	1.1	<0.45	2.1 J	0.71 J	0.21 J	4.8	0.044 J	<0.49	8.8 J	<2	0.15 J
Benzo(g,h,i)perylene	50	<0.45	<19	0.46 J	0.16 J	3.4 J	0.03 J	<0.49	7.3 J	<2	<2
Benzo(k)fluoranthene	1.1	<0.45	<19	0.81 J	0.2 J	5.2	0.048 J	<0.49	7.1 J	<2	<2
Chrysene	0.4	<0.45	1.5 J	2.1 J	0.92	15	0.15 J	<0.49	4.3 J	0.44 J	0.63 J
Dibenzo(a,h)anthracene	0.014	<0.45	<19	<4.2	0.071 J	1.5 J	<0.44	<0.49	<40	<2	<2
Fluoranthene	50	<0.45	2.7 J	6.6	1.4	28	0.28 J	0.09 J	3.4 J	1 J	1.4 J
Fluorene	50	<0.45	<19	6.3	2.7	41	0.69	0.82	<40	2.7	3.6
Indeno(1,2,3-cd)pyrene	3.2	<0.45	<19	0.37 J	0.021 J	<4	0.027 J	<0.49	6.2 J	<2	<2
Naphthalene	13	<0.45	4.9 J	38	9.2 D	80 D	15 D	20 D	<40	16	19
Phenanthrene	50	0.033 J	3 J	17	5.7	10 D	1.3	1.6	<40	5.9	7.9
Pyrene	50	<0.45	5 J	8.2	2.7	50	0.54	0.2 J	12 J	1.9 J	2.6
Total PAHs	--	**0.17 J**	**22 J**	**122.3 J**	**31.7 J**	**422.9 J**	**27.4 J**	**29.8 J**	**75.9 J**	**41.5 J**	**53.7 J**

Table 10

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Soil Analytical Results for Detected PAHs (ppm)

Sample ID:	TAGM 4046 Soil Cleanup Objectives	BB-88				BB-89					BB-92
Sample Depth (feet bgs):		14 - 16	18 - 20	24 - 26	26.8 - 28	4 - 6	10 - 12	16 - 18	22 - 24	28 - 30	0 - 2
Date Collected:		12/17/01	12/17/01	12/17/01	12/17/01	12/19/01	12/19/01	12/19/01	12/19/01	12/19/01	6/23/04
2-Methylnaphthalene	36.4	0.16 J	0.031 J	<0.43	<0.4	<3.5	<0.41	<0.43	<0.42	<0.48	NA
Acenaphthene	50	1.1	0.2 J	0.37 J	0.12 J	<3.5	<0.41	<0.43	<0.42	<0.48	16
Acenaphthylene	41	0.67	0.14 J	0.098 J	<0.4	<3.5	<0.41	<0.43	<0.42	<0.48	46 D
Anthracene	50	0.52	0.11 J	<0.43	0.028 J	<3.5	<0.41	<0.43	<0.42	<0.48	26
Benzo(a)anthracene	0.224	0.18 J	<0.4	<0.43	<0.4	0.34 J	<0.41	<0.43	<0.42	<0.48	11
Benzo(a)pyrene	0.061	0.082 J	<0.4	0.028 J	<0.4	0.21 J	<0.41	<0.43	<0.42	0.081 J	9.3
Benzo(b)fluoranthene	1.1	0.037 J	<0.4	<0.43	<0.4	0.35 J	<0.41	<0.43	<0.42	<0.48	3.7
Benzo(g,h,i)perylene	50	<0.43	<0.4	<0.43	<0.4	<3.5	<0.41	<0.43	<0.42	<0.48	2.3
Benzo(k)fluoranthene	1.1	0.045 J	<0.4	<0.43	<0.4	<3.5	<0.41	<0.43	<0.42	<0.48	5.5
Chrysene	0.4	0.16 J	<0.4	<0.43	<0.4	0.43 J	<0.41	<0.43	<0.42	<0.48	11
Dibenzo(a,h)anthracene	0.014	<0.43	<0.4	<0.43	<0.4	<3.5	<0.41	<0.43	<0.42	<0.48	0.65 J
Fluoranthene	50	0.34 J	0.058 J	<0.43	<0.4	0.55 J	<0.41	<0.43	<0.42	<0.48	23
Fluorene	50	0.79	0.16 J	0.039 J	0.052 J	<3.5	<0.41	<0.43	<0.42	<0.48	31 J
Indeno(1,2,3-cd)pyrene	3.2	<0.43	<0.4	<0.43	<0.4	<3.5	<0.41	<0.43	<0.42	<0.48	2.7
Naphthalene	13	5.1	1.3	2	0.22 J	<3.5	<0.41	<0.43	<0.42	<0.48	120 D
Phenanthrene	50	1.7	0.41	0.052 J	0.14 J	0.37 J	<0.41	<0.43	<0.42	<0.48	70 D
Pyrene	50	0.63	0.11 J	<0.43	<0.4	0.77 J	<0.41	<0.43	<0.42	<0.48	30
Total PAHs	--	**11.5 J**	**2.5 J**	**2.6 J**	**0.56 J**	**3 J**	**ND**	**ND**	**ND**	**0.081 J**	**408.2 JD**

Sample ID:	TAGM 4046 Soil Cleanup Objectives	BB-102	BB-107	BB-111	BB-112B	BB-124	BB-127	BB-128	BB-135	
Sample Depth (feet bgs):		3 - 5	2 - 4	4 - 6.5	2.5 - 5.6	6 - 8	6 - 8	2 - 4	8 - 10	8 - 10 DUP
Date Collected:		7/28/04	6/24/04	7/26/04	7/20/04	6/28/04	6/29/04	6/29/04	9/10/04	9/10/04
2-Methylnaphthalene	36.4	NA	NA	NA	NA	NA	NA	NA	1,200 D	830 D
Acenaphthene	50	<12	3.1	< 230	21	< 0.39	45 D	240 D	350	420
Acenaphthylene	41	2.9 J	25	78 J	140 D	< 0.39	9.2	18	150	89
Anthracene	50	4.1 J	30	95 J	50	< 0.39	23 D	120 D	230	210
Benzo(a)anthracene	0.224	4.1 J	6.1	49 J	35	0.12 J	9.3	35	110	84
Benzo(a)pyrene	0.061	<12	5.2	< 230	35	0.18 J	5.4	30	91	70
Benzo(b)fluoranthene	1.1	<12	2.2	< 230	20	0.13 J	2.9	13	44	29
Benzo(g,h,i)perylene	50	<12	1.3 J	< 230	17	0.21 J	1.5	10	46	31
Benzo(k)fluoranthene	1.1	<12	2.6	< 230	22	0.16 J	2.8	14	56	41
Chrysene	0.4	4.9 J	5.4	51 J	34	0.16 J	10	35	110	83
Dibenzo(a,h)anthracene	0.014	<12	0.40 J	< 230	3.6 J	< 0.39	0.54 J	2.6	NA	NA
Fluoranthene	50	9.6 J	9.3	160 J	110 D	0.23 J	20	110 D	340	260
Fluorene	50	5.5 J	16 J	130 J	67 J	< 0.39 J	18 J	110 JD	210	190
Indeno(1,2,3-cd)pyrene	3.2	<12	1.4 J	< 230	20	0.20 J	1.8	10	46	31
Naphthalene	13	110	100 D	780 J	400 D	< 0.39	130 D	680 D	1,800 D	1,500 D
Phenanthrene	50	20	9.5	340 J	220 D	0.14 J	70 D	320 D	1,400 D	800 D
Pyrene	50	12 J	14	110 J	92	0.23 J	25 D	180 D	700 D	400
Total PAHs	--	**173.1 J**	**231.5 J**	**1,793 J**	**1,286.6 J**	**1.8 J**	**374.4 J**	**1,927.6**	**6,883**	**5,068**

Table 10

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Soil Analytical Results for Detected PAHs (ppm)

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc. on the dates indicated.
2. PAHs = polynuclear aromatic hydrocarbons.
3. Samples were analyzed by Severn Trent Laboratories, Inc. located in Amherst, New York for samples collected during 2001 and CompuChem located in Cary, North Carolina for samples collected during 2004.
4. Samples were analyzed for PAHs using USEPA SW-846 Method 8270.
5. TAGM 4046 soil cleanup objectives from the New York State Department of Environmental Conservation (NYSDEC) Technical and Administrative Guidance Memorandum (TAGM) titled "Determination of Soil Cleanup Objectives and Cleanup Levels," HWR-94-4046 (TAGM 4046) dated January 24, 1994.
6. Concentrations reported in parts per million (ppm), which is equivalent to milligrams per kilogram (mg/kg).
7. NA = Not analyzed.
8. < = Compound was not detected at a concentration exceeding the presented laboratory detection limit.
9. J = Indicates an estimated concentration. Presented concentration is less than the laboratory detection limit.
10. D = Indicates that the presented concentration is based on the analysis of a diluted sample.
11. ND = Constituent was not detected at a concentration exceeding the laboratory detection limit.
12. Shaded values indicate that the compound was detected at a concentration exceeding the NYSDEC recommended soil cleanup objectives presented in TAGM 4046.

Table 11

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Soil Analytical Results for Total Cyanide (ppm)

Sample ID	Depth Interval (feet)	Date Collected	Total Cyanide
BB-92	0 - 2	6/23/04	1.7
BB-102	3 - 5	7/28/04	82.2
BB-107	2 - 4	6/24/04	0.77
BB-111	4 - 6.5	7/26/04	5.6
BB-112B	2.5 - 5.6	7/20/04	15.5
BB-124	6 - 8	6/28/04	0.58 B
BB-127	6 - 8	6/29/04	0.81
BB-128	2 - 4	6/29/04	2.2
BB-135	8 - 10	9/10/04	8.1 J
DUP-1 <BB-135>	8 - 10	9/10/04	33.4 J

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc. on the dates indicated.
2. Samples were analyzed for cyanide by CompuChem located in Cary, North Carolina using USEPA SW-846 Method 9010B.
3. Concentrations reported in parts per million (ppm), which is equivalent to milligrams per kilogram (mg/kg).
4. J = Indicates an estimated concentration. Presented concentration is less than the method detection limit but greater than the instrument detection limit.
5. B = The indicated concentration was obtained from a reading less than the reporting limit but greater than or equal to the instrument detection limit.

Table 12

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Hydraulic Conductivities Estimated from Specific Capacity Tests

Shallow Wells	
Well ID	**Hydraulic Conductivity (cm/sec)**
MW-28S	8.71E-05
MW-7	1.25E-04
MW-14S	3.51E-04
MW-3	3.95E-04
MW-6S	4.14E-04
MW-29S	5.24E-04
MW-23	6.88E-04
MW-19S	8.42E-04
MW-30S	1.07E-03
MW-9S	1.46E-03
MW-26	2.29E-03
MW-8S	2.45E-03
MW-22	4.43E-03
MW-27S	8.21E-03
MW-13SR	1.05E-02
Geometric Mean:	**9.70E-04**

Intermediate Wells	
Well ID	**Hydraulic Conductivity (cm/sec)**
MW-28I	3.60E-05
MW-29I	5.52E-05
MW-30I	5.57E-05
MW-15S	1.60E-05
MW-14P	2.48E-04
MW-10	2.53E-04
MW-11	3.54E-03
MW-9I	4.60E-03
MW-13P	4.77E-03
MW-8I	9.36E-03
MW-19I	1.75E-02
MW-6I	1.14E-01
Geometric Mean:	**8.59E-04**

Deep Wells	
Well ID	**Hydraulic Conductivity (cm/sec)**
MW-19D	4.04E-05
MW-13I	8.84E-05
MW-14I	3.51E-04
MW-12	3.66E-04
MW-9D	3.34E-03
MW-30D	2.28E-02
MW-8D	3.30E-02
MW-15I	3.97E-02
MW-28D	8.26E-02
Geometric Mean:	**2.50E-03**

Till Wells	
Well ID	**Hydraulic Conductivity (cm/sec)**
MW-30T	2.10E-08
MW-29T	2.80E-08
MW-19T	3.00E-07
MW-28T	4.67E-07
MW-13T	2.41E-06
MW-27D	2.58E-05
Geometric Mean:	**4.15E-07**

Notes:

1. The results of the specific capacity test conducted at monitoring well MW-25 were not used since water from the formation was not drawn into the well prior to the well being pumped dry.
2. Monitoring wells MW-17, MW-20R, and MW-21 were installed such that their screens straddle the shallow and intermediate hydrostratigraphic zones, therefore, groundwater data obtained from these wells were not utilized to estimate a hydraulic conductivity for either of the hydrostratigraphic zones.
3. Monitoring well MW-24 was installed such that the screen was positioned completely within the silt and clay unit (i.e., the upper portion of the intermediate hydrostatigraphic zone). However, based on the results obtained from several monitoring events, the water level within MW-24 very closely follows the water levels in nearby MW-13SR, a shallow well. Therefore, the results of the specific capacity testing at MW-24 are not indicative of the intermediate hydrostratigraphic zone and were not used to estimate a hydraulic conductivity for this unit.

Table 13

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Static Groundwater Level Measurements

Monitoring Well	Hydro-stratigraphic Zone	TOC Elevation (ft)	Water Elevation (ft)									
			Aug-01	Sep-01	Oct-01	Nov-01	Dec-01	Jun-02	Aug-04	Nov-04	Jan-05	May-05
MW-1	NA	227.1	222.2	NA	220.9	220.7	220.5	222.7	221.4	222.4	222.7	223.3
MW-3	S	231.1	NM	NM	NM	NM	NM	NM	NM	NM	221.6	222.8
MW-6S	S	227.4	223.7	223.6	223.4	223.4	223.3	223.9	224.1	223.6	223.7	221.0
MW-6I	I	227.3	218.1	217.6	217.2	217.1	216.8	218.5	219.0	218.2	218.3	218.7
MW-7	S	228.6	219.8	218.8	218.6	218.8	218.6	221.0	220.9	220.4	220.7	221.5
MW-8S	S	229.9	218.1	217.2	216.7	216.5	216.3	218.0	220.1	218.6	218.9	219.7
MW-8I	I	229.3	217.1	216.7	216.2	216.1	215.8	217.5	218.0	217.2	217.3	217.7
MW-8D	D	229.1	216.1	216.7	216.2	216.1	215.8	217.5	218.0	217.1	217.2	217.6
MW-9S	S	231.9	219.6	218.7	218.7	217.8	217.5	220.3	NM	NM	220.4	221.4
MW-9I	I	230.8	219.1	218.3	217.1	217.4	217.0	219.5	NM	NM	219.7	220.7
MW-9D	D	231.0	217.7	217.3	216.8	216.7	216.4	218.0	NM	NM	217.9	218.3
MW-10	I	234.0	219.5	218.6	218.0	217.7	217.3	219.8	NM	NM	220.1	221.1
MW-11	I	225.9	220.1	219.1	218.6	218.3	218.4	220.7	221.4	220.5	220.6	221.2
MW-12	D	226.7	219.1	218.5	217.9	218.4	217.8	219.7	220.1	219.0	218.0	219.7
MW-13S/SR*	S	226.6	223.1	222.8	222.7	222.8	222.8	223.6	223.7	223.8	224.0	224.0
MW-13P	I	226.6	219.2	219.0	218.9	218.6	218.2	219.4	219.8	219.2	219.1	220.0
MW-13I	D	226.6	218.0	217.6	217.1	217.0	216.7	218.4	218.9	218.1	218.1	218.6
MW-13T	T	226.54	NI	NI	NI	NI	NI	NI	NI	NI	NI	223.4
MW-14S	S	228.2	222.9	222.6	222.3	219.4	222.5	223.2	223.1	222.8	222.9	222.9
MW-14P	I	228.2	218.1	217.7	NA	216.5	217.3	218.2	217.9	218.4	218.3	219.2
MW-14I	D	228.2	218.1	217.7	217.1	217.1	217.8	218.5	219.0	218.2	218.5	218.7
MW-15S	I	229.0	219.2	218.9	218.9	218.7	218.4	219.5	NM	219.5	220.4	219.3
MW-15I	D	228.6	218.0	217.6	217.0	217.0	216.7	218.4	NM	218.1	218.0	218.6
MW-17	I	226.21	NM	NM	NM	NM	NM	NM	NM	NM	NM	222.0
MW-19S	S	225.4	221.4	220.0	220.1	220.1	220.2	221.9	222.5	221.5	NM	222.5
MW-19I	I	225.5	217.9	217.6	NA	220.0	216.7	218.4	219.0	218.1	NM	218.5
MW-19D	D	225.6	218.0	217.7	217.8	219.9	216.2	218.4	218.9	217.8	217.1	219.1
MW-19T	T	225.60	NI	NI	NI	NI	NI	NI	NI	NI	NI	215.8
MW-20	S	227.3	NI	NI	NI	NI	NI	NI	NM	220.9	220.7	NA
MW-20R	S	227.3	NI	NI	NI	NI	NI	NI	NI	NI	NI	220.0
MW-21	S	227.9	NI	NI	NI	NI	NI	NI	222.8	221.8	221.5	222.3
MW-22	S	231.6	NI	NI	NI	NI	NI	NI	222.3	220.9	221.4	222.2
MW-23	S	226.6	NI	NI	NI	NI	NI	NI	223.6	222.6	NM	223.2
MW-24	I	226.5	NI	NI	NI	NI	NI	NI	223.9	223.7	222.7	223.9
MW-25	I	225.5	NI	NI	NI	NI	NI	NI	221.1	220.0	NM	NM
MW-26	S	228.8	NI	NI	NI	NI	NI	NI	223.9	222.8	NM	223.8
MW-27S	S	226.5	NI	NI	NI	NI	NI	NI	219.8	219.0	219.3	220.2
MW-27D	T	227.4	NI	NI	NI	NI	NI	NI	218.0	217.2	217.3	217.7
MW-28S	S	228.37	NI	NI	NI	NI	NI	NI	NI	NI	NI	224.6
MW-28I	I	228.57	NI	NI	NI	NI	NI	NI	NI	NI	NI	218.3
MW-28D	D	228.52	NI	NI	NI	NI	NI	NI	NI	NI	NI	218.2
MW-28T	T	228.61	NI	NI	NI	NI	NI	NI	NI	NI	NI	214.8
MW-29S	S	230.12	NI	NI	NI	NI	NI	NI	NI	NI	NI	224.3
MW-29I	I	230.09	NI	NI	NI	NI	NI	NI	NI	NI	NI	218.4
MW-29T	T	230.13	NI	NI	NI	NI	NI	NI	NI	NI	NI	203.3
MW-30S	S	226.42	NI	NI	NI	NI	NI	NI	NI	NI	NI	223.9
MW-30I	I	226.34	NI	NI	NI	NI	NI	NI	NI	NI	NI	218.7
MW-30D	D	226.37	NI	NI	NI	NI	NI	NI	NI	NI	NI	218.6
MW-30T	T	226.38	NI	NI	NI	NI	NI	NI	NI	NI	NI	218.0
SG-1	--	227.2	NI	NI	NI	NI	NI	NI	NI	222.8	222.9	NM
SG-2	--	227.4	NI	NI	NI	NI	NI	NI	NI	224.4	224.5	224.1
SG-3	--	227.0	NI	NI	NI	NI	NI	NI	NI	225.1	225.6	225.0

Notes:

1. Groundwater level measurements were obtained by Blasland, Bouck & Lee, Inc. on the dates indicated.
2. TOC = Top of casing.
3. NA = Not available. Water levels were not able to be mesured at monitoring wells on the dates indicated due to field conditions.
4. NI = monitoring well was not installed at the time of groundwater level monitoring event.
5. Hydrostratigraphic zone determined based on a review of screened interval and hydraulic conductivity data:
   - S = shallow monitoring well (typically screened in the upper fine sand unit above the silt and clay unit across the water table).
   - I = Intermediate monitoring well (typically screened within the upper portion of the fine sand unit below the silt and clay unit).
   - D = Deep monitoring well (typically screened in the lower portion of the lower fine sand unit below the silt and clay unit).
   - T = Till monitoring well (screened within the till unit).
6. Water levels were not measured at monitoring well MW-3 prior to 2005 due to the presence of NAPL.
7. SG = Staff gauge.
8. * - MW-13S replaced by MW-13SR during September 2004 due to damage to MW-13S well casing.

Table 14

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

Vertical Hydraulic Gradients

			May 9, 2005	
Well ID	**Screen Interval (ft bgs)**	**Screen Midpoint (ft AMSL)**	**Water Level Elevation (ft AMSL)**	**Vertical Gradient (ft/ft)**
MW-6S	6.0-16.0	216.8	221	0.071
MW-6I	38.5-48.5	184.2	218.7	
MW-8S	6.0-16.0	216.2	219.7	0.106
MW-8I	25.0-35.0	197.3	217.7	
MW-8I	25.0-35.0	197.3	217.7	0.007
MW-8D	41.0-46.0	183.7	217.6	
MW-13SR	10.0-20.0	211.9	224	0.23
MW-13P	30.0-35.0	194.5	220	
MW-13P	30.0-35.0	194.5	220	0.053
MW-13I	54.0-64.0	167.9	218.6	
MW-13I	54.0-64.0	167.9	218.6	-0.226
MW-13T	141.7-151.7	146.7	223.4	
MW-14S	10.0-20.0	213.6	222.9	0.211
MW-14P	30.0-35.0	196.1	219.2	
MW-14P	30.0-35.0	196.1	219.2	0.029
MW-14I	45.0-55.0	178.6	218.7	
MW-15S	10.0-20.0	212	219.3	0.027
MW-15I	36.0-46.0	185.6	218.6	
MW-19S	207.7-217.7	212.7	222.5	0.134
MW-19I	177.9-187.9	182.9	218.5	
MW-19I	177.9-187.9	182.9	218.5	-0.023
MW-19D	152.0-162.0	157	219.1	
MW-19D	152.0-162.0	157	219.1	*
MW-19T	144.8-154.8	149.8	215.8	
MW-27S	3.0-8.0	219.1	220.2	0.045
MW-27D	55.7-65.7	163.9	217.7	
MW-28S	217.9-222.9	220.4	224.6	0.371
MW-28I	200.9-205.9	203.4	218.3	
MW-28I	200.9-205.9	203.4	218.3	0.005
MW-28D	181.0-186.0	183.5	218.2	
MW-28D	181.0-186.0	183.5	218.2	*
MW-28T	154.9-164.9	159.9	214.8	
MW-29S	216.4-226.4	221.4	224.3	0.245
MW-29I	192.3-202.3	197.3	218.4	
MW-29I	192.3-202.3	197.3	218.4	*
MW-29T	168.5-178.5	173.5	203.3	
MW-30S	214.7-224.7	219.4	223.9	0.257
MW-30I	196.7-201.7	199.2	218.7	
MW-30I	196.7-201.7	199.2	218.7	0.006
MW-30D	180.4-185.4	182.9	218.6	
MW-30D	180.4-185.4	182.9	218.6	*
MW-30T	148.7-158.7	153.7	218	

Note:

* - Indicates that associated till well did not appear to be fully recovered at the time of water level measurement. Therefore, vertical gradient was not calculated.

Table 15

National Grid
Schenectady (Broadway) Service Center
Schenectady, New York

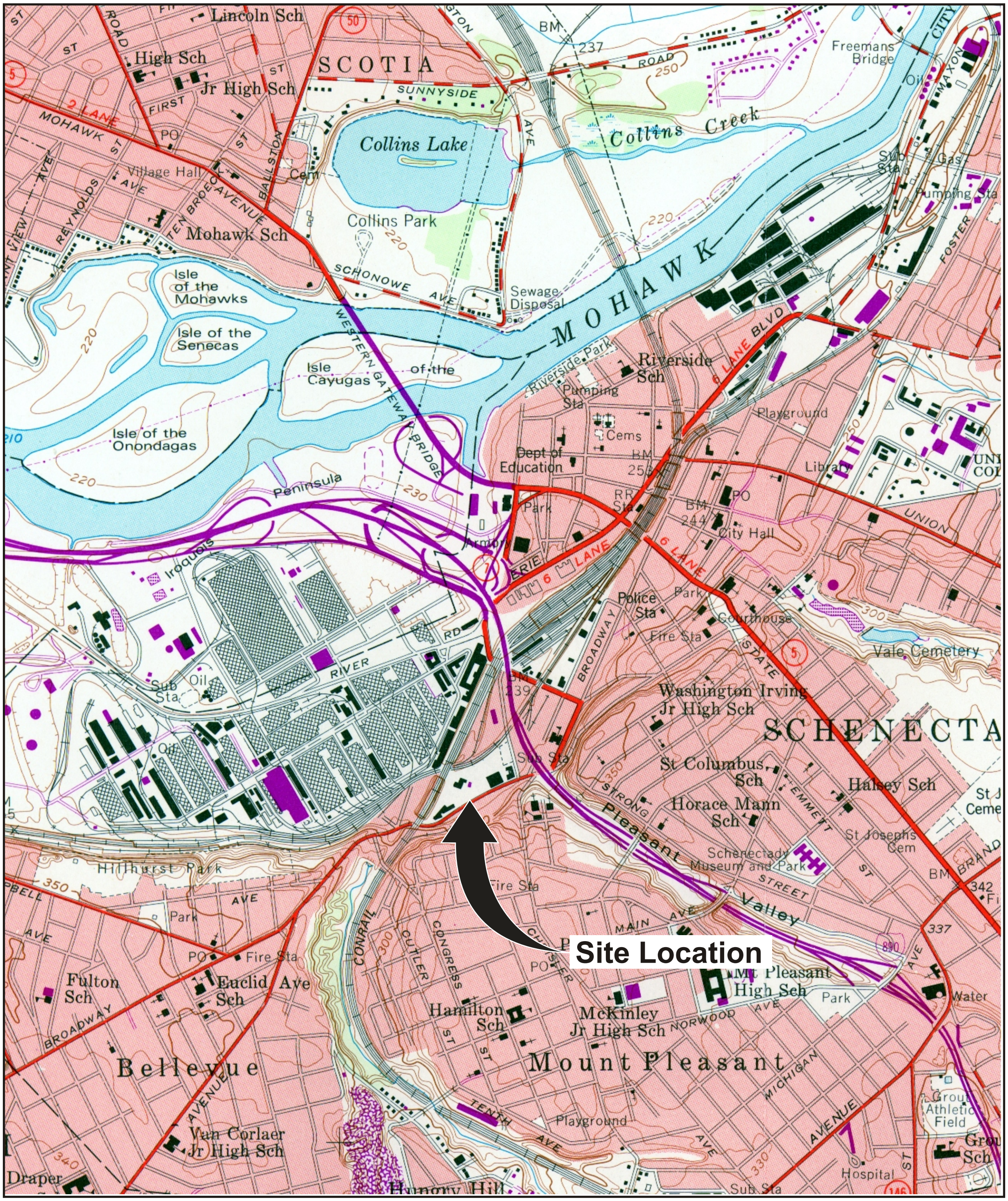
LNAPL Analytical Results (ppm)

	MW-20 1/12/05
Total Gasoline Range Organics (GROs)	
Total GROs	390
Total Diesel Range Organics (DROs)	
Total GROs	770,000
PAHs	
Naphthalene	23,000
Acenaphthylene	1,100
Acenaphthene	7,100
Fluorene	4,700
Phenanthrene	11,000
Anthracene	2,700
Fluoranthene	3,100
Pyrene	5,000
Benzo(a)anthracene	1,500
Chrysene	1,500
Benzo(b)fluoranthene	550
Benzo(k)fluoranthene	510
Benzo(a)pyrene	960
Ideno(1,2,3-cd)pyrene	390
Dibenzo(a,h)anthracene	150 J
Benzo(g,h,i)perylene	410 J

Notes:

1. LNAPL sample was collected by Blasland, Bouck & Lee, Inc. on January 12, 2005.
2. PAHs = polynuclear aromatic hydrocarbons.
3. Sample was analyzed by CompuChem located in Cary, North Carolina using USEPA SW-846 Method 8270.
4. Concentrations reported in parts per million (ppm), which is equivalent to milligrams per kilogram (mg/kg).
5. J = Indicates an estimated concentration. Presented concentration is less than the laboratory detection limit.

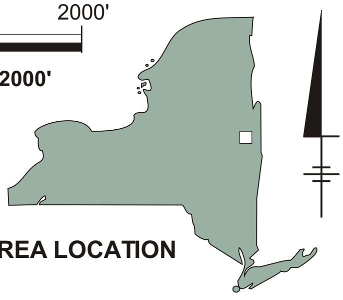
Figures



REFERENCE: BASE MAP SOURCE USGS 7.5 MINUTE QUADS. SERIES SCHENECTADY, NEW YORK, 1954, PHOTOREVISED 1980.

2000' 0 2000'

Approximate Scale: 1" = 2000'



AREA LOCATION

NATIONAL GRID
SCHENECTADY (BROADWAY) SERVICE CENTER
SCHENECTADY, NEW YORK

SITE REMEDIAL INVESTIGATION REPORT

SITE LOCATION MAP

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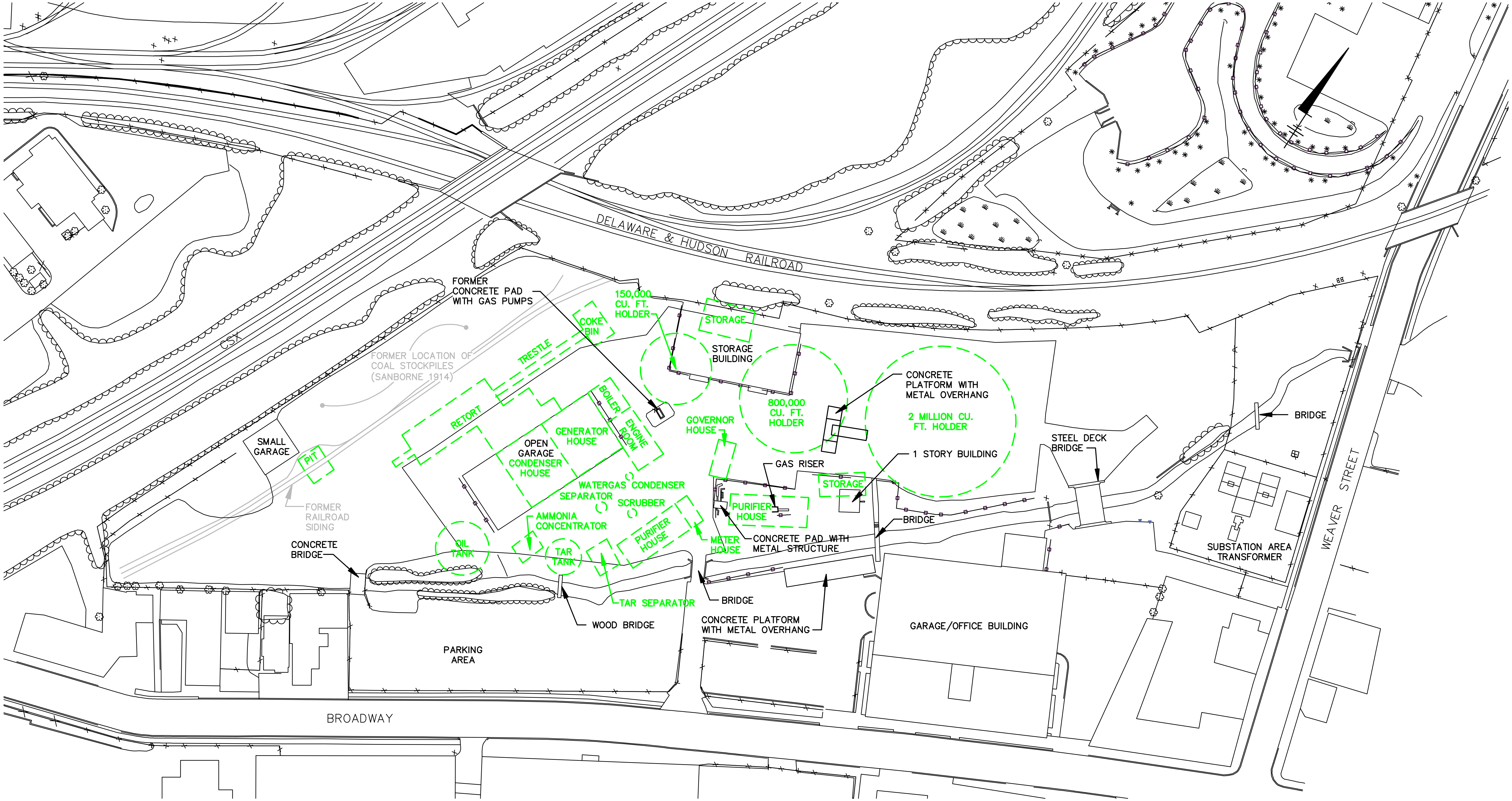
engineers, scientists, economists

FIGURE
1

11/08/05 SYR-D85-DJH
36657011/36657n01.cdr



NOTES:

1. BASE MAP PROVIDED BY NIAGARA MOHAWK POWER CORPORATION ON 5/21/99, FROM NIAGARA MOHAWK POWER CORPORATION SURVEY REFERENCE FILE DRAWING 3277.DGN, DATED 10/26/94 AT A SCALE OF 1"=100'.
2. HISTORICAL STRUCTURE LOCATIONS WITH THE EXCEPTION OF THE SEPARATOR, WATERGAS CONDENSER, AND SCRUBBER WERE DIGITIZED FROM PARSONS ENGINEERING SCIENCE, INC. FIGURE 1.5, "HISTORICAL STRUCTURES, PREVIOUS SAMPLE LOCATIONS." LOCATIONS OF SEPARATOR, WATERGAS CONDENSER, AND SCRUBBER BASED ON HISTORICAL SANBORN INSURANCE MAPS (1914 AND 1980).
3. ALL LOCATIONS ARE APPROXIMATE.

LEGEND

▭ LOCATION OF CURRENT SITE FEATURES

⬚ APPROXIMATE LOCATION OF HISTORICAL STRUCTURES

—×— FENCE LINE

0 100' 200'
GRAPHIC SCALE

X: 36622X01.DWG
L: ON=*, OFF=REF*
P: PAGESET/PLT-BL
11/8/05 SYR-85-GJD RCB WLJ
36657011/36657B01.DWG

NATIONAL GRID
SCHENECTADY (BROADWAY) SERVICE CENTER
SCHENECTADY, NEW YORK
SITE REMEDIAL INVESTIGATION REPORT

CURRENT AND HISTORICAL MGP FEATURES

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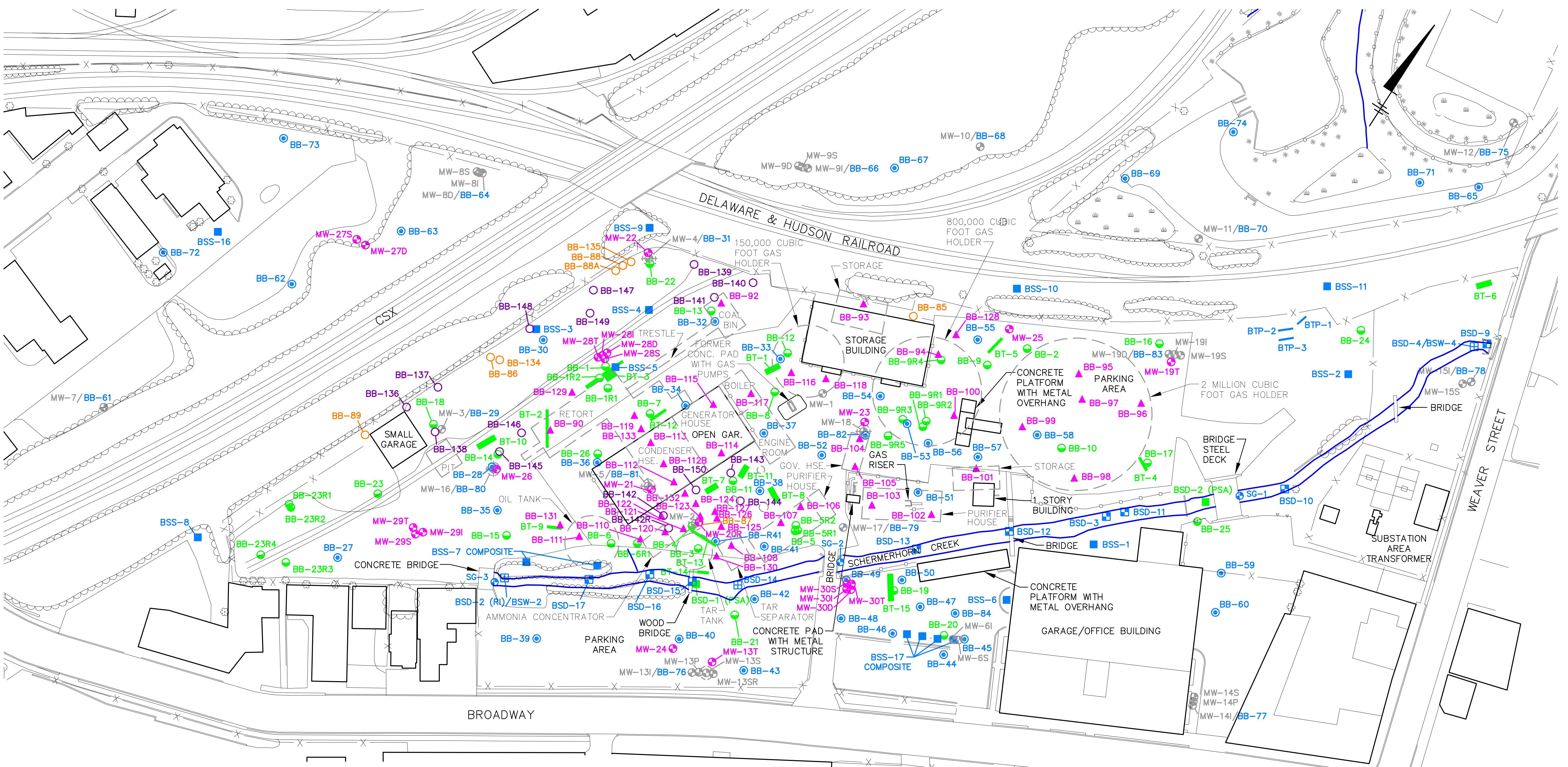
FIGURE
2



NOTES:

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2. SAMPLING LOCATIONS WERE SURVEYED BY NIAGARA MOHAWK AND BLASLAND, BOUCK & LEE, INC.. LOCATIONS OF OTHER SITE FEATURES ARE APPROXIMATE.
3. HORIZONTAL DATUM IS NEW YORK STATE PLANE OF 1983, EAST ZONE.
4. MONITORING WELL MW-20 WAS ABANDONED AND REPLACED WITH MONITORING WELL MW-20R IN JANUARY 2005.

X: 36657X01.DWG
L: ON=*, OFF=*REF*, |FEATURES_GEO-PHYS-HIST,
|HIST-TXT, |MISC-POST
P: PAGESET/SYR-BL
11/30/05 SYR-85-RCB WLJ GMS
36657011/SITE-RI/36657B01.DWG

LEGEND:

BB-X ·	SOIL BORING LOCATION ID: – BB-1 THROUGH BB-26 COMPLETED DURING PSA/IRM – BB-27 THROUGH BB-84 AND BB-R41 COMPLETED DURING RI – BB-85 THROUGH BB-89 AND BB-88A COMPLETED DURING NAPL INVESTIGATION – BB-90, BB-92 THROUGH BB-108, AND BB-110 THROUGH BB-133 COMPLETED DURING HISTORICAL SUBSURFACE STRUCTURE INVESTIGATION – BB-134 THROUGH BB-148 COMPLETED DURING ADDITIONAL SUBSURFACE INVESTIGATION
MW-15S ◐	MONITORING WELL
MW-2/BMW-1 ◎	DECOMMISSIONED MONITORING WELL
MW-23 ◐	BBL ADDITIONAL SUBSURFACE INVESTIGATION MONITORING WELL LOCATION
BB-102 ▲	BBL HISTORICAL SUBSURFACE STRUCTURE INVESTIGATION SOIL BORING LOCATION
BB-138 ○	ADDITIONAL NAPL DELINEATION SOIL BORING LOCATION
BB-85 ○	NAPL DELINEATION SOIL BORING LOCATION
BB-6 ◒	PSA/IRM SOIL BORING LOCATION
BT-14 ▬	PSA/IRM TEST PIT LOCATION
BSD-1 ■	PSA/IRM SEDIMENT SAMPLE LOCATION
BB-35 ◉	RI SOIL BORING LOCATION
BSS-6 ■	RI SURFACE SOIL SAMPLE LOCATION
BTP-1 ▬	RI TEST PIT LOCATION
BSD-2 ▚	RI SEDIMENT SAMPLE LOCATION
BSD-2/BSW-2 ⊞	RI SEDIMENT/SURFACE WATER SAMPLE LOCATION
SG-1 ◕	STAFF GAUGE
——X——	FENCE LINE
— — — —	APPROXIMATE LOCATION OF HISTORICAL SITE FEATURE
————	APPROXIMATE LOCATION OF EXISTING SITE FEATURE

0 100' 200'
GRAPHIC SCALE

NATIONAL GRID
SCHENECTADY (BROADWAY) SERVICE CENTER
SCHENECTADY, NEW YORK
SITE REMEDIAL INVESTIGATION REPORT

SAMPLE LOCATION MAP

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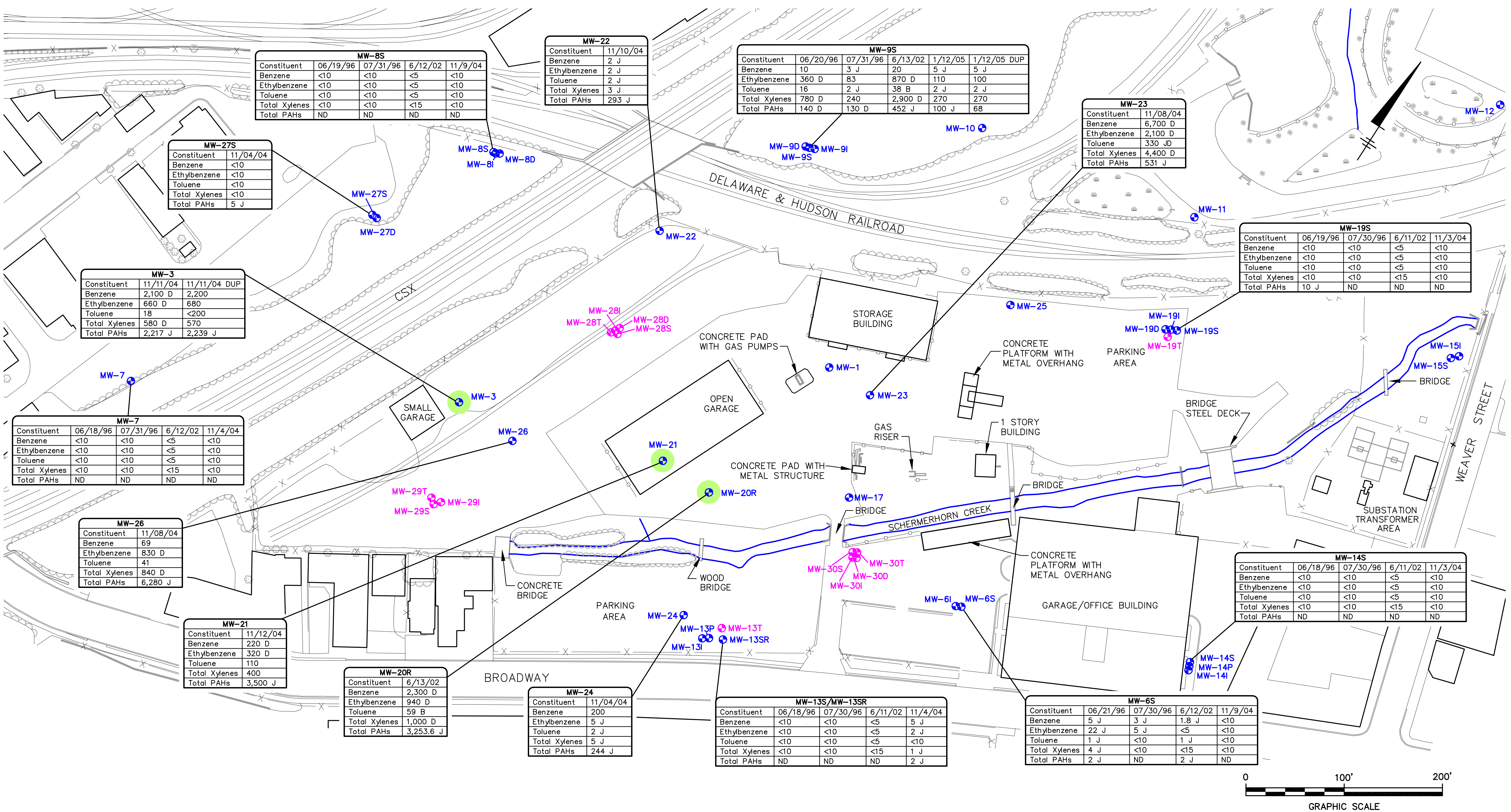
FIGURE
3



MW-8S

Constituent	06/19/96	07/31/96	6/12/02	11/9/04
Benzene	<10	<10	<5	<10
Ethylbenzene	<10	<10	<5	<10
Toluene	<10	<10	<5	<10
Total Xylenes	<10	<10	<15	<10
Total PAHs	ND	ND	ND	ND

MW-22

Constituent	11/10/04
Benzene	2 J
Ethylbenzene	2 J
Toluene	2 J
Total Xylenes	3 J
Total PAHs	293 J

MW-9S

Constituent	06/20/96	07/31/96	6/13/02	1/12/05	1/12/05 DUP
Benzene	10	3 J	20	5 J	5 J
Ethylbenzene	360 D	83	870 D	110	100
Toluene	16	2 J	38 B	2 J	2 J
Total Xylenes	780 D	240	2,900 D	270	270
Total PAHs	140 D	130 D	452 J	100 J	68

MW-23

Constituent	11/08/04
Benzene	6,700 D
Ethylbenzene	2,100 D
Toluene	330 JD
Total Xylenes	4,400 D
Total PAHs	531 J

MW-27S

Constituent	11/04/04
Benzene	<10
Ethylbenzene	<10
Toluene	<10
Total Xylenes	<10
Total PAHs	5 J

MW-3

Constituent	11/11/04	11/11/04 DUP
Benzene	2,100 D	2,200
Ethylbenzene	660 D	680
Toluene	18	<200
Total Xylenes	580 D	570
Total PAHs	2,217 J	2,239 J

MW-19S

Constituent	06/19/96	07/30/96	6/11/02	11/3/04
Benzene	<10	<10	<5	<10
Ethylbenzene	<10	<10	<5	<10
Toluene	<10	<10	<5	<10
Total Xylenes	<10	<10	<15	<10
Total PAHs	10 J	ND	ND	ND

MW-7

Constituent	06/18/96	07/31/96	6/12/02	11/4/04
Benzene	<10	<10	<5	<10
Ethylbenzene	<10	<10	<5	<10
Toluene	<10	<10	<5	<10
Total Xylenes	<10	<10	<15	<10
Total PAHs	ND	ND	ND	ND

MW-26

Constituent	11/08/04
Benzene	69
Ethylbenzene	830 D
Toluene	41
Total Xylenes	840 D
Total PAHs	6,280 J

MW-14S

Constituent	06/18/96	07/30/96	6/11/02	11/3/04
Benzene	<10	<10	<5	<10
Ethylbenzene	<10	<10	<5	<10
Toluene	<10	<10	<5	<10
Total Xylenes	<10	<10	<15	<10
Total PAHs	ND	ND	ND	ND

MW-21

Constituent	11/12/04
Benzene	220 D
Ethylbenzene	320 D
Toluene	110
Total Xylenes	400
Total PAHs	3,500 J

MW-20R

Constituent	6/13/02
Benzene	2,300 D
Ethylbenzene	940 D
Toluene	59 B
Total Xylenes	1,000 D
Total PAHs	3,253.6 J

MW-24

Constituent	11/04/04
Benzene	200
Ethylbenzene	5 J
Toluene	2 J
Total Xylenes	5 J
Total PAHs	244 J

MW-13S/MW-13SR

Constituent	06/18/96	07/30/96	6/11/02	11/4/04
Benzene	<10	<10	<5	5 J
Ethylbenzene	<10	<10	<5	2 J
Toluene	<10	<10	<5	<10
Total Xylenes	<10	<10	<15	1 J
Total PAHs	ND	ND	ND	2 J

MW-6S

Constituent	06/21/96	07/30/96	6/12/02	11/9/04
Benzene	5 J	3 J	1.8 J	<10
Ethylbenzene	22 J	5 J	<5	<10
Toluene	1 J	<10	1 J	<10
Total Xylenes	4 J	<10	<15	<10
Total PAHs	2 J	ND	2 J	ND

NOTES:

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3. HORIZONTAL DATUM IS NEW YORK STATE PLANE OF 1983, EAST ZONE.
4. DUP INDICATES DUPLICATE SAMPLE.
   J INDICATES ESTIMATED CONCENTRATION.
   D INDICATES CONCENTRATION BASED ON DILUTED SAMPLES.
   ND INDICATES COMPOUND NOT DETECTED.

LEGEND:

MW-15S ◐	MONITORING WELL
MW-3 ●	MONITORING WELL IN WHICH MEASURABLE NAPL HAS PREVIOUSLY BEEN IDENTIFIED
—— X ——	FENCE LINE
————	APPROXIMATE LOCATION OF EXISTING SITE FEATURE

MW-3 — SAMPLE/WELL ID

Constituent	11/11/04	11/11/04 DUP
Benzene	2,100 D	2,200
Ethylbenzene	660 D	680
Toluene	18	<200
Total Xylenes	580 D	570
Total PAHs	2,217 J	2,239 J

SAMPLE DATE

ANALYTICAL RESULT IN PARTS PER BILLION (ppb)

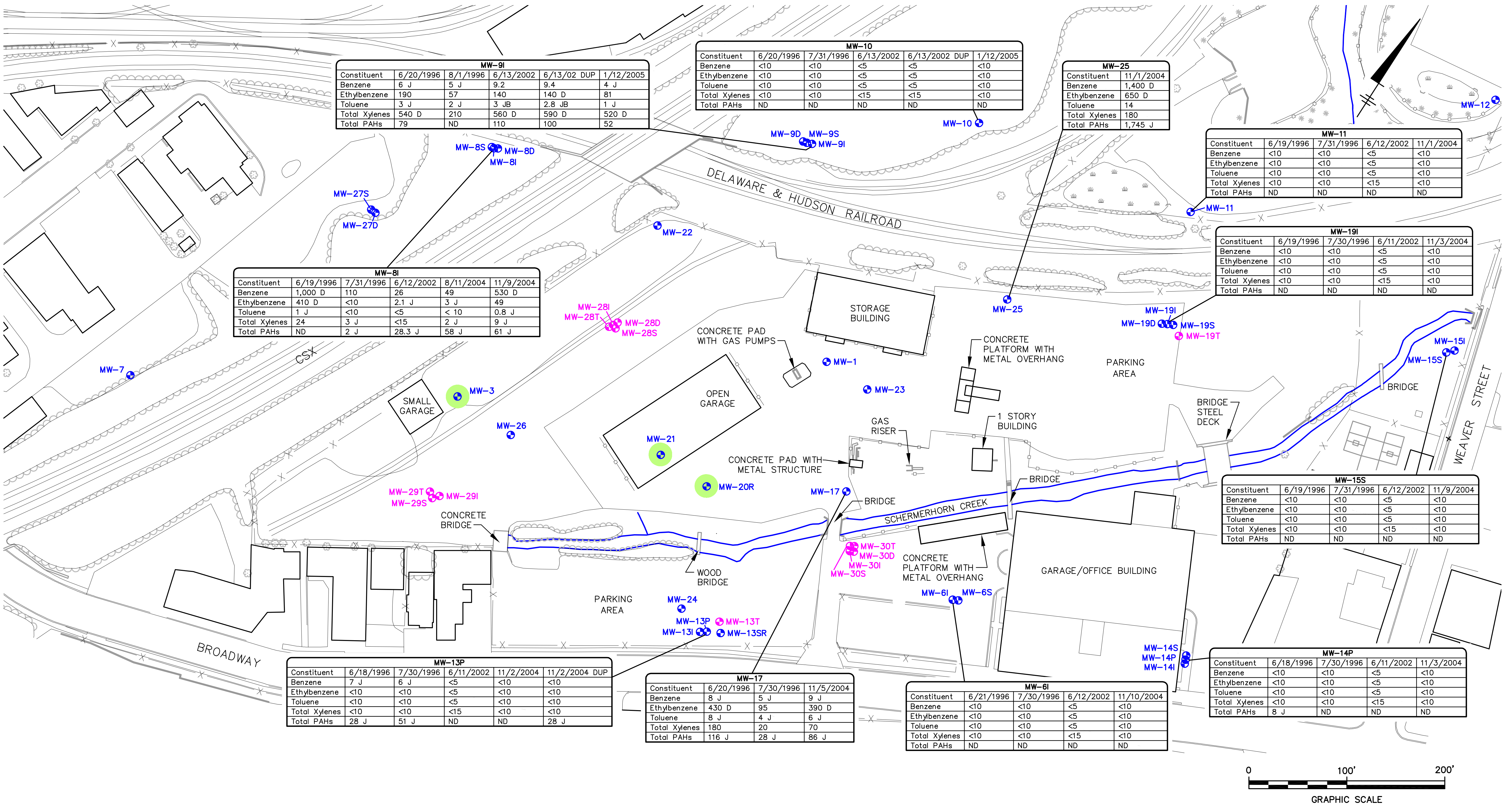
NATIONAL GRID
SCHENECTADY (BROADWAY) SERVICE CENTER
SCHENECTADY, NEW YORK
SITE REMEDIAL INVESTIGATION REPORT

SHALLOW GROUNDWATER SAMPLING RESULTS - BTEX AND TOTAL PAHs (ppb)

BBL
BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE
4a

X: 36657X01.DWG
L: ON=*, OFF=REF*
P: PAGESET/PLT-BL
11/8/05 SYR-85-RCB RCA WLJ
36657011/SITE-RI/36657C01.DWG



MW-9I

Constituent	6/20/1996	8/1/1996	6/13/2002	6/13/02 DUP	1/12/2005
Benzene	6 J	5 J	9.2	9.4	4 J
Ethylbenzene	190	57	140	140 D	81
Toluene	3 J	2 J	3 JB	2.8 JB	1 J
Total Xylenes	540 D	210	560 D	590 D	520 D
Total PAHs	79	ND	110	100	52

MW-10

Constituent	6/20/1996	7/31/1996	6/13/2002	6/13/2002 DUP	1/12/2005
Benzene	<10	<10	<5	<5	<10
Ethylbenzene	<10	<10	<5	<5	<10
Toluene	<10	<10	<5	<5	<10
Total Xylenes	<10	<10	<15	<15	<10
Total PAHs	ND	ND	ND	ND	ND

MW-25

Constituent	11/1/2004
Benzene	1,400 D
Ethylbenzene	650 D
Toluene	14
Total Xylenes	180
Total PAHs	1,745 J

MW-11

Constituent	6/19/1996	7/31/1996	6/12/2002	11/1/2004
Benzene	<10	<10	<5	<10
Ethylbenzene	<10	<10	<5	<10
Toluene	<10	<10	<5	<10
Total Xylenes	<10	<10	<15	<10
Total PAHs	ND	ND	ND	ND

MW-8I

Constituent	6/19/1996	7/31/1996	6/12/2002	8/11/2004	11/9/2004
Benzene	1,000 D	110	26	49	530 D
Ethylbenzene	410 D	<10	2.1 J	3 J	49
Toluene	1 J	<10	<5	< 10	0.8 J
Total Xylenes	24	3 J	<15	2 J	9 J
Total PAHs	ND	2 J	28.3 J	58 J	61 J

MW-19I

Constituent	6/19/1996	7/30/1996	6/11/2002	11/3/2004
Benzene	<10	<10	<5	<10
Ethylbenzene	<10	<10	<5	<10
Toluene	<10	<10	<5	<10
Total Xylenes	<10	<10	<15	<10
Total PAHs	ND	ND	ND	ND

MW-15S

Constituent	6/19/1996	7/31/1996	6/12/2002	11/9/2004
Benzene	<10	<10	<5	<10
Ethylbenzene	<10	<10	<5	<10
Toluene	<10	<10	<5	<10
Total Xylenes	<10	<10	<15	<10
Total PAHs	ND	ND	ND	ND

MW-13P

Constituent	6/18/1996	7/30/1996	6/11/2002	11/2/2004	11/2/2004 DUP
Benzene	7 J	6 J	<5	<10	<10
Ethylbenzene	<10	<10	<5	<10	<10
Toluene	<10	<10	<5	<10	<10
Total Xylenes	<10	<10	<15	<10	<10
Total PAHs	28 J	51 J	ND	ND	28 J

MW-17

Constituent	6/20/1996	7/30/1996	11/5/2004
Benzene	8 J	5 J	9 J
Ethylbenzene	430 D	95	390 D
Toluene	8 J	4 J	6 J
Total Xylenes	180	20	70
Total PAHs	116 J	28 J	86 J

MW-6I

Constituent	6/21/1996	7/30/1996	6/12/2002	11/10/2004
Benzene	<10	<10	<5	<10
Ethylbenzene	<10	<10	<5	<10
Toluene	<10	<10	<5	<10
Total Xylenes	<10	<10	<15	<10
Total PAHs	ND	ND	ND	ND

MW-14P

Constituent	6/18/1996	7/30/1996	6/11/2002	11/3/2004
Benzene	<10	<10	<5	<10
Ethylbenzene	<10	<10	<5	<10
Toluene	<10	<10	<5	<10
Total Xylenes	<10	<10	<15	<10
Total PAHs	8 J	ND	ND	ND

NOTES:

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LEGEND:

MW-15S ●	MONITORING WELL
MW-3 ●	MONITORING WELL IN WHICH MEASURABLE NAPL HAS PREVIOUSLY BEEN IDENTIFIED
——X——	FENCE LINE
——	APPROXIMATE LOCATION OF EXISTING SITE FEATURE

MW-25 — SAMPLE/WELL ID

Constituent	11/1/2004
Benzene	1,400 D
Ethylbenzene	650 D
Toluene	14
Total Xylenes	180
Total PAHs	1,745 J

11/1/2004 — SAMPLE DATE

ANALYTICAL RESULT IN PARTS PER BILLION (ppb)

X: 36657X01.DWG
L: ON=*, OFF=REF*
P: PAGESET/PLT-BL
11/8/05 SYR-85-RCB RCA WLJ
36657011/SITE-RI/36657C02.DWG

NATIONAL GRID
SCHENECTADY (BROADWAY) SERVICE CENTER
SCHENECTADY, NEW YORK
SITE REMEDIAL INVESTIGATION REPORT

INTERMEDIATE GROUNDWATER SAMPLING RESULTS - BTEX AND TOTAL PAHs (ppb)

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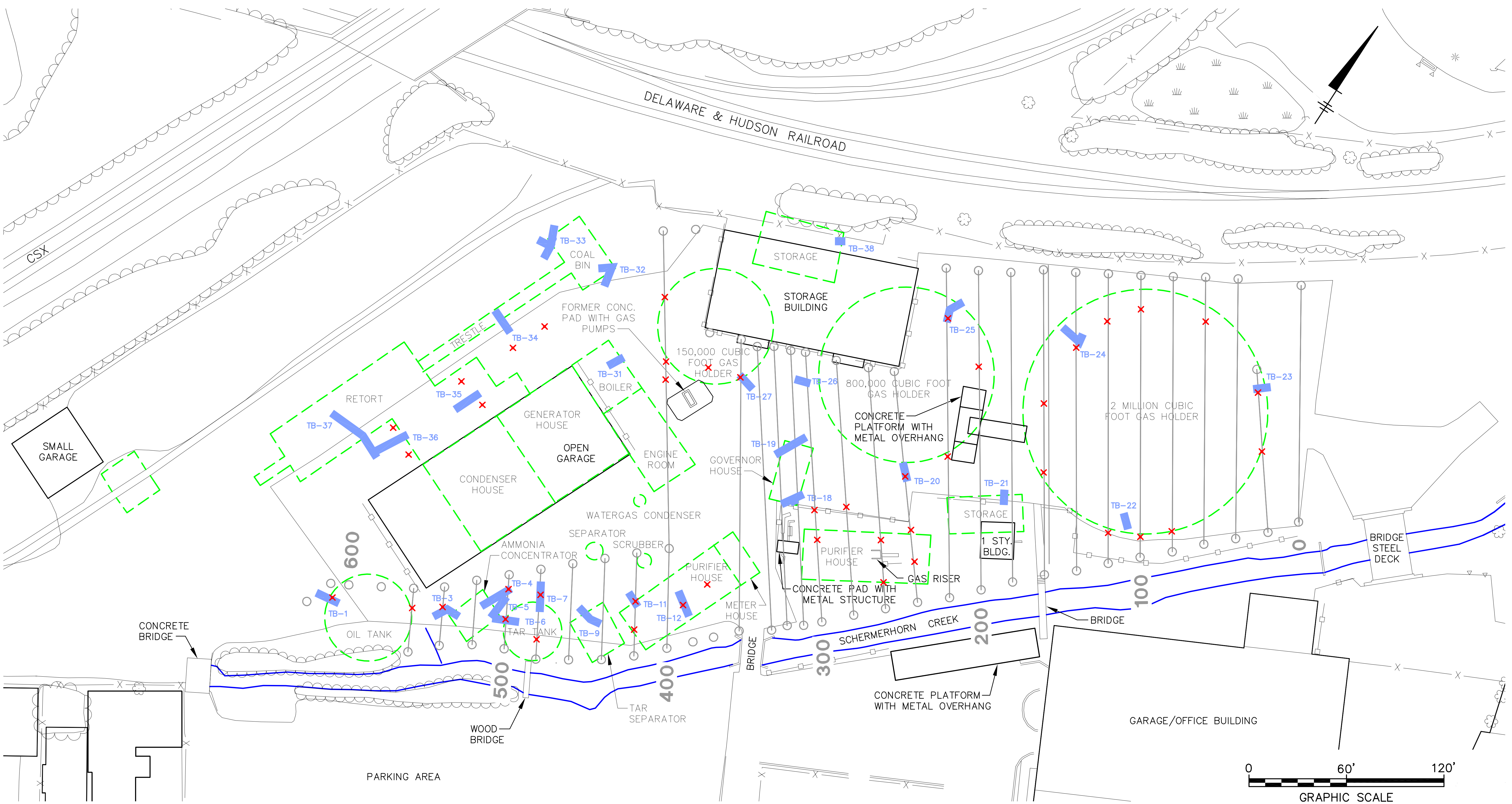
engineers, scientists, economists

FIGURE
4b



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3. HORIZONTAL DATUM IS NEW YORK STATE PLANE OF 1983, EAST ZONE.

LEGEND:

—X—	FENCE LINE
– – –	APPROXIMATE LOCATION OF HISTORICAL SITE FEATURE
———	APPROXIMATE LOCATION OF EXISTING SITE FEATURE
×	POTENTIAL EDGE OF HISTORICAL SUBSURFACE STRUCTURE IDENTIFIED BY ELECTROMAGNETIC AND GROUND PENETRATING RADAR SURVEYS
○—○	GEOPHYSICAL SURVEY TRANSECT LINES
▬	TEST BORING TRANSECT

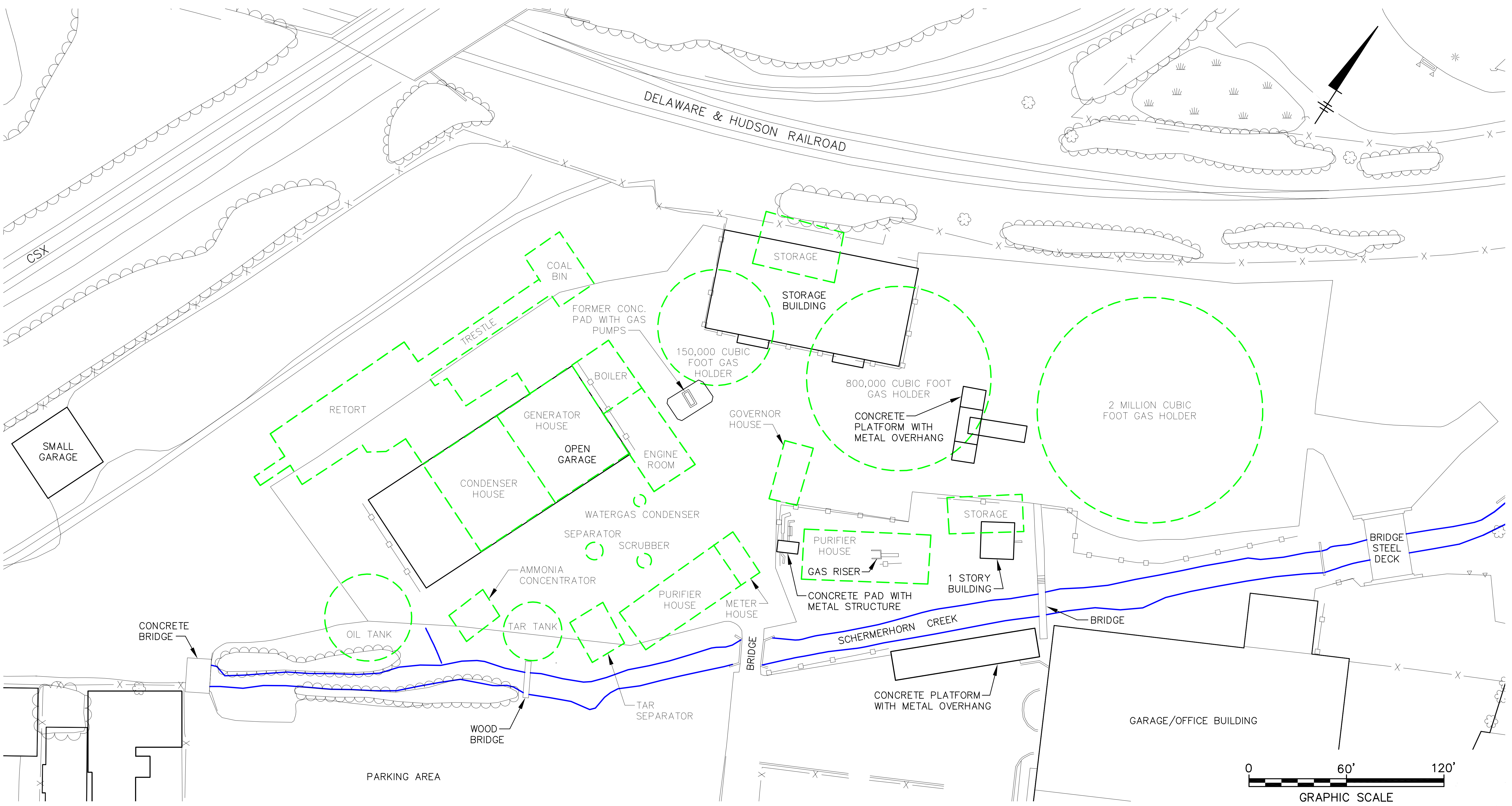
NATIONAL GRID
SCHENECTADY (BROADWAY) SERVICE CENTER
SCHENECTADY, NEW YORK
SITE REMEDIAL INVESTIGATION REPORT

GEOPHYSICAL SURVEY INVESTIGATION MAP

BBL
BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE
5

X: 36657X01.DWG
L: ON=*, OFF=REF*
P: PAGESET/PLT-BL
11/8/05 SYR-85-RCB RCB WLJ
36657011/SITE-RI/36657B03.DWG



NOTES:

1. BASE MAP PROVIDED BY NIAGARA MOHAWK POWER CORPORATION ON 5/21/99, FROM NIAGARA MOHAWK POWER CORPORATION SURVEY REFERENCE FILE DRAWING 3277.DGN, DATED 10/26/94 AT A SCALE OF 1"=100'.
2. HISTORICAL STRUCTURE LOCATIONS ARE BASED ON RESULTS OBTAINED FROM THE GEOPHYSICAL INVESTIGATION CONDUCTED BY BBL DURING MAY 2004. WHERE STRUCTURE LOCATIONS COULD NOT BE VERIFIED BY GEOPHYSICAL SURVEY AND PROBING, LOCATIONS ARE BASED ON HISTORICAL MAPPING.

LEGEND:

— x —	FENCE LINE
- - -	APPROXIMATE LOCATION OF HISTORICAL SITE FEATURE
———	APPROXIMATE LOCATION OF EXISTING SITE FEATURE

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SITE REMEDIAL INVESTIGATION REPORT

REVISED HISTORICAL SITE FEATURES LOCATION MAP

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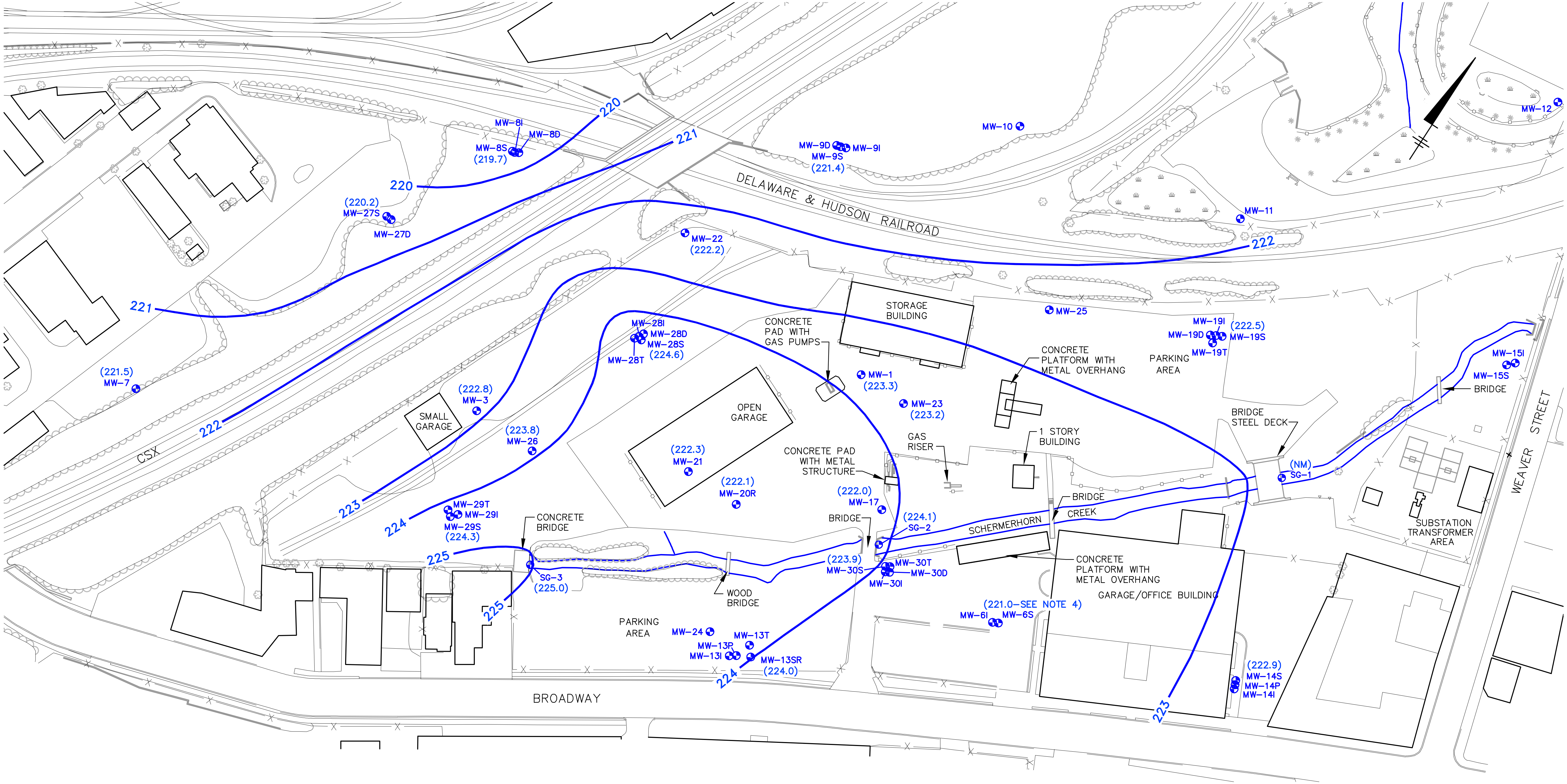
FIGURE
6

X: 36657X01.DWG
L: ON=*, OFF=REF*
P: PAGESET/PLT-BL
11/8/05 SYR-85-RCB RCB WLJ
36657011/SITE-RI/36657B02.DWG



NOTES:

1. BASE MAP PROVIDED BY NIAGARA MOHAWK POWER CORPORATION ON 5/21/99, FROM NIAGARA MOHAWK POWER CORPORATION SURVEY REFERENCE FILE DRAWING 3277.DGN, DATED 10/26/94 AT A SCALE OF 1"=100'.
2. MONITORING WELL LOCATIONS SURVEYED BY BBL.
3. HORIZONTAL DATUM IS NEW YORK STATE PLANE OF 1983, EAST ZONE.
4. WATER LEVEL MEASURED AT MW-6S APPEARS ANOMALOUS AND WAS NOT USED FOR CONTOURING.
5. MONITORING WELLS MW-17, MW-20R, AND MW-21 WERE INSTALLED SUCH THAT THEIR SCREENS STRADDLE THE SHALLOW AND INTERMEDIATE HYDROSTRATIGRAPHIC ZONES. THEREFORE THE WATER LEVELS MEASURED AT THESE LOCATIONS ARE NOT INDICATIVE OF THE WATER LEVELS FOR EITHER OF THESE ZONES AND WERE NOT USED FOR CONTOURING.

LEGEND:

MW-15S ●	MONITORING WELL
——X——	FENCE LINE
————	APPROXIMATE LOCATION OF EXISTING SITE FEATURE
224 ———	INFERRED GROUNDWATER ELEVATION CONTOUR
(224.0)	GROUNDWATER ELEVATION
(NM)	NOT MEASURED

0 100' 200'
GRAPHIC SCALE

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SCHENECTADY, NEW YORK
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WATER TABLE ELEVATION CONTOUR MAP - MAY 2005

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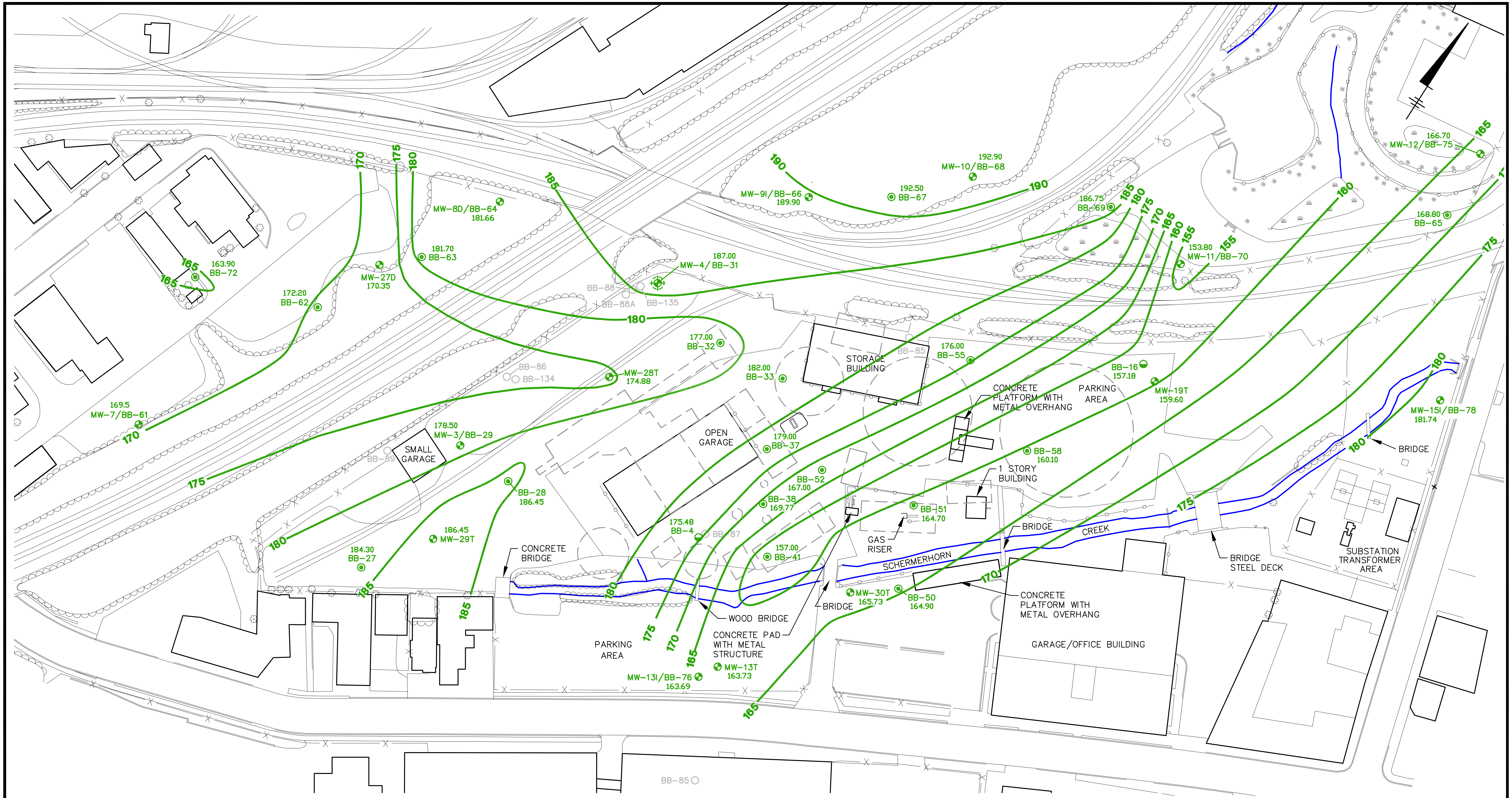
FIGURE
7

X: 36657X01.DWG
L: ON=*, OFF=REF*
P: PAGESET/PLT-BL
11/8/05 SYR-85-RCB RCB WLJ
36657011/SITE-RI/36657W07.DWG



LEGEND:

—— X ——	FENCE LINE
— — — —	HISTORICAL SITE FEATURES
181.74	TOP OF TILL ELEVATION
175 ——	TOP OF TILL ELEVATION CONTOUR
BB-27 ◉	SOIL BORING WHERE TILL WAS OBSERVED
MW-29T ●	MONITORING WELL WHERE TILL WAS OBSERVED

NOTES:

1. BASE MAP PROVIDED BY NIAGARA MOHAWK POWER CORPORATION ON 5/21/99, FROM NIAGARA MOHAWK POWER CORPORATION SURVEY REFERENCE FILE DRAWING 3277.DGN, DATED 10/26/94 AT A SCALE OF 1"=100'.
2. ALL LOCATIONS ARE APPROXIMATE.
3. PROPERTY LINE LOCATION ESTIMATED.

X: 36657X01.DWG
L: ON=*, OFF=REF*
P: PAGESET/PLT-BL
11/8/05 SYR-85-RCB RCA WLJ
36657011/SITE-RI/36657T01.DWG

0 100' 200'
GRAPHIC SCALE

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SITE REMEDIAL INVESTIGATION REPORT

TOP OF TILL CONTOUR MAP

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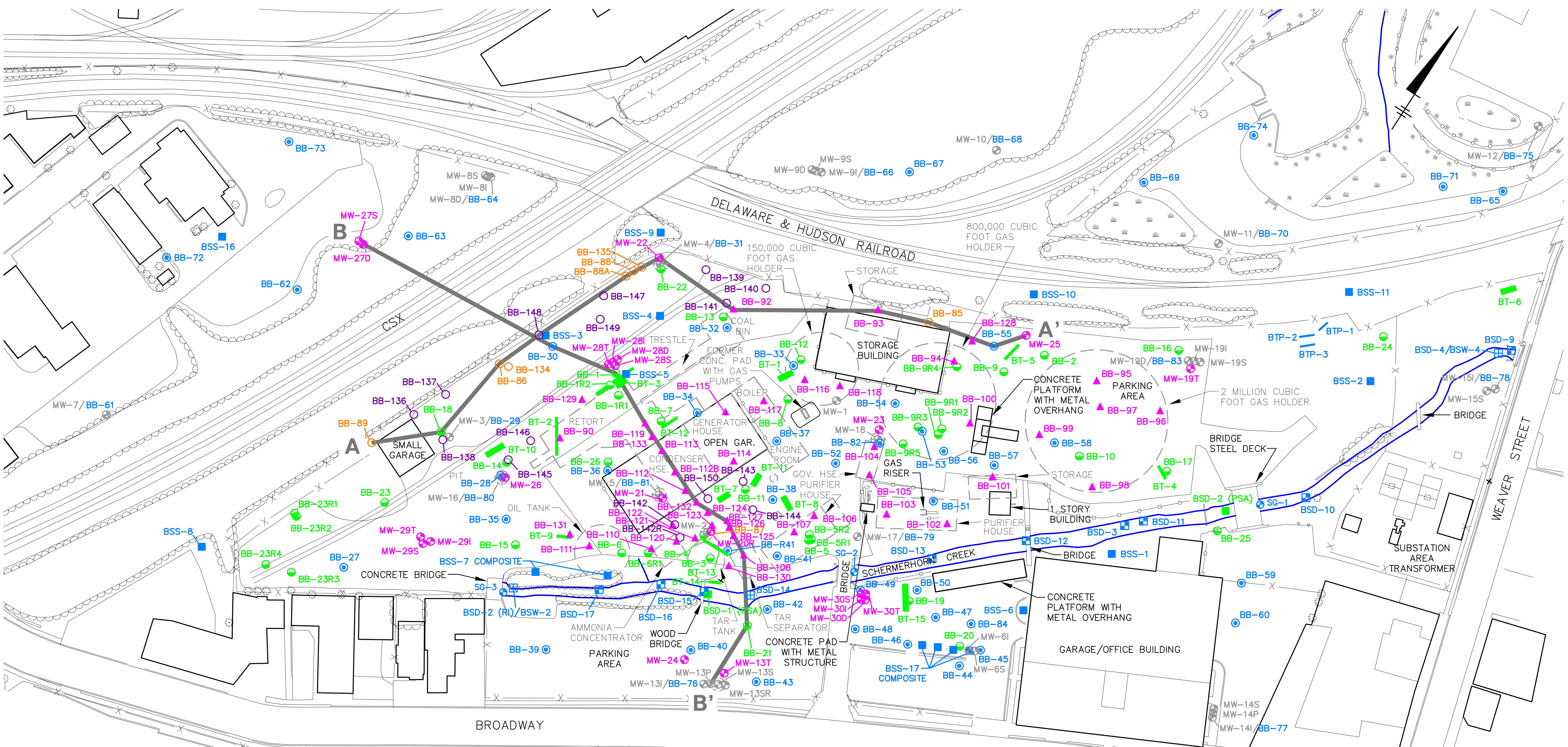
FIGURE
8



NOTES:

1. BASE MAP PROVIDED BY NIAGARA MOHAWK POWER CORPORATION ON 5/21/99, FROM NIAGARA MOHAWK POWER CORPORATION SURVEY REFERENCE FILE DRAWING 3277.DGN, DATED 10/26/94 AT A SCALE OF 1"=100'.
2. HISTORICAL STRUCTURE LOCATIONS ARE BASED ON RESULTS OBTAINED FROM THE GEOPHYSICAL INVESTIGATION CONDUCTED BY BBL DURING MAY 2004.
3. SAMPLING LOCATIONS WERE SURVEYED BY NIAGARA MOHAWK AND BLASLAND, BOUCK & LEE, INC.. LOCATIONS OF OTHER SITE FEATURES ARE APPROXIMATE.
4. HORIZONTAL DATUM IS NEW YORK STATE PLANE OF 1983, EAST ZONE.
5. MONITORING WELL MW-20 WAS ABANDONED AND REPLACED WITH MONITORING WELL MW-20R IN JANUARY 2005.

X: 36657X01.DWG
L: ON=*, OFF=REF*
P: PAGESET/PLT-BL
11/8/05 SYR-85-RCB RCB WLJ
36657011/SITE-RI/36657V01.DWG

LEGEND:

BB-X ·	SOIL BORING LOCATION ID: – BB-1 THROUGH BB-26 COMPLETED DURING PSA/IRM – BB-27 THROUGH BB-84 AND BB-R41 COMPLETED DURING RI – BB-85 THROUGH BB-89 AND BB-88A COMPLETED DURING NAPL INVESTIGATION – BB-92 THROUGH BB-133 COMPLETED DURING HISTORICAL SUBSURFACE STRUCTURE INVESTIGATION – BB-134 THROUGH BB-148 COMPLETED DURING ADDITIONAL SUBSURFACE INVESTIGATION
MW-15S ◍	MONITORING WELL
MW-2/BMW-1 ◍	DECOMMISSIONED MONITORING WELL
MW-23 ◍	BBL ADDITIONAL SUBSURFACE INVESTIGATION MONITORING WELL LOCATION
BB-102 ▲	BBL HISTORICAL SUBSURFACE STRUCTURE INVESTIGATION SOIL BORING LOCATION
BB-138 ○	ADDITIONAL NAPL DELINEATION SOIL BORING LOCATION
BB-85 ○	NAPL DELINEATION SOIL BORING LOCATION
BB-6 ◒	PSA/IRM SOIL BORING LOCATION
BT-14 ▬	PSA/IRM TEST PIT LOCATION
BSD-1 ■	PSA/IRM SEDIMENT SAMPLE LOCATION
BB-35 ◉	RI SOIL BORING LOCATION
BSS-6 ■	RI SURFACE SOIL SAMPLE LOCATION
BTP-1 ▬	RI TEST PIT LOCATION
BSD-2 ◪	RI SEDIMENT SAMPLE LOCATION
BSD-2/BSW-2 ⊞	RI SEDIMENT SURFACE WATER SAMPLE LOCATION
SG-1 ◍	STAFF GAUGE
—X—	FENCE LINE
– – –	APPROXIMATE LOCATION OF HISTORICAL SITE FEATURE
——	APPROXIMATE LOCATION OF EXISTING SITE FEATURE
A—A'	LINE OF CROSS SECTION

0 100' 200'
GRAPHIC SCALE

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GEOLOGIC CROSS SECTION LOCATION MAP

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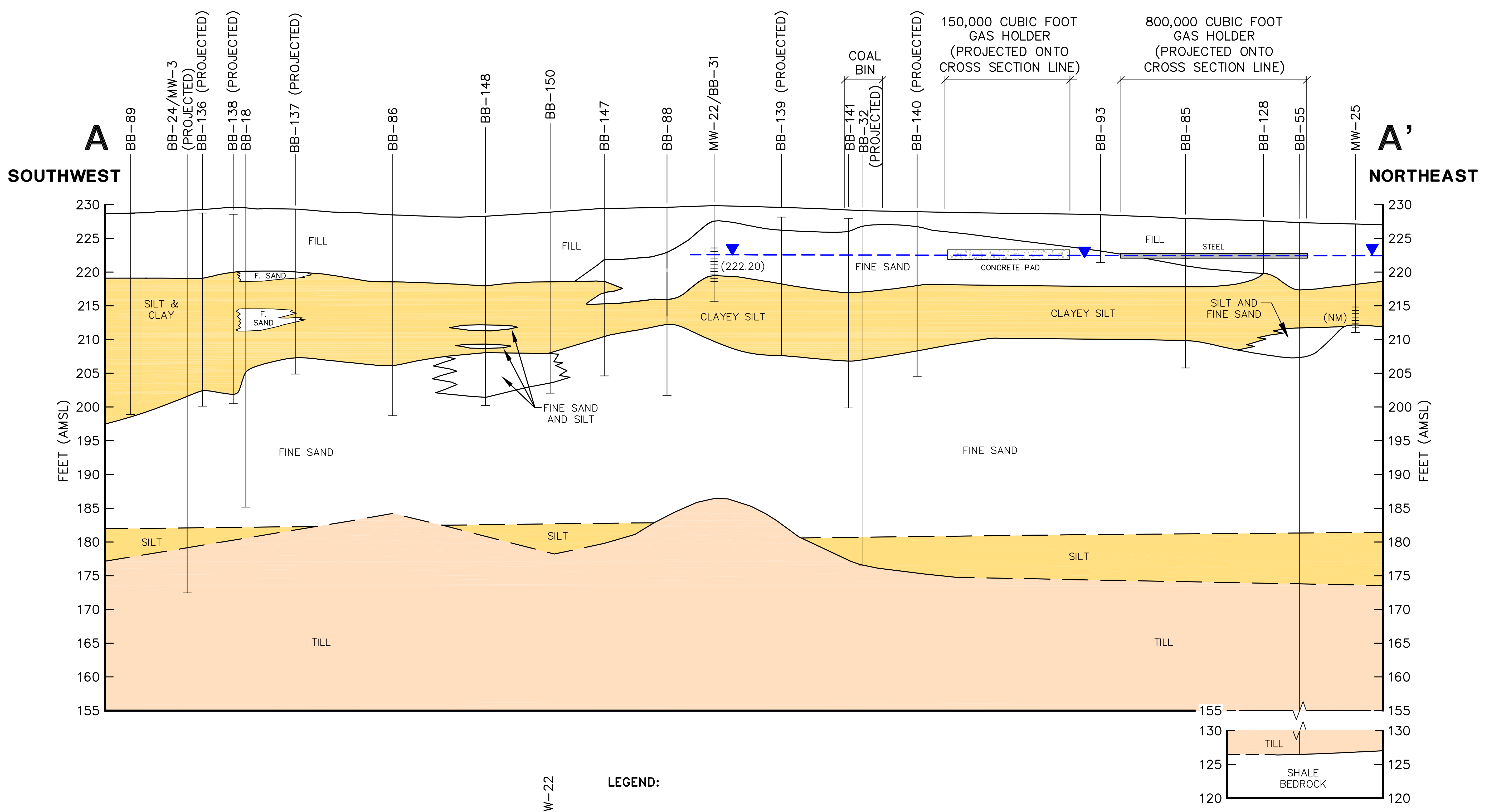
FIGURE
9



X: (NONE)
L: ON= * OFF= REF
P: PAGESET/PLT-BL1
11/8/05 SYR.-DIV-85-RCA RCB WLJ
36657011/36657V06.DWG

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GENERALIZED GEOLOGIC CROSS SECTION A - A'

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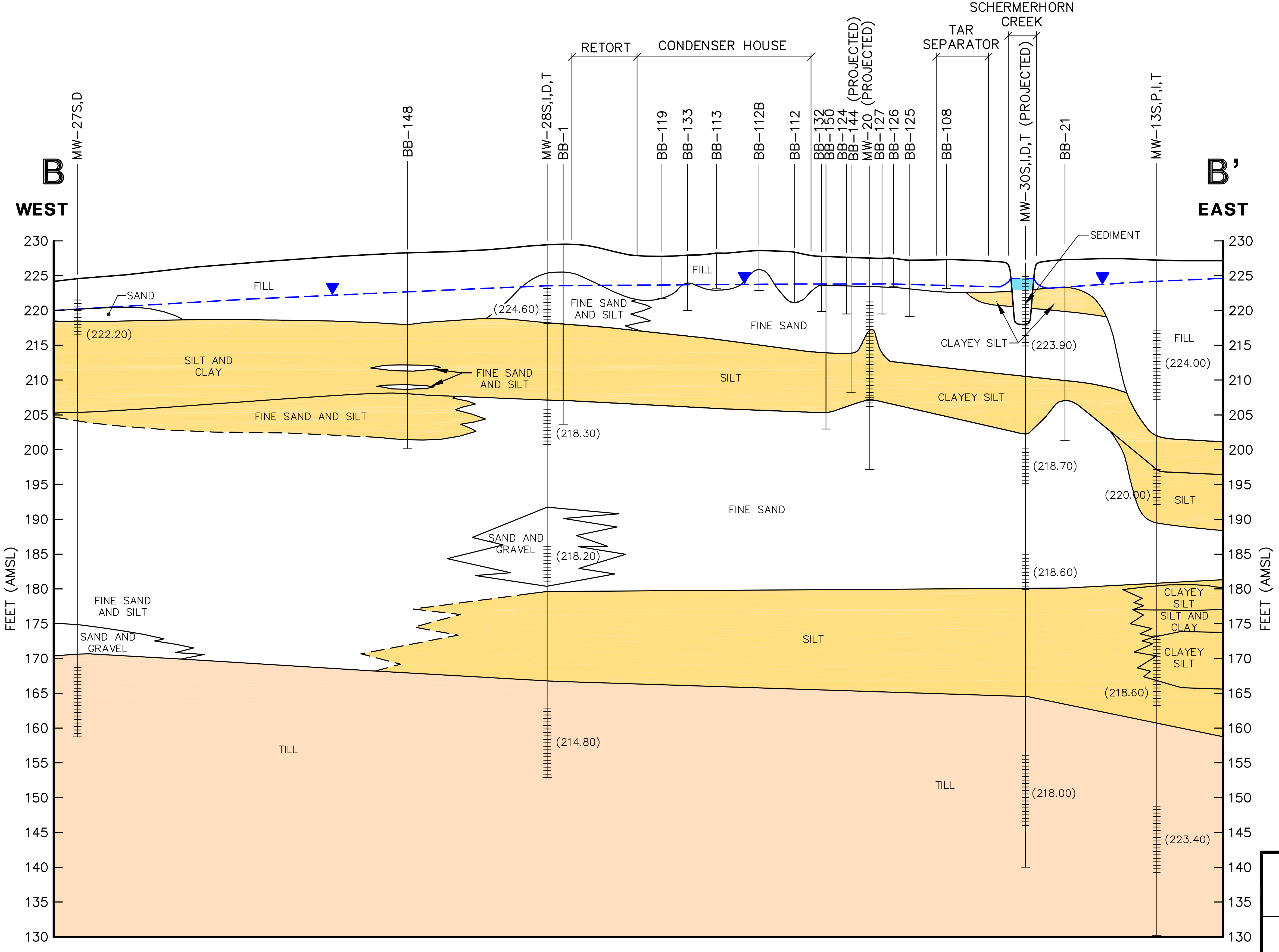
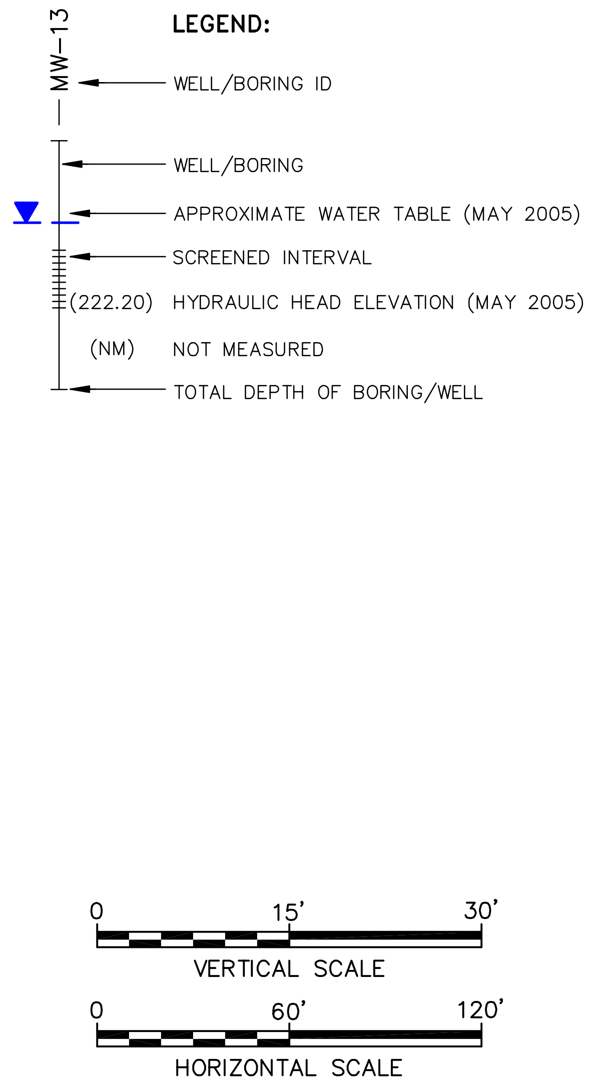
FIGURE
10





X: (NONE)
L: ON= * OFF= REF*, NAPL, SHEEN
P: PAGESET/PLT-BL1
11/8/05 SYR.-DIV-85-RCA RCB WLJ
36657011/36657V05.DWG

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GENERALIZED GEOLOGIC CROSS SECTION B - B'

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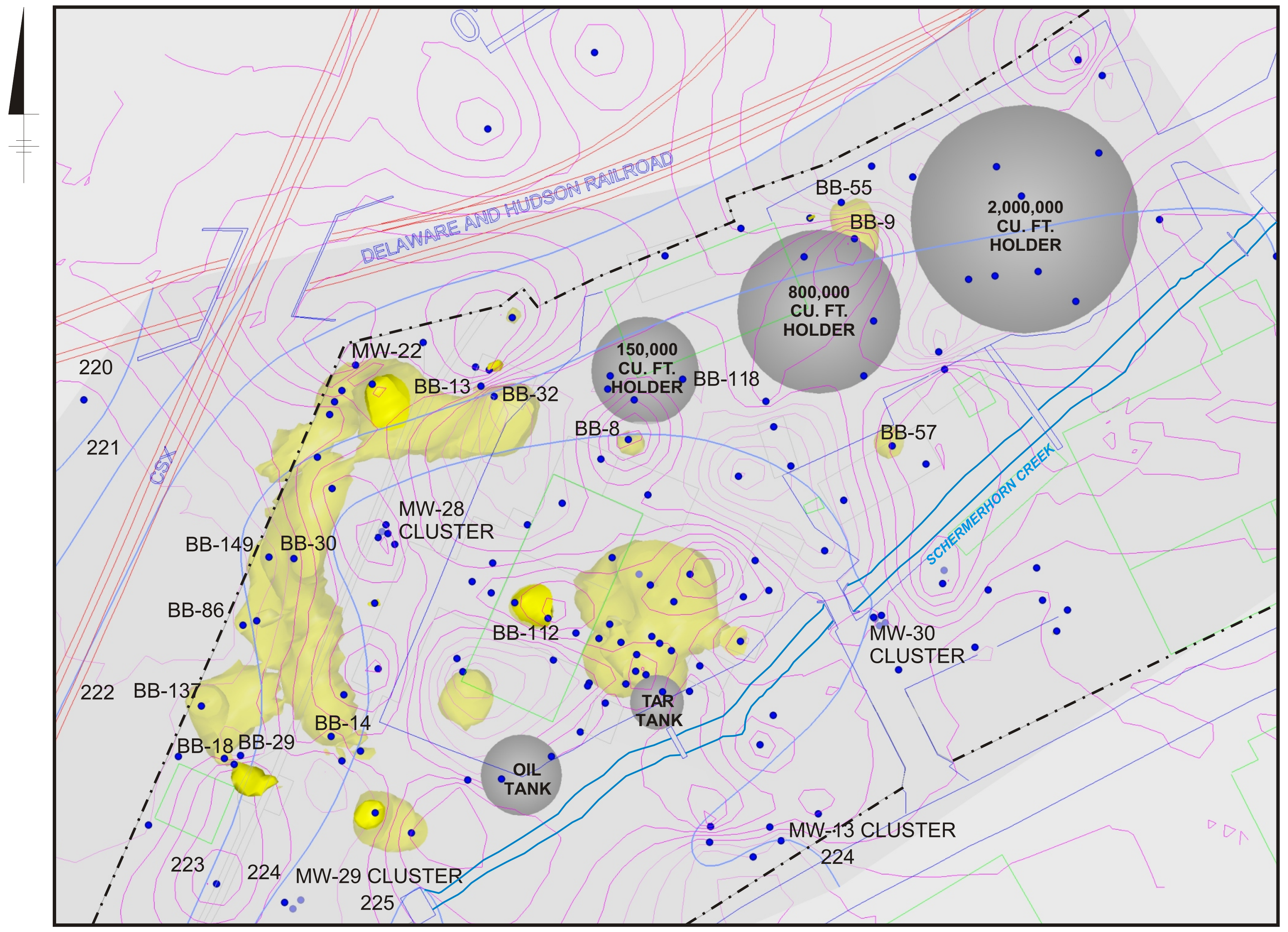
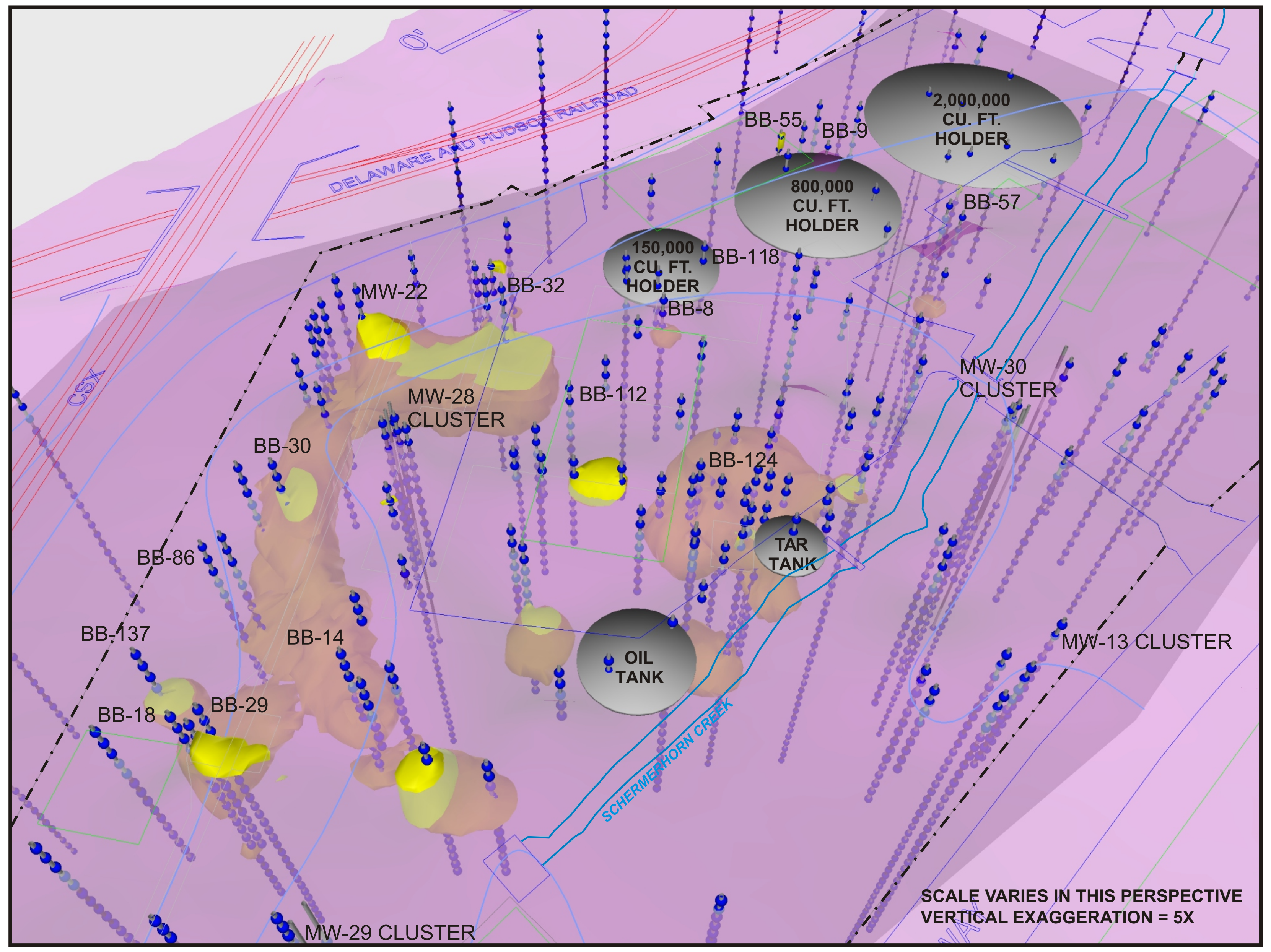
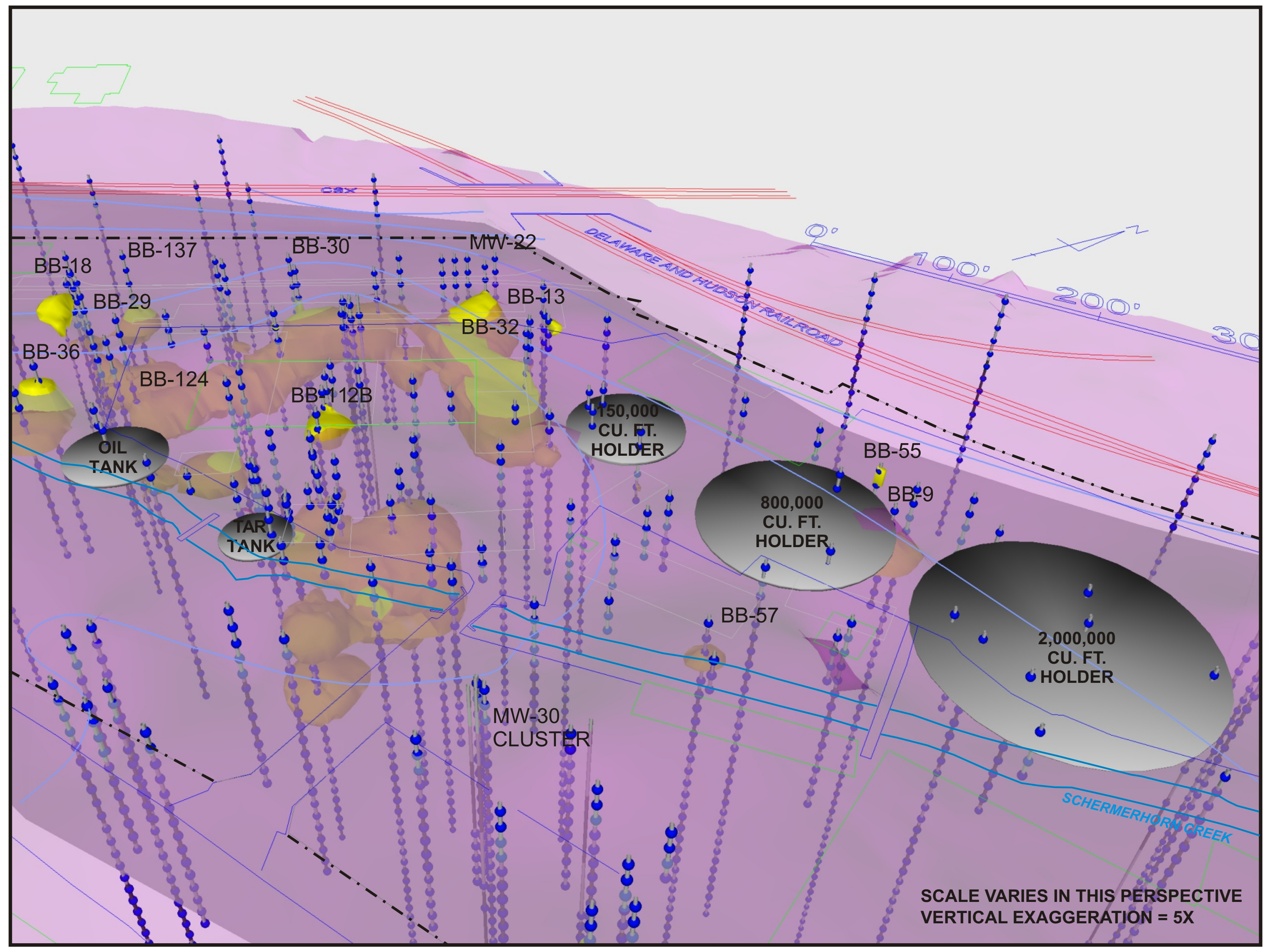
FIGURE
11



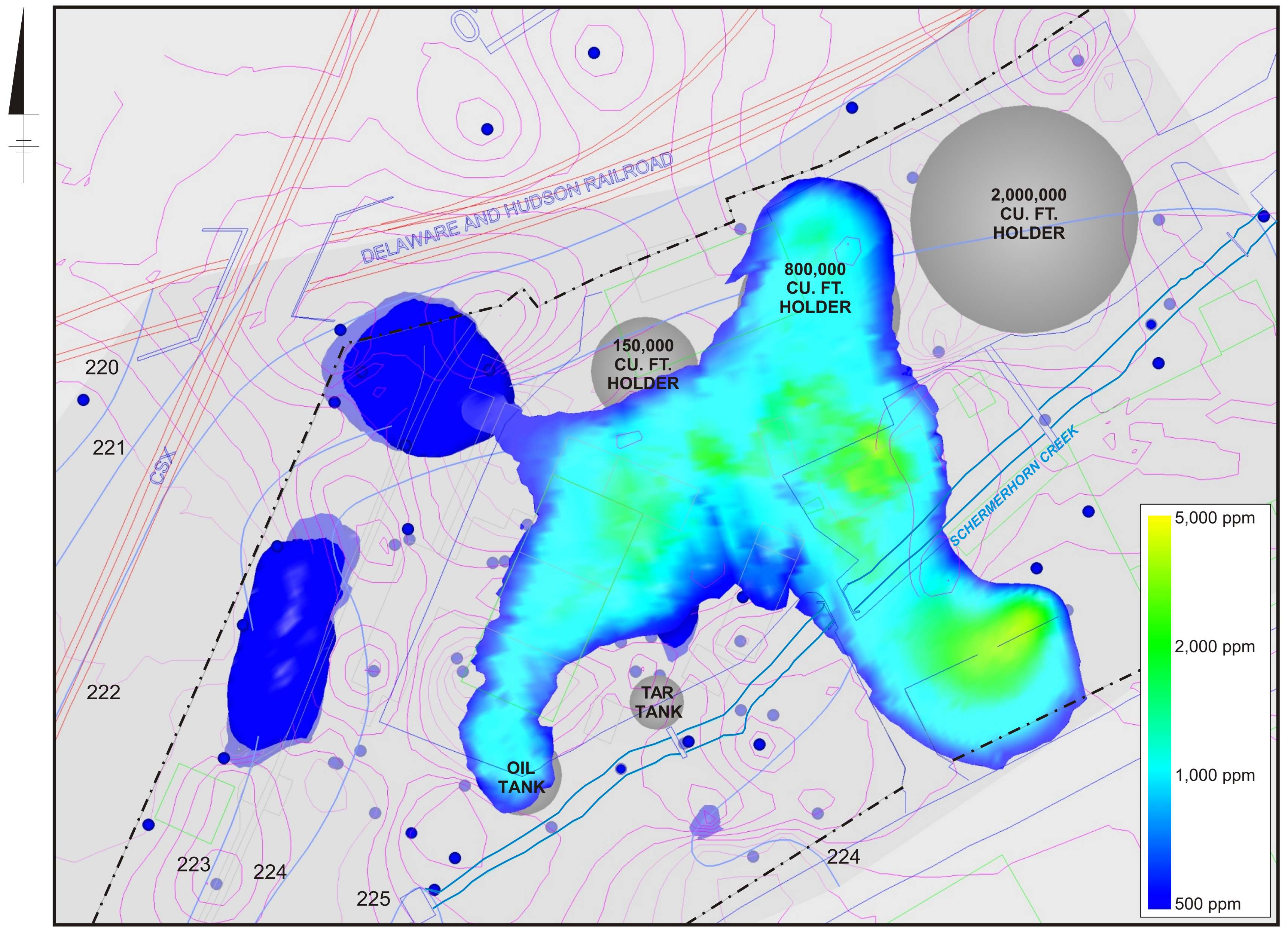
MODELED NAPL DISTRIBUTION - PLAN VIEW



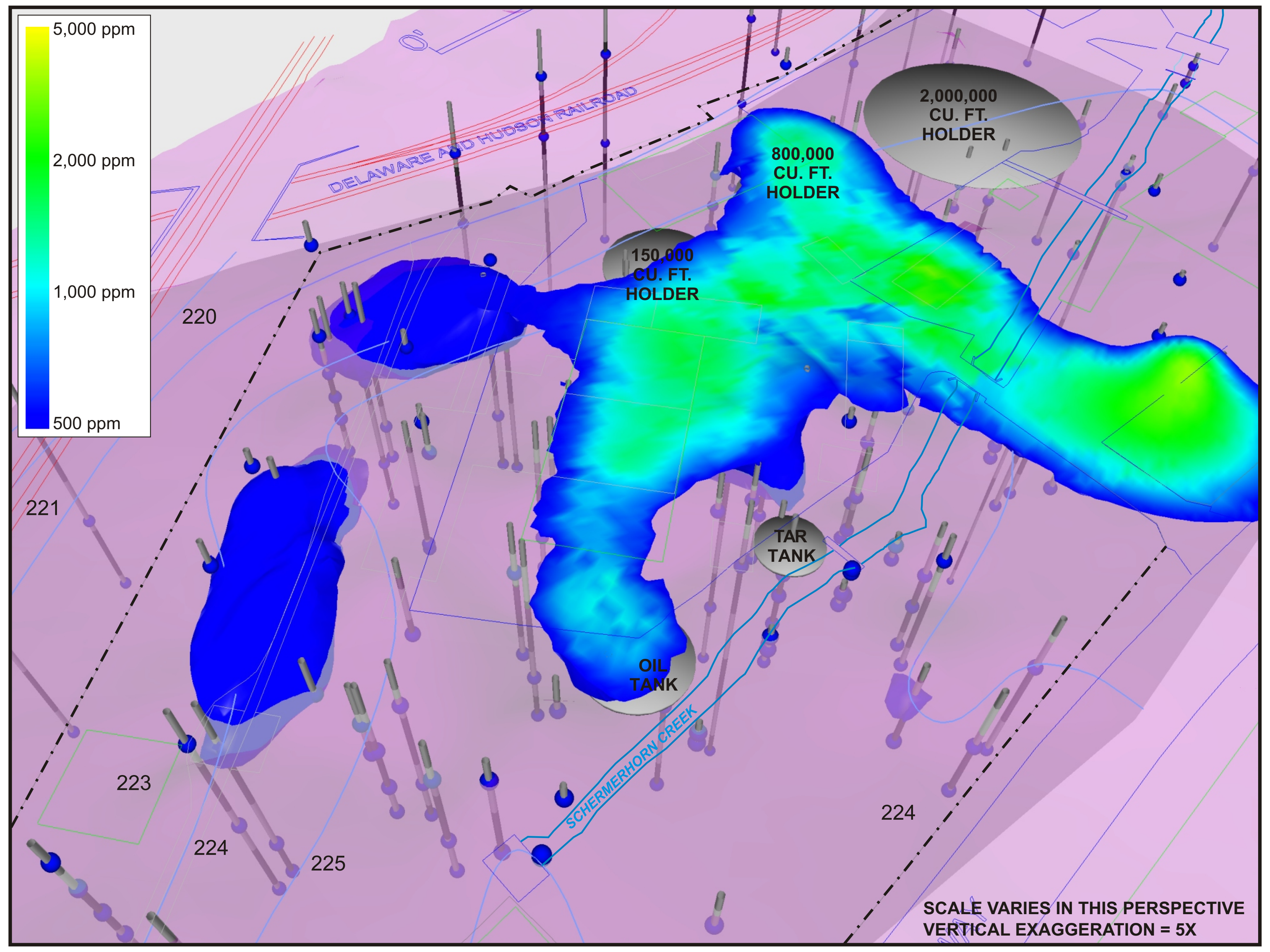
MODELED NAPL DISTRIBUTION - OBLIQUE VIEW FACING NORTH



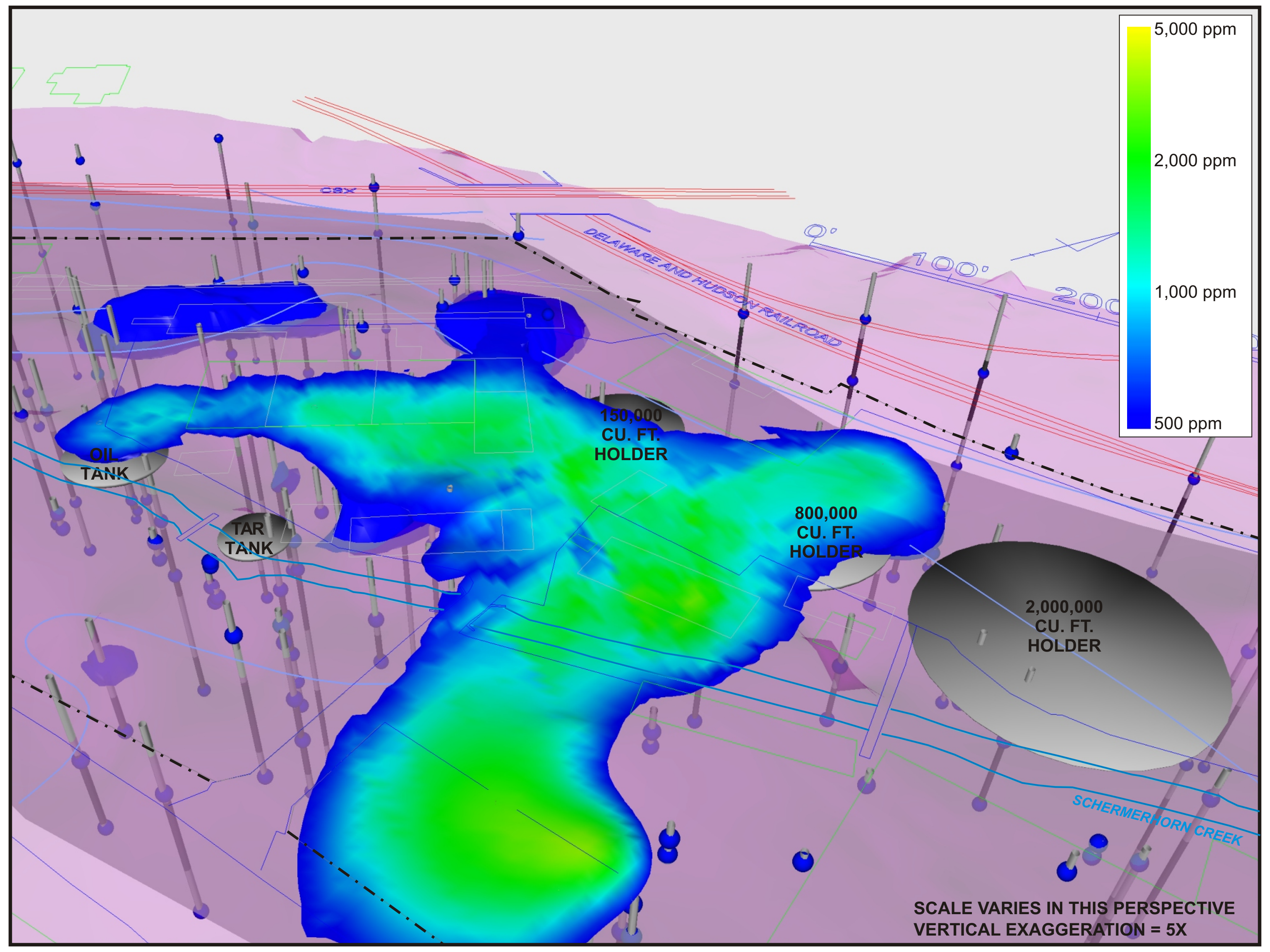
MODELED NAPL DISTRIBUTION - OBLIQUE VIEW FACING NORTHWEST



MODELED PAH DISTRIBUTION (500 ppm) - PLAN VIEW



MODELED PAH DISTRIBUTION (500 ppm) - OBLIQUE VIEW FACING NORTH



MODELED PAH DISTRIBUTION (500 ppm) - OBLIQUE VIEW FACING NORTHWEST

LEGEND:

NAPL DISTRIBUTION

- 🟨 ABOVE WATER TABLE
- ▨ BELOW WATER TABLE AND ABOVE TOP OF SILT AND CLAY
- ▨ BELOW WATER TABLE AND BELOW TOP OF SILT AND CLAY

PAH DISTRIBUTION (≥ 500 ppm)

- 🟦 ABOVE WATER TABLE
- ▨ BELOW WATER TABLE AND ABOVE TOP OF SILT AND CLAY
- 🟪 BELOW WATER TABLE AND BELOW TOP OF SILT AND CLAY

- 224 MAY 2005 - WATER TABLE ELEVATION CONTOUR
- TOP OF SILT AND CLAY TOPOGRAPHIC CONTOUR (FOR PLAN VIEWS)
- –·–·– PROPERTY LINE

NOTES:

1. BASE MAP PROVIDED BY NIAGARA MOHAWK POWER CORPORATION ON 5/21/99, FROM NIAGARA MOHAWK POWER CORPORATION SURVEY REFERENCE FILE DRAWING 3277. DGN,DATED 10/26/94 AT A SCALE OF 1" = 100'.
2. HISTORICAL LOCATIONS WERE DIGITIZED FROM PARSONS ENGINEERING SCIENCE, INC. FIGURE 1.5, "HISTORICAL SAMPLE LOCATIONS."
3. ALL LOCATIONS ARE APPROXIMATE
4. CU. FT. = CUBIC FEET

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MODELED DISTRIBUTION OF NAPL AND PAHs > 500 PPM IN SOIL

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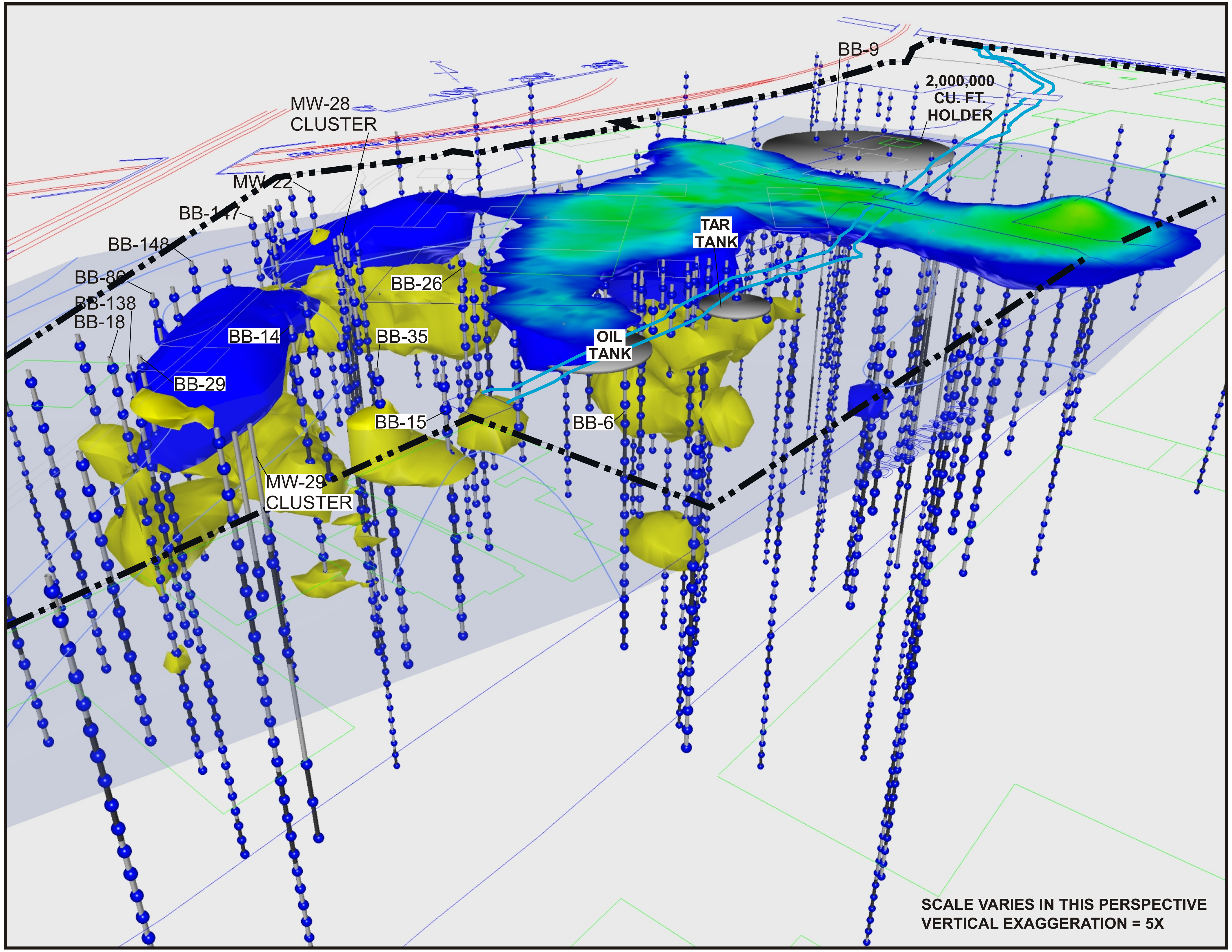
FIGURE
12a

11/08/05 SYR-D85-DJH-KLS, DJH
36657011/36657g01.cdr



SCALE VARIES IN THIS PERSPECTIVE
VERTICAL EXAGGERATION = 5X

COMBINED MODELED NAPL AND PAH DISTRIBUTION (≥500PPM) - OBLIQUE VIEW FACING NORTHEAST

LEGEND:

NAPL DISTRIBUTION

🟨	ABOVE WATER TABLE
▨	BELOW WATER TABLE AND ABOVE TOP OF SILT AND CLAY
🟫	BELOW WATER TABLE AND BELOW TOP OF SILT AND CLAY

PAH DISTRIBUTION (≥ 500 ppm)

🟦	ABOVE WATER TABLE
▨	BELOW WATER TABLE AND ABOVE TOP OF SILT AND CLAY
🟪	BELOW WATER TABLE AND BELOW TOP OF SILT AND CLAY
~ 224	MAY 2005 - WATER TABLE ELEVATION CONTOUR
—	TOP OF SILT AND CLAY TOPOGRAPHIC CONTOUR (FOR PLAN VIEWS)
▬ ▪ ▪	PROPERTY LINE

NOTES:

1. BASE MAP PROVIDED BY NIAGARA MOHAWK POWER CORPORATION ON 5/21/99, FROM NIAGARA MOHAWK POWER CORPORATION SURVEY REFERENCE FILE DRAWING 3277. DGN,DATED 10/26/94 AT A SCALE OF 1" = 100'.
2. HISTORICAL LOCATIONS WERE DIGITIZED FROM PARSONS ENGINEERING SCIENCE, INC. FIGURE 1.5, "HISTORICAL SAMPLE LOCATIONS."
3. ALL LOCATIONS ARE APPROXIMATE
4. CU. FT. = CUBIC FEET

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COMBINED MODELED DISTRIBUTION OF NAPL AND PAHs > 500PPM IN SOIL

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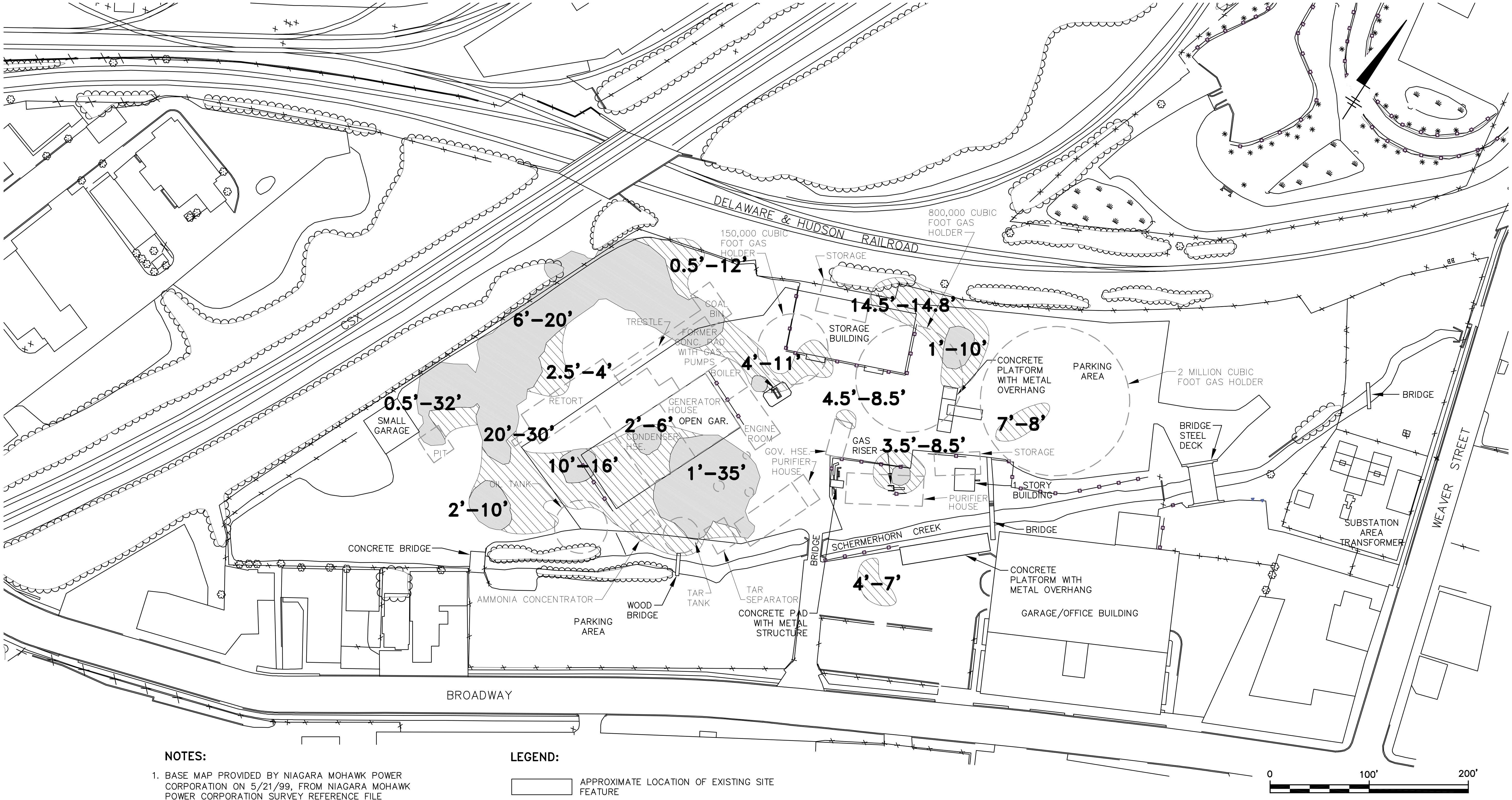
FIGURE
12b

11/08/05 SYR-D85-DJH
36657014/36657g01.cdr



NOTES:

1. BASE MAP PROVIDED BY NIAGARA MOHAWK POWER CORPORATION ON 5/21/99, FROM NIAGARA MOHAWK POWER CORPORATION SURVEY REFERENCE FILE DRAWING 3277.DGN, DATED 10/26/94 AT A SCALE OF 1"=100'.
2. HORIZONTAL DATUM IS NEW YORK STATE PLANE OF 1983, EAST ZONE.
3. DELINEATION OF NAPL–IMPACTED SOIL WAS DETERMINED BASED ON MINING VISUALIZATION SOFTWARE (MVS) COMPUTER MODELING THAT UTILIZED A DATABASE OF FIELD OBSERVATIONS RECORDED ON SOIL BORING LOGS.
4. DELINEATION OF POTENTIAL NAPL DISTRIBUTION AREAS IS BASED ON INTERPRETATION BETWEEN SOIL BORINGS AND VISUAL CHARACTERIZATION OF SOILS (i.e., TEST PITS, TEST BORINGS, AND SOIL EXCAVATIONS) NOT INCORPORATED INTO THE MVS DATABASE.

LEGEND:

▭	APPROXIMATE LOCATION OF EXISTING SITE FEATURE
⬚	APPROXIMATE LOCATION OF HISTORICAL SITE FEATURE
▒	APPROXIMATE EXTENT OF NAPL–IMPACTED SOIL
—X—	FENCE LINE
▨	INTERPRETED AREAS OF POTENTIAL NAPL–IMPACTED SOIL
6'–20'	APPROXIMATE DEPTH TO TOP AND BOTTOM OF NAPL–IMPACTED SOIL (BASED ON VISUAL SOIL CHARACTERIZATION AND MODELING USING MVS)

X: 36657X01.DWG
L: ON=*, OFF=REF*
P: PAGESET/PLT–BL1
11/8/05 SYR–85–RCB RCB WLJ
36657011/36657B15.DWG

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EXTENT OF NAPL–IMPACTED SOILS

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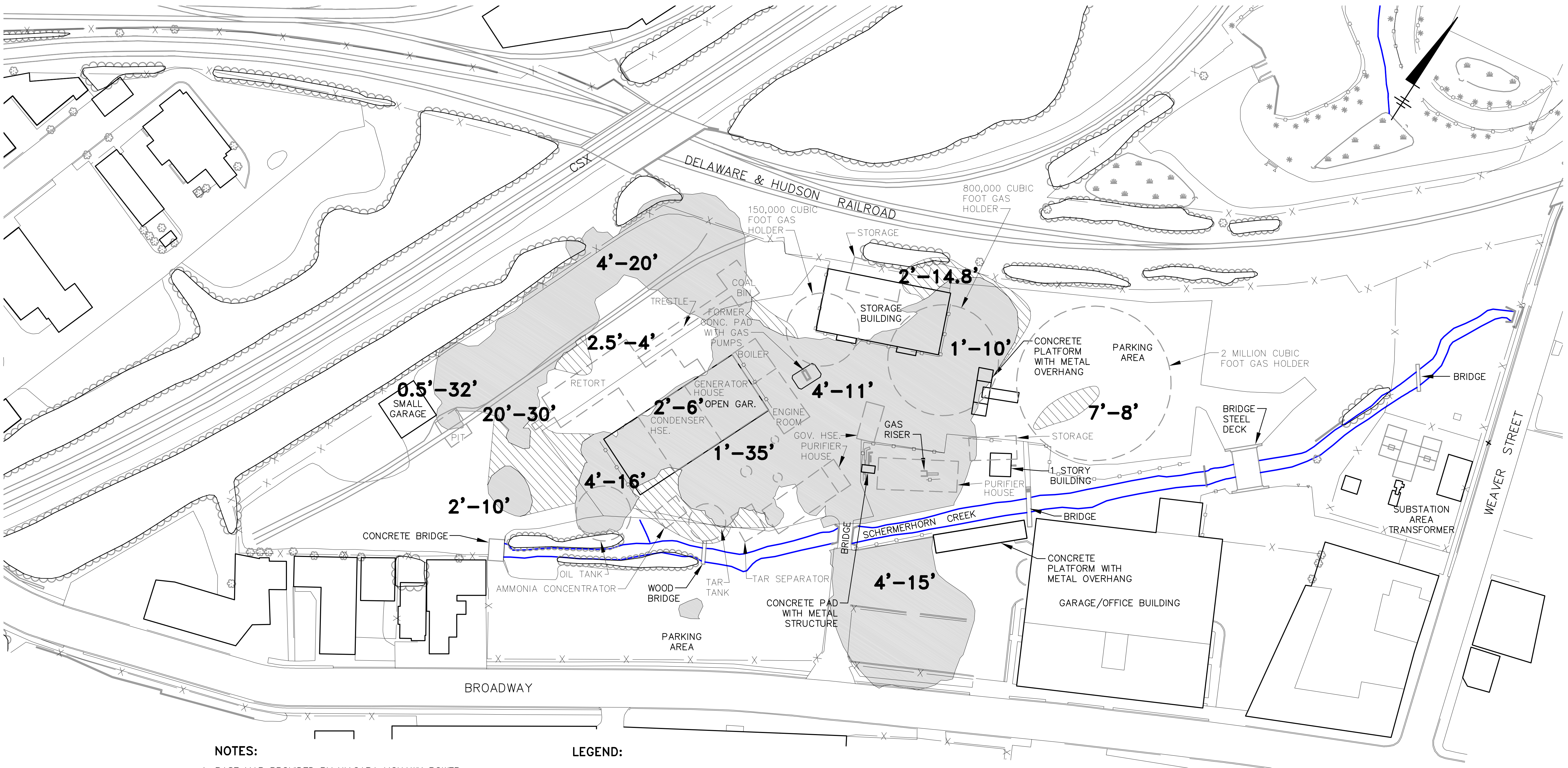
FIGURE
13



NOTES:

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2. HORIZONTAL DATUM IS NEW YORK STATE PLANE OF 1983, EAST ZONE.
3. DELINEATION OF NAPL–IMPACTED SOIL AND SOIL CONTAINING PAHs AT CONCENTRATIONS >500 PPM WAS DETERMINED BASED ON MINING VISUALIZATION SOFTWARE (MVS) COMPUTER MODELING THAT UTILIZED A DATABASE OF FIELD OBSERVATIONS RECORDED ON SOIL BORING LOGS AND BASED ON SOIL SAMPLE ANALYTICAL RESULTS.
4. DELINEATION OF POTENTIAL NAPL DISTRIBUTION AREAS IS BASED ON INTERPRETATION BETWEEN SOIL BORINGS AND VISUAL CHARACTERIZATION OF SOILS (i.e., TEST PITS, TEST BORINGS, AND SOIL EXCAVATIONS) NOT INCORPORATED INTO THE MVS DATABASE.

LEGEND:

☐	APPROXIMATE LOCATION OF EXISTING SITE FEATURE
⬚	APPROXIMATE LOCATION OF HISTORICAL SITE FEATURE
■	APPROXIMATE EXTENT OF NAPL–IMPACTED SOIL AND SOIL CONTAINING PAHs >500 ppm
▨	INTERPRETED AREAS OF POTENTIAL NAPL–IMPACTED SOIL
6'–20'	APPROXIMATE DEPTH TO TOP AND BOTTOM OF NAPL–IMPACTED SOIL AND SOIL CONTAINING PAHs >500ppm (BASED ON VISUAL SOIL CHARACTERIZATION AND SOIL SAMPLE ANALYTICAL RESULTS, RESPECTIVELY)
—X—	FENCE LINE

0 100' 200'
GRAPHIC SCALE

X: 36657X01.DWG
L: ON=*, OFF=*REF*, |HIST–FEATURES, |HIST–TXT, \MISC–POST
P: PAGESET/SYR–BL1
11/30/05 SYR–85–RCB WLJ GMS
36657011/36657B21.DWG

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SITE REMEDIAL INVESTIGATION REPORT

EXTENT OF NAPL–IMPACTED SOIL AND SOIL CONTAINING PAHs >500 ppm

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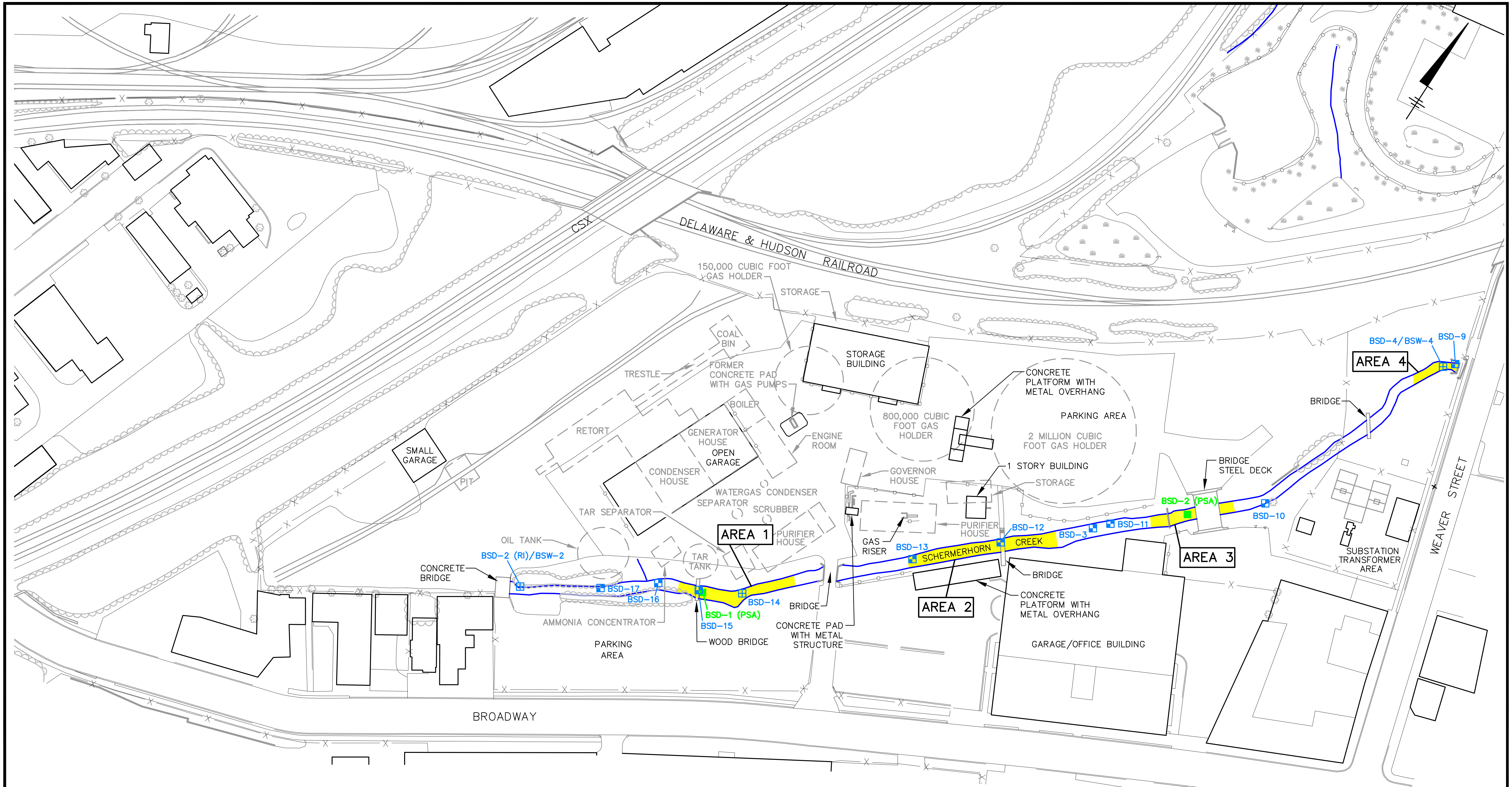
FIGURE
14



LEGEND:

—X— FENCE LINE

— — — HISTORICAL SITE FEATURES

BSD-1 🟩 PSA/IRM SEDIMENT SAMPLE LOCATION

BSD-2 ▣ RI SEDIMENT SAMPLE LOCATION

BSD-2/BSW-2 ⊞ RI SEDIMENT SURFACE WATER SAMPLE LOCATION

🟨 AREAS OF POTENTIAL SEDIMENT REMOVAL

NOTES:

1. BASE MAP PROVIDED BY NIAGARA MOHAWK POWER CORPORATION ON 5/21/99, FROM NIAGARA MOHAWK POWER CORPORATION SURVEY REFERENCE FILE DRAWING 3277.DGN, DATED 10/26/94 AT A SCALE OF 1"=100'.
2. ALL LOCATIONS ARE APPROXIMATE.
3. PROPERTY LINE LOCATION ESTIMATED.
4. DEPTH OF SEDIMENT WITHIN ON SITE PORTION OF CREEK IS GREATER THAN 4 FEET BASED ON INFORMATION PRESENTED IN REMEDIAL INVESTIGATION REPORT (PARSONS, JANUARY 1999).

0 100' 200'
GRAPHIC SCALE

X: 36657X01.DWG
L: ON=*, OFF=REF*
P: PAGESET/PLT-BL
11/8/05 SYR-85-RCB RCB WLJ
36657011/36657B28.DWG

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AREAS OF POTENTIAL SEDIMENT REMOVAL

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FIGURE
15

Appendices

Appendix A

Soil Boring Logs

Date Start/Finish: 6/22/04
Drilling Company: BBL, Inc.
Driller's Name: DM
Drilling Method: Truck-mounted AMS Power Probe
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447153.388
Easting: 639044.2788
Casing Elevation: NA

Borehole Depth: 4.5' below grade
Surface Elevation: 228.67' AMSL

Descriptions By: Steve Lewitt

Boring ID: BB-090

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	230								
0							× × ×	BRICK and CONCRETE pieces.	▨ Borehole backfilled to grade with excavated materials.
	225						× × ×	Staining and strong Coal tar odor on soil from 4.0' - 4.5' bgs. Water with sheen presented below 4.0' bgs.	▨
5								Refusal on Concrete at 4.5' bgs.	
	220								
10									
	215								
15									

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Project: 36657.011
Data File: BB-90.dat

Template: J:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 7/23/04

Date Start/Finish: 6/23/04
Drilling Company: BBL, Inc.
Driller's Name: DM
Drilling Method: Truck Mounted AMS Power Probe
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447339.0607
Easting: 639113.2184
Casing Elevation: NA

Borehole Depth: 6.0' below grade
Surface Elevation: 228.38' AMSL

Descriptions By: Steve Lewitt

Boring ID: BB-092

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	230								
0		1	0-2	2.0	274	×		Black fine SAND and SILT, trace NAPL, strong odor, wet.	Borehole backfilled with Bentonite Pellets.
	225	2	2-4	4.0	357			Dark gray SILT and CLAY, little fine Sand, odor, wet. Trace NAPL from 2.0' - 2.5'.	
5		3	4-6		122				
	220								
10									
	215								
15									

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Excavated 4.5, then cored 1.1' of Concrete. Boring started at the base of the Concrete.

Sample collected from 0 - 2.0' for BTEX, PAHs, Cyanide, TCLP VOCs, TCLP SVOCs, TCLP metals, TCLP PCBs, Ignitability, Corrosivity, and Reactivity.

Project: 36657.011
Data File: BB-092.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 7/23/04

Date Start/Finish: 9/1/04
Drilling Company: BBL, Inc.
Driller's Name: Nate Romeo/Bob Diehl
Drilling Method: Bobcat-mounted AMS Power Probe
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447425.6386
Easting: 639233.7264
Casing Elevation: NA

Borehole Depth: 6.0' below grade
Surface Elevation: 227.41' AMSL

Descriptions By: Bruce Eulian

Boring ID: BB-093

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	230								
0		1	0-2	2.0	0.0			Dark brown SAND, some fine Gravel. ASPHALT Dark brown SAND, some fine Gravel.	
	225	2	2-4		0.0			Dark brown SAND, moist.	Borehole backfilled to grade with excavated materials.
5		3	4-6	2.3	0.0			Dark brown fine SAND and SILT, moist.	
		4	6-7		0.0				
	220								
10									
	215								
15									

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Date Start/Finish: 6/22/04
Drilling Company: BBL, Inc.
Driller's Name: DM
Drilling Method: JCB 214 Truck-mounted Backhoe
Sampler Size: NA

Northing: 1447425.3848
Easting: 639325.392
Casing Elevation: NA

Borehole Depth: 4.8' below grade
Surface Elevation: 227.21' AMSL

Descriptions By: Steve Lewitt

Boring ID: BB-094

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	230								
0							×××	FILL.	▒
	225						×××		▒ Borehole backfilled to grade with excavated materials.
							×××	Staining and petroleum odor below 2.8' bgs.	▒
								Steel structure encountered at 3.8' bgs.	
5									
	220								
10									
	215								
15									

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Date Start/Finish: 6/21/04
Drilling Company: BBL, Inc.
Driller's Name: DM
Drilling Method: Truck Mounted AMS Power Probe
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447484.573
Easting: 639452.2268
Casing Elevation: NA

Borehole Depth: 7.0' below grade
Surface Elevation: 225.70' AMSL

Descriptions By: Steve Lewitt

Boring ID: BB-095

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
0	225	1	0-1	2.0	1.4			Brown fine SAND, little Silt, moist.	
		2	1-3		26				
		3	3-5	2.2	0.4			Very moist below 3.0'. Gray color, wet below 4.4'.	Borehole backfilled with Bentonite Pellets.
5	220	4	5-7		0.4				
10	215								
15	210								

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Excavated 0.5' of Gravel, then cored 1.1' of Concrete. Boring started at the base of the Concrete.

Project: 36657.011
Data File: BB-095.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 7/23/04

Date Start/Finish: 6/21/04
Drilling Company: BBL, Inc.
Driller's Name: DM
Drilling Method: Truck Mounted AMS Power Probe
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447493.8259
Easting: 639519.8738
Casing Elevation: NA

Borehole Depth: 7.0' below grade
Surface Elevation: 225.83' AMSL

Descriptions By: Steve Lewitt

Boring ID: BB-096

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
0	225	1	0-1	2.0	0.3		⁘	Brown fine SAND, little medium Sand, very moist.	Borehole backfilled with Bentonite Pellets.
		2	1-3		0.3		⁘		
		3	3-5	2.3	0.4		⁘	Gray-brown fine to medium SAND, little Silt, trace Gravel, wet.	
5	220	4	5-7		0.2		⁘	Gray SAND, some Gravel, Glass, and Wood, wet.	
10	215								
15	210								

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Excavated 0.5' of Gravel, then cored 0.6' of Concrete. Boring started at the base of the Concrete.

Date Start/Finish: 6/21/04
Drilling Company: BBL, Inc.
Driller's Name: DM
Drilling Method: Truck Mounted AMS Power Probe
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447465.2724
Easting: 639468.8882
Casing Elevation: NA

Borehole Depth: 6.0' below grade
Surface Elevation: 226.06' AMSL

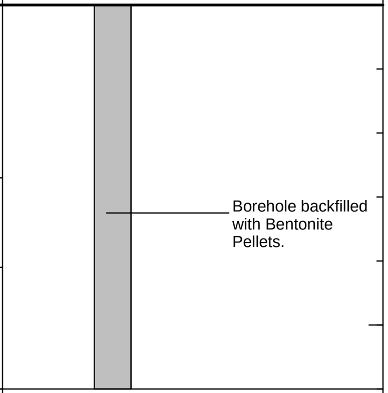
Descriptions By: Steve Lewitt

Boring ID: BB-097

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
0							░	Brown fine SAND, little medium Sand, moist.	
	225	1	0-2	1.3	1.4		░		
		2	2-4	2.5	0.9		░	Gray-brown fine SAND, little medium Sand and Silt, wet.	Borehole backfilled with Bentonite Pellets.
5		3	4-6		0.2		░	Dark gray SAND, some Glass and Ash, little Gravel, wet.	
	220								
10									
	215								
15									



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Excavated 0.7' of Gravel, then cored 0.7' of Concrete. Boring started at the base of the Concrete.

Project: 36657.011
Data File: BB-097.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 7/23/04

Date Start/Finish: 6/21/04
Drilling Company: BBL, Inc.
Driller's Name: DM
Drilling Method: Truck Mounted AMS Power Probe
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447395.6587
Easting: 639504.6419
Casing Elevation: NA

Borehole Depth: 7.0' below grade
Surface Elevation: 225.41' AMSL

Descriptions By: Steve Lewitt

Boring ID: BB-098

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
0	225	1	0-1	1.7	0.2		⠿	Brown fine SAND, little medium to coarse Sand, trace Gravel, moist.	Borehole backfilled with Bentonite Pellets.
		2	1-3		0.4		⠿	Gray fine SAND little medium to coarse Sand, trace Silt, very moist.	
		3	3-5	2.3	0.2		⠿	Brown fine to medium SAND, trace Silt, wet.	
							⠿	Gray fine to medium SAND, little Clay, Silt and Gravel, trace Brick, wet.	
5	220	4	5-7		0.3		⠿		
10	215								
15	210								

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Excavated 0.5' of Gravel, then cored 0.65' of Concrete. Boring started at the base of the Concrete.

Date Start/Finish: 6/21/04
Drilling Company: BBL, Inc.
Driller's Name: DM
Drilling Method: Truck Mounted AMS Power Probe
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447410.2948
Easting: 639433.832
Casing Elevation: NA

Borehole Depth: 6.0' below grade
Surface Elevation: 226.00' AMSL

Descriptions By: Steve Lewitt

Boring ID: BB-099

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
0								Brown-gray fine SAND, some Silt, trace medium to coarse Sand, moist.	
	225	1	0-2	1.1	0.2				
		2	2-4	4.0	0.0			Gray-brown fine SAND, little Silt, wet.	Borehole backfilled with Bentonite Pellets.
5		3	4-6		8.8				
								Gray SAND and WOOD, trace Glass, wet.	
	220								
10									
	215								
15									
	210								

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Excavated 0.3' of Asphalt and 0.9' of Gravel, then cored 0.4' of Concrete. Boring started at the base of the Concrete.

Date Start/Finish: 6/22/04
Drilling Company: BBL, Inc.
Driller's Name: DM
Drilling Method: JCB 214 Truck-mounted Backhoe
Sampler Size: NA

Northing: 1447383.0155
Easting: 639371.2871
Casing Elevation: NA

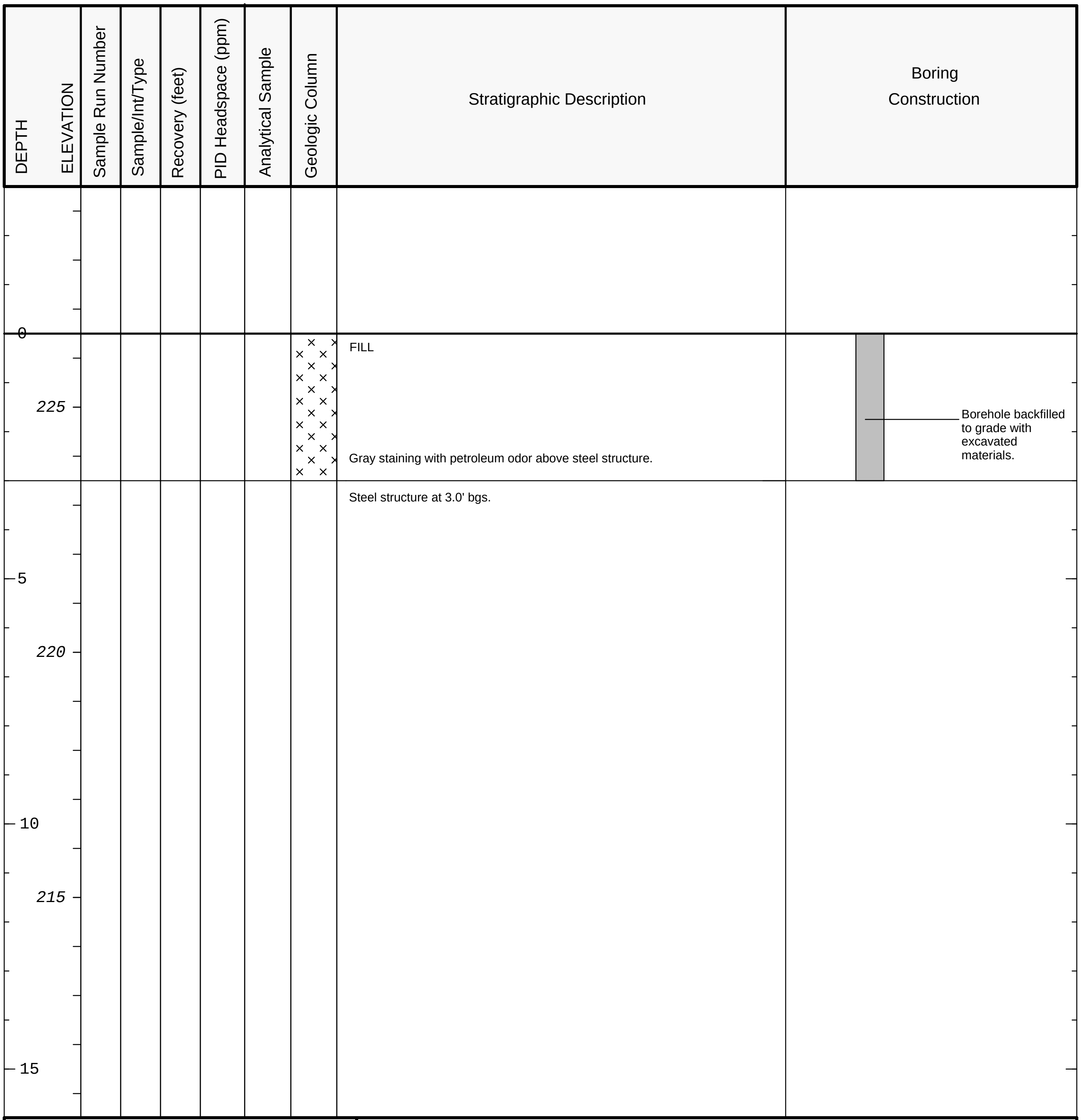
Borehole Depth: 3.0' below grade
Surface Elevation: 226.50' AMSL

Descriptions By: Steve Lewitt

Boring ID: BB-100

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY



FILL

Gray staining with petroleum odor above steel structure.

Steel structure at 3.0' bgs.

Borehole backfilled to grade with excavated materials.

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Project: 36657.011
Data File: BB-100.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 7/23/04

Date Start/Finish: 6/29/04
Drilling Company: BBL, Inc.
Driller's Name: SLL
Drilling Method: Truck Mounted AMS Power Probe
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447350.9945
Easting: 639418.097
Casing Elevation: NA

Borehole Depth: 8.0' below grade
Surface Elevation: 225.64' AMSL

Descriptions By: DEG

Boring ID: BB-101

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
0	225	1	0-2	4.0	1.6			Brown fine SAND, little coarse Sand, trace fine Gravel, Roots. Medium brown fine SAND, trace fine Gravel, moist. Dark brown fine SAND, some Clay, trace coarse Sand.	
		2	2-4		2.8				Borehole backfilled with Bentonite Pellets.
5	220	3	4-6	4.0	0.9			Wet at 4.2' bgs.	
		4	6-8		0.6				
10	215								
15	210								

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Project: 36657.011
Data File: BB-101.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 7/27/04

Date Start/Finish: 7/28/04
Drilling Company: BBL, Inc.
Driller's Name: NA
Drilling Method: Hand Auger
Sampler Size: 2" 2' Split Spoon

Northing: 1447288.709
Easting: 639405.7077
Casing Elevation: NA

Borehole Depth: 5.0' below grade
Surface Elevation: 226.21' AMSL

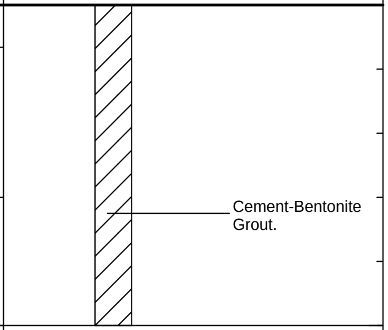
Descriptions By: Jennifer Sandorf

Boring ID: BB-102

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
0							× ×	[FILL]	
	225							CONCRETE	
		1	3-5	1.5	>9999	×		Black stained fine to medium SAND, trace Cobbles and Gravel, dense, moderate petroleum-type odor, no sheen observed.	Cement-Bentonite Grout.
5									
	220								
10									
	215								
15									



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Project: 36657.011
Data File: BB-102.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 7/26/04

Date Start/Finish: 7/28/04
Drilling Company: BBL, Inc.
Driller's Name: DM
Drilling Method: Hand Auger
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447264.3607
Easting: 639351.5281
Casing Elevation: NA

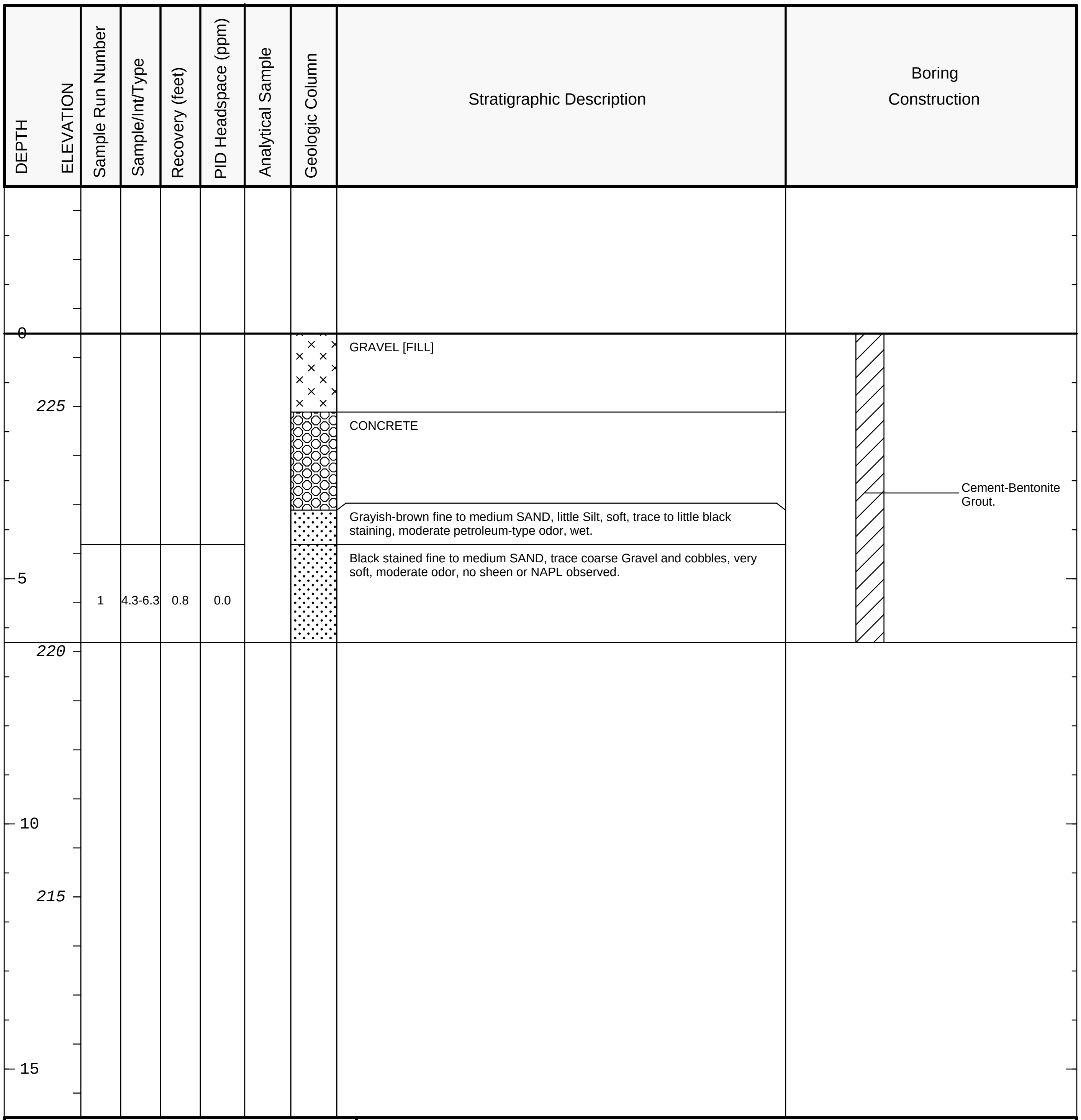
Borehole Depth: 6.3' below grade
Surface Elevation: 226.49' AMSL

Descriptions By: Jennifer Sandorf

Boring ID: BB-103

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY



GRAVEL [FILL]

CONCRETE

Grayish-brown fine to medium SAND, little Silt, soft, trace to little black staining, moderate petroleum-type odor, wet.

Black stained fine to medium SAND, trace coarse Gravel and cobbles, very soft, moderate odor, no sheen or NAPL observed.

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Project: 36657.011
Data File: BB-103.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 7/26/04

Date Start/Finish: 6/29/04
Drilling Company: BBL, Inc.
Driller's Name: SLL
Drilling Method: Truck Mounted AMS Power Probe
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447313.0799
Easting: 639305.4864
Casing Elevation: NA

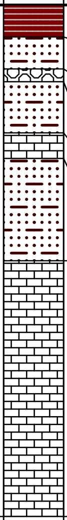
Borehole Depth: 8.0' below grade
Surface Elevation: 226.91' AMSL

Descriptions By: DEG

Boring ID: BB-104

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
0		1	0-2	2.8	14.1			ASPHALT and CONCRETE Dark brown fine SAND and SILT, little fine Gravel. CONCRETE Dark brown fine SAND and SILT, little fine to coarse Gravel.	
	225	2	2-4		992			BRICK Dark brown fine to coarse SAND and SILT, Brick and Concrete, little fine to coarse Gravel, strong odor, moist.	Borehole backfilled with Bentonite Pellets.
5		3	4-6	2.1	146			Red BRICK, trace fine to coarse Sand and Silt, wet.	
	220	4	6-8		228				
10									
	215								
15									

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Project: 36657.011
Data File: BB-104.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 7/27/04

Date Start/Finish: 6/24/04
Drilling Company: BBL, Inc.
Driller's Name: DM
Drilling Method: Truck Mounted AMS Power Probe
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447287.3993
Easting: 639316.6529
Casing Elevation: NA

Borehole Depth: 8.0' below grade
Surface Elevation: 226.71' AMSL

Descriptions By: Steve Lewitt

Boring ID: BB-105

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
0	225	1	0-2	2.5	850			ASPHALT Dark brown-gray fine SAND, little Silt, medium to coarse Sand and Gravel, strong petroleum odor. BRICK, strong petroleum odor.	
		2	2-4		1028				Borehole backfilled with Bentonite Pellets.
5		3	4-6	1.1	810			Red BRICK, strong petroleum odor, wet.	
	220	4	6-8		NA				
10	215								
15									

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Project: 36657.011
Data File: BB-105.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 7/26/04

Date Start/Finish: 6/24/04
Drilling Company: BBL, Inc.
Driller's Name: DM
Drilling Method: Truck Mounted AMS Power Probe
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447224.7795
Easting: 639293.0879
Casing Elevation: NA

Borehole Depth: 6.0' below grade
Surface Elevation: 227.00' AMSL

Descriptions By: Steve Lewitt

Boring ID: BB-106

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
0							× ×	Dark gray SLAG, trace Brick and Coal, wet.	
		1	0-2	1.7	1.0			Brown fine SAND, trace Silt, Clay and coarse Sand, moist.	
	225	2	2-4	3.7	6.3			Brown fine SAND and SILT, trace medium to coarse Sand, wet.	Borehole backfilled with Bentonite Pellets.
5		3	4-6		7.6			Gray fine to medium SAND, little Silt, wet.	
	220								
10									
	215								
15									

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Excavated 0.6' of Asphalt and Gravel, then cored 0.55' of Concrete. Boring started at the base of the Concrete.

Date Start/Finish: 6/24/04
Drilling Company: BBL, Inc.
Driller's Name: DM
Drilling Method: Truck Mounted AMS Power Probe
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447200.7976
Easting: 639285.2027
Casing Elevation: NA

Borehole Depth: 6.0' below grade
Surface Elevation: 227.07' AMSL

Descriptions By: Steve Lewitt

Boring ID: BB-107

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
230								
0	1	0-2	2.0	2.4			Dark gray SAND, SLAG and BRICK, wet. Brown fine SAND , trace Silt and coarse Sand, moist.	
225	2	2-4	3.4	64.1	X		Brown-gray fine SAND, little SIlt, Blebs of coal tar, strong odor, wet.	Borehole backfilled with Bentonite Pellets.
5	3	4-6		11.8			Gray fine to medium SAND, little Silt, faint odor, wet.	
220								
10								
215								
15								

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Excavated 0.6' of Asphalt and Gravel, then cored 0.75' of Concrete. Boring started at the base of the Concrete.

Sample collected from 2.0' - 4.0' for BTEX, PAH, and Cyanide.

Project: 36657.011
Data File: BB-107.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 7/26/04

Date Start/Finish: 6/28/04
Drilling Company: BBL, Inc.
Driller's Name: DM
Drilling Method: Truck Mounted AMS Power Probe
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447155.4746
Easting: 639256.5072
Casing Elevation: NA

Borehole Depth: 6.0' below grade
Surface Elevation: 227.19' AMSL

Descriptions By: Steve Lewitt

Boring ID: BB-108

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	230								
0								ASPHALT	
		1	0-2	1.4	86.8			Dark brown SAND and GRAVEL, little Silt, strong petroleum odor, moist.	
	225							Water with sheen visible in borehole at 2.15' bgs.	
		2	2-4	0	NA				Borehole backfilled with Bentonite Pellets.
								No recovery from 4.0' - 6.0' bgs, pipe dropped because of a void.	
5		3	4-6		NA				
	220								
10									
	215								
15									

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Project: 36657.011
Data File: BB-108.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 7/27/04

Date Start/Finish: 6/25/04
Drilling Company: BBL, Inc.
Driller's Name: JAB
Drilling Method: Truck Mounted AMS Power Probe
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447111.6228
Easting: 639177.7337
Casing Elevation: NA

Borehole Depth: 4.0' below grade
Surface Elevation: 227.78' AMSL

Descriptions By: Steve Lewitt

Boring ID: BB-110

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	230								
0		1	0-2	0.3	1.6			Brown GRAVEL, BRICK and SILT, wet.	Borehole backfilled with Bentonite Pellets.
	225	2	2-4	0.8	1593			Black SAND ans GRAVEL, strong tar odor, wet. Black WOOD chips, saturated with tar, strong odor.	
								Refusal at 4.0', Concrete in shoe.	
5									
	220								
10									
	215								
15									

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Excavated 0.6' of Asphalt and Gravel, then cored 0.6' of Concrete. Boring started after a void of 1.25' below the top of the Concrete.

Date Start/Finish: 7/22/04
Drilling Company: Lyon Drilling
Driller's Name: Jeff Grant/Jeff Lyon
Drilling Method: CME 45B
Bit Size: NA
Auger Size: 4-1/4" Hollow Stem Auger
Rig Type: CME 45B
Sampling Method: 2" ID 2' Split Spoon

Northing: 1447080.8369
Easting: 639125.5865
Casing Elevation: NA

Borehole Depth: 6.53' below grade
Surface Elevation: 228.81' AMSL

Geologist: Jennifer Sandorf

Well/Boring ID: BB-111

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
	230										
0		1	0.5-2	0.9	6 6 4 3	45	393			ASPHALT Brownish-gray fine to coarse SAND and medium to coarse GRAVEL, moderately dense, slight petroleum-type odor, dry. [FILL] Moderate odor, wet below 2.0' bgs.	Borehole backfilled to grade with cement/bentonite grout.
	225	2	2-4	0.5	2 2 1 2	15	279				
5		3	4-6.5	0.4	2 1 3 2 50/.03	3 >50	953	×		Black stained SILT and fine SAND, soft, moderate to strong odor, wet. Void from 5' - 6.5' bgs.	
	220										
10											
	215										
15											

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Sample collected from 4.0' - 6.5' bgs for BTEX, PAHs and Cyanide.

Project: 36657.011
Data File: BB-111

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS.ldf
Date: 8/19/04

Date Start/Finish: 7/19/04
Drilling Company: Lyon Drilling
Driller's Name: Jeff Grant/Jeff Lyon
Drilling Method: CME 45B
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447177.036
Easting: 639174.6975
Casing Elevation: NA

Borehole Depth: 7.0' below grade
Surface Elevation: 228.13' AMSL

Descriptions By: Jennifer Sandorf

Boring ID: BB-112

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	230								
0								ASPHALT/CONCRETE.	
		1	1.7-3.1	1.7	471			Medium to coarse Gravel, trace small chips of furnace Brick, Wood, trace Rock fragmets, moderately dense, moderate MGP-type odor, dry to moist. [FILL]	
	225							CONCRETE. Observed sheen on Concrete pieces removed from liner.	Borehole backfilled to grade with cement/bentonite grout.
5									
	220								
10									
	215								
15									

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Project: 36657.011
Data File: BB-112.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 8/6/04

Date Start/Finish: 7/20/04
Drilling Company: Lyon Drilling
Driller's Name: Jeff Grant/Jeff Lyon
Drilling Method: CME 45B
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447186.5476
Easting: 639156.4184
Casing Elevation: NA

Borehole Depth: 5.6' below grade
Surface Elevation: 228.44' AMSL

Descriptions By: Jennifer Sandorf

Boring ID: BB-112B

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	230								
0		1	0-0.7	0.3	0.0			ASPHALT	
								Brown medium to coarse GRAVEL, some fine to coarse Sand, loose, dry.	
								CONCRETE	
								Brown coarse GRAVEL FILL, little medium to coarse Sand.	
	225	2	1.5-5.6	2.5	351			Black fine SAND and SILT, trace natural Organics, trace to little oil-like material below 0.9' (brownish-black liquid), non-plastic, moderate MGP-type odor.	Borehole backfilled to grade with cement/bentonite grout.
5									
	220								
10									
	215								
15									

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Located ~20' west of BB-112, in the center of an open garage.

Project: 36657.011
Data File: BB-112B.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 8/6/04

Date Start/Finish: 7/20/04
Drilling Company: Lyon Drilling
Driller's Name: Jeff Grant/Jeff Lyon
Drilling Method: CME 45B
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447197.0413
Easting: 639134.3702
Casing Elevation: NA

Borehole Depth: 5.0' below grade
Surface Elevation: 228.13' AMSL

Descriptions By: Jennifer Sandorf

Boring ID: BB-113

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	230								
0								ASPHALT.	
								CONCRETE.	
		1	1-1.6	1.0	554			CONCRETE piece, medium to coarse GRAVEL, little Cinders and fine to medium Sand, moderately dense, moderate MPG-type odor, dry to moist.	
								CONCRETE, trace oil-like material and MGP-type odor observed.	Borehole backfilled to grade with cement/bentonite grout.
	225								
5									
	220								
10									
	215								
15									

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Project: 36657.011
Data File: BB-113.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 8/6/04

Date Start/Finish: 6/29/04
Drilling Company: BBL, Inc.
Driller's Name: SLL
Drilling Method: Truck Mounted AMS Power Probe
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447227.3474
Easting: 639197.9929
Casing Elevation: NA

Borehole Depth: 6.0' below grade
Surface Elevation: 227.93' AMSL

Descriptions By: DEG

Boring ID: BB-114

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	230								
0		1	0-2	2.0	3.1			Dark brown fine SAND, some fine to coarse Gravel, little Silt.	Borehole backfilled with Bentonite Pellets.
								Dark brown fine SAND, some coarse Sand, trace fine to coarse Gravel and Silt, moist.	
	225	2	2-4	3.1	48.7			Dark brown fine SAND, trace coarse Sand and fine Gravel, strong odor, moist.	
								Dark brown fine SAND, some Clay, odor, moist.	
5		3	4-6		65.9			Dark brown fine SAND, some coarse Sand and fine Gravel, strong odor, moist.	
	220								
10									
	215								
15									

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Excavated 0.6' of Asphalt and Gravel, then cored 1.0' of Concrete. Boring started at the base of the Concrete.

Project: 36657.011
Data File: BB-114.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 7/28/04

Date Start/Finish: 6/29/04
Drilling Company: BBL, Inc.
Driller's Name: SLL
Drilling Method: Truck Mounted AMS Power Probe
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447263.2727
Easting: 639165.4716
Casing Elevation: NA

Borehole Depth: 6.0' below grade
Surface Elevation: 227.96' AMSL

Descriptions By: DEG

Boring ID: BB-115

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
230								
0	1	0-2	0.8	0.8			Dark brown medium to coarse GRAVEL, some fine to coarse Sand, moist. Dark brown fine to coarse GRAVEL and BRICK, little fine to coarse Sand, slight odor, moist.	
225	2	2-4	0.8	10.4				Borehole backfilled with Bentonite Pellets.
5	3	4-6		10.6				
220								
10								
215								
15								

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Project: 36657.011
Data File: BB-115.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 7/28/04

Date Start/Finish: 7/26/04
Drilling Company: Lyon Drilling
Driller's Name: Jeff Grant/Jeff Lyon
Drilling Method: CME 45B
Bit Size: 4-1/4"
Auger Size: 4-1/4" Hollow Stem Auger
Rig Type: CME 45B
Sampling Method: 2" ID 2' Split Spoon

Northing: 1447330.8644
Easting: 639213.25
Casing Elevation: NA

Borehole Depth: 10' below grade
Surface Elevation: 227.30' AMSL

Geologist: Jennifer Sandorf

Well/Boring ID: BB-116

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
	230										
0										ASPHALT.	Borehole backfilled to grade with cement/bentonite grout.
										CONCRETE.	
	225	1	1.5-3	1.1	3 4 4	7	0.0			Brown fine to medium SAND, moist, moderately loose. Some Silt below 1.8' bgs.	
		2	3-5	1.2	2 2 3 3	5	0.0			Color changes to gray, light odor from 3.6' - 4.2' bgs. Little Silt below 5' bgs	
5										Dark gray fine to medium SAND, some Silt, medium dense, trace coarse Gravel, Concrete in tip of spoon, moist to wet.	
		3	5-7	1.2	3 50/.2 NA NA	NA	0.0			Refusal on lower foundation, auger though CONCRETE. Broke through Concrete at 7.9' bgs.	
	220									Fragments of CONCRETE, trace Sheen.	
		4	8-10	1.4	2 2 1 1	3	13.8			Brownish-gray fine SAND and SILT, trace Clay, medium stiff, low plasticity. Brown color, increasing fine Sand wih depth, trace sheen in tip of spoon.	
10											
	215										
15											

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Project: 36657.011
Data File: BB-116.dat

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS.ldf
Date: 8/20/04

Date Start/Finish: 6/25/04
Drilling Company: BBL, Inc.
Driller's Name: JAB
Drilling Method: Truck Mounted AMS Power Probe
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447322.2398
Easting: 639212.6719
Casing Elevation: NA

Borehole Depth: 4.0'
Surface Elevation: 227.51' AMSL

Descriptions By: Steve Lewitt

Boring ID: BB-117

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	230								
0		1	0-2	1.1	0.8			Brown fine SAND, little Silt, moist.	Borehole backfilled with Bentonite Pellets.
	225	2	2-4	1.4	NA			Gray fine SAND, some Silt, trace coarse Sand and coarse Gravel, moist. Wet at 2.7'.	
								Concrete in shoe at 4.0'.	
5									
	220								
10									
	215								
15									

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Excavated 0.75' of Asphalt and Gravel, then cored 0.7' of Concrete. Boring started at the base of the Concrete.

Date Start/Finish: 7/29/04
Drilling Company: Lyon Drilling
Driller's Name: Jeff Grant/Jeff Lyon
Drilling Method: CME 45B
Bit Size: 4-1/4"
Auger Size: 4-1/4" Hollow Stem Auger
Rig Type: CME 45B
Sampling Method: 2" ID 4' L Macrocore

Northing: 1447344.3941
Easting: 639245.186
Casing Elevation: NA

Borehole Depth: 12.6' below grade
Surface Elevation: 227.65' AMSL

Geologist: Jennifer Sandorf

Well/Boring ID: BB-118

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column
	1	0-1.5	0.2	50/.4 NA NA	NA	23.9		
	2	1.5-3	1.0	1 4 5	5	0.0		
	3	3-5	1.1	1 1 1 2	2	5.8		
	4	5-7	1.0	1 50/.3 NA NA	NA	62.1		
	5	8.6-10.6	0.5	3 2 1 2	3	99.1		
	6	10.6-12.6	2.0	2 1 1 2	2	92		

230
0
225
5
220
10
215
15

Stratigraphic Description

ASPHALT.

Dark brown GRAVEL fill, medium dense.

Upper CONCRETE foundation.

Brown fine to medium well sorted SAND, loose, moist.

Brown SILT, some fine Sand, trace coarse Gravel, medium stiff, slight odor.

Gray SILT and fine SAND, trace coarse angular to subangular Gravel, medium dense, slight odor, moist to wet.

Increased Silt with depth and softer with depth, trace brown oil-like material, sheen observed, moderate odor at bottom of spoon, wet from 5.0' - 5.8' bgs.

Refusal on lower foundation, auger though CONCRETE. Broke throught Concrete at 7.9' bgs.

Fine to medium SAND, some Silt, trace Clay, low plasticity, loose, trace brown oil-like material, little sheen, moderate odor, wet.

Grayish-brown SILTY CLAY, little fine Sand, trace natural Organics, medium stiff, low plasticity, slight odor.

Well/Boring Construction

Borehole backfilled to grade with cement/bentonite grout.

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Project: 36657.011
Data File: BB-118.dat

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS.ldf
Date: 8/20/04

Date Start/Finish: 6/23/04
Drilling Company: BBL, Inc.
Driller's Name: DM
Drilling Method: Truck mounted AMS Power Probe
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447210.7879
Easting: 639106.1152
Casing Elevation: NA

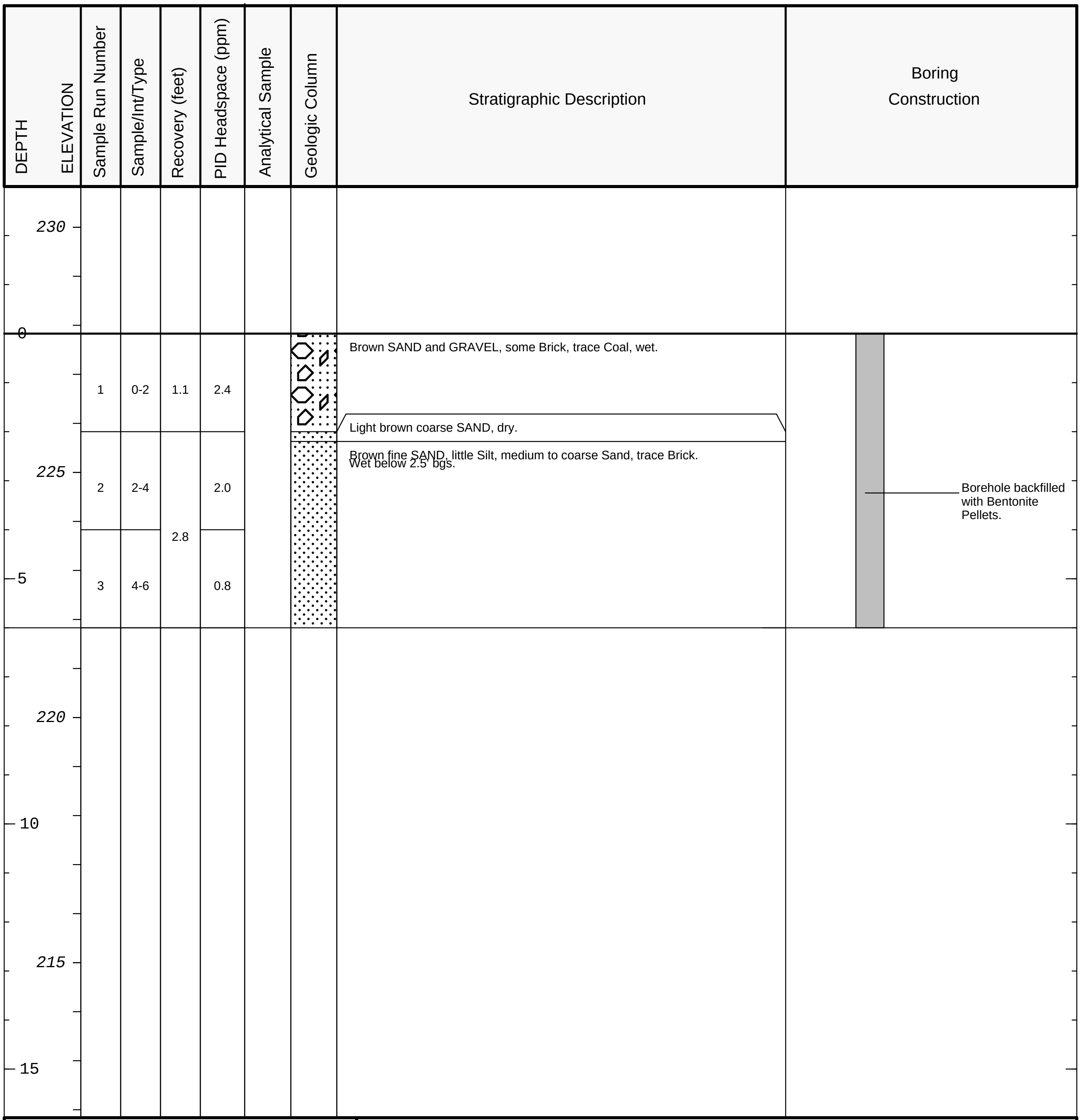
Borehole Depth: 6.0' below grade
Surface Elevation: 227.83' AMSL

Descriptions By: Steve Lewitt

Boring ID: BB-119

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY



Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Stratigraphic Description
1	0-2	1.1	2.4		Brown SAND and GRAVEL, some Brick, trace Coal, wet.
					Light brown coarse SAND, dry.
2	2-4	2.8	2.0		Brown fine SAND, little Silt, medium to coarse Sand, trace Brick. Wet below 2.5' bgs.
3	4-6		0.8		

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Excavated 0.4 of Asphalt and Gravel, then cored 0.9' of Concrete. Boring started at the base of the Concrete.

Date Start/Finish: 6/28/04
Drilling Company: BBL, Inc.
Driller's Name: DM
Drilling Method: Truck Mounted AMS Power Probe
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447130.8558
Easting: 639194.1691
Casing Elevation: NA

Borehole Depth: 6.0' below grade
Surface Elevation: 227.71' AMSL

Descriptions By: Steve Lewitt

Boring ID: BB-120

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	230								
0		1	0-2	3.7	4.8			ASPHALT Brown SAND and GRAVEL, trace Brick, dry.	
	225	2	2-4		4.0			Dark gray-brown fine SAND, little medium to coarse Sand, Gravel and Silt, trace Brick, slight coal tar odor. Wet at 2.6'.	Borehole backfilled with Bentonite Pellets.
5		3	4-6	2.0	14.2			Dark gray-brown fine SAND, little Silt, medium to coarse Sand, trace Gravel, wet.	
	220								
10									
	215								
15									

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Project: 36657.011
Data File: BB-120.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 7/27/04

Date Start/Finish: 6/28/04
Drilling Company: BBL, Inc.
Driller's Name: DM
Drilling Method: Truck Mounted AMS Power Probe
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447143.3615
Easting: 639207.7753
Casing Elevation: NA

Borehole Depth: 5.0' below grade
Surface Elevation: 227.55' AMSL

Descriptions By: Steve Lewitt

Boring ID: BB-121

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	230								
0								ASPHALT	
		1	0-2	3.2	49.1			Dark Brown SAND and GRAVEL, trace Brick, strong coal tar odor.	
	225	2	2-4		695			Black coal tar soaked SAND, strong tar odor.	Borehole backfilled with Bentonite Pellets.
		3	4-5	0.5	1527			Black tar soaked SAND, trace Gravel.	
5									
	220								
10									
	215								
15									

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Project: 36657.011
Data File: BB-121.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 7/27/04

Date Start/Finish: 6/28/04
Drilling Company: BBL, Inc.
Driller's Name: DM
Drilling Method: Truck Mounted AMS Power Probe
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447142.1507
Easting: 639182.47
Casing Elevation: NA

Borehole Depth: 12' below grade
Surface Elevation: 227.76' AMSL

Descriptions By: Steve Lewitt

Boring ID: BB-122

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	230								
0		1	0-2	3.6	5.9			ASPHALT Brown SAND and GRAVEL, dry. Dark gray fine SAND, little medium to coarse Sand, trace Gravel, slight petroleum odor.	
	225	2	2-4		3.5			Brown fine SAND, trace medium to coarse Sand and Silt, moist. Brown fine SAND, little Silt, moist.	Borehole backfilled with Bentonite Pellets.
5		3	4-6	3.5	3.0			Gray-brown fine SAND, trace Silt, slight petroleum and coal tar odor, slight gray staining, moist. Wet at 5.0' bgs.	
	220	4	6-8		5.8				
		5	8-10	4.0	10.0			Dark gray fine SAND and SILT, petroleum odor, wet.	
10		6	10-12		78.4			Dark gray SILT, little fine Sand, petroleum odor, moist.	
	215								
15									

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Project: 36657.011
Data File: BB-122.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 7/26/04

Page: 1 of 1

Date Start/Finish: 6/28/04
Drilling Company: BBL, Inc.
Driller's Name: DM
Drilling Method: Truck Mounted AMS Power Probe
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447162.8447
Easting: 639214.9381
Casing Elevation: NA

Borehole Depth: 2.6' below grade
Surface Elevation: 227.47' AMSL

Descriptions By: Steve Lewitt

Boring ID: BB-123

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	230								
0		1	0-2	2.6	2.3			ASPHALT	Borehole backfilled with Bentonite Pellets.
								Gray-brown SAND and GRAVEL, dry	
								Gray-brown fine SAND, little medium to coarse Sand, Silt, trace Coal, slight odor, dry.	
	225	2	2-2.6		7.6				
								Refusal at 2.6' bgs.	
5									
	220								
10									
	215								
15									

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Project: 36657.011
Data File: BB-123.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 7/27/04

Date Start/Finish: 6/28/04
Drilling Company: BBL, Inc.
Driller's Name: DM
Drilling Method: Truck Mounted AMS Power Probe
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447170.9834
Easting: 639204.5238
Casing Elevation: NA

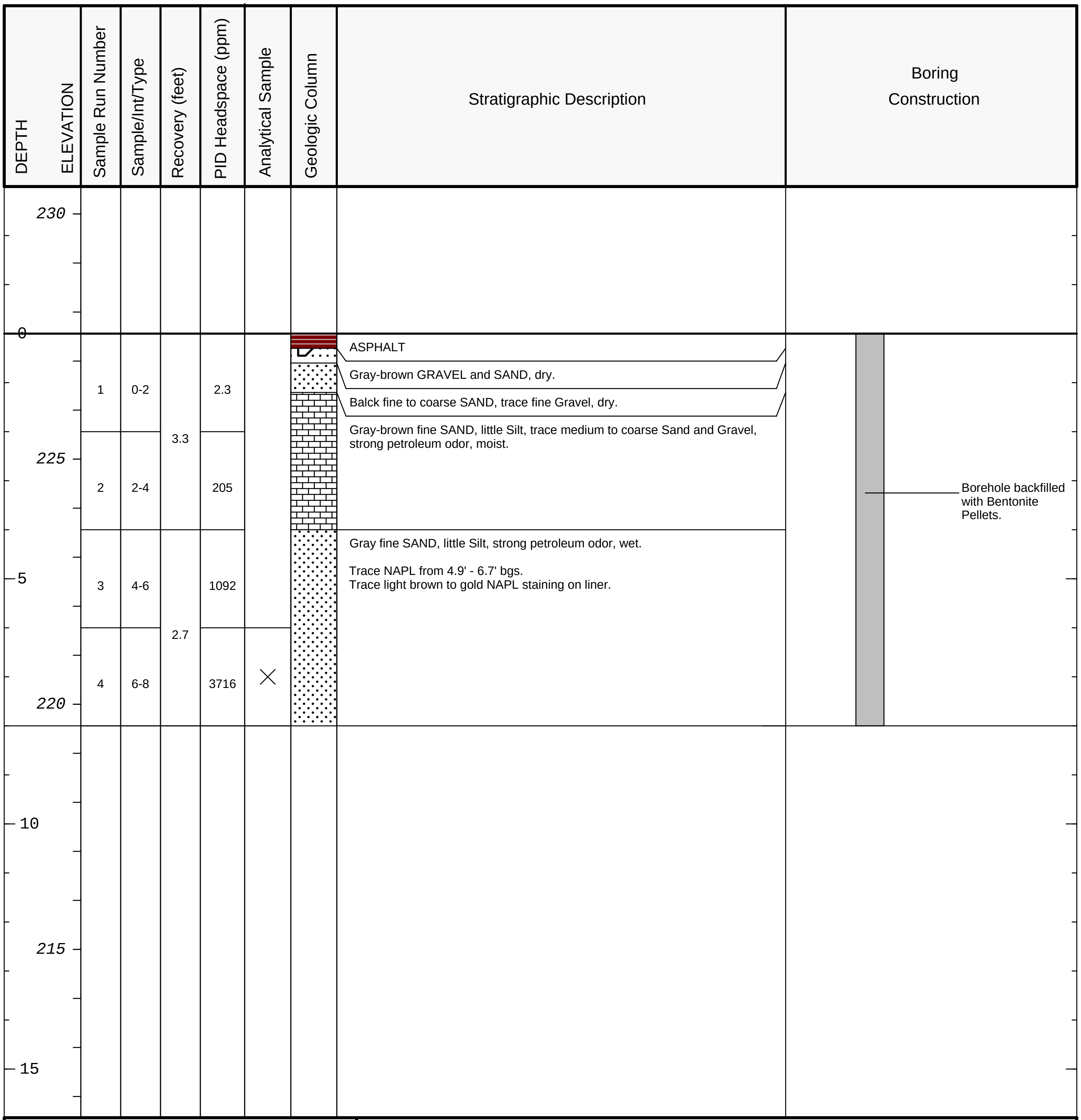
Borehole Depth: 8.0' below grade
Surface Elevation: 227.56' AMSL

Descriptions By: Steve Lewitt

Boring ID: BB-124

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY



Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample
1	0-2	3.3	2.3	
2	2-4		205	
3	4-6	2.7	1092	
4	6-8		3716	☒

Stratigraphic Description

ASPHALT

Gray-brown GRAVEL and SAND, dry.

Balck fine to coarse SAND, trace fine Gravel, dry.

Gray-brown fine SAND, little Silt, trace medium to coarse Sand and Gravel, strong petroleum odor, moist.

Gray fine SAND, little Silt, strong petroleum odor, wet.

Trace NAPL from 4.9' - 6.7' bgs.
Trace light brown to gold NAPL staining on liner.

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Sample collected from 6.0' - 8.0' bgs for BTEX, PAHs, Cyanide, TCLP VOCs, TCLP SVOCs, TCLP Metals, Ignitability, Corrosivity and Reactivity.

Project: 36657.011
Data File: BB-124.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 7/26/04

Date Start/Finish: 6/28/04
Drilling Company: BBL, Inc.
Driller's Name: DM
Drilling Method: Truck Mounted AMS Power Probe
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447165.471
Easting: 639237.8609
Casing Elevation: NA

Borehole Depth: 8.0' below grade
Surface Elevation: 227.22' AMSL

Descriptions By: Steve Lewitt

Boring ID: BB-125

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	230								
0		1	0-2	2.0	15.9			ASPHALT Brown GRAVEL, some fine to coarse Sand, wet at 1.5' bgs.	
	225	2	2-4		101			Black fine to coarse SAND, Brick, Wood chips, strong coal tar odor, no visible NAPL, moist.	Borehole backfilled with Bentonite Pellets.
5		3	4-6	3.5	205			Dark gray fine SAND and SILT, trace NAPL specs, strong coal tar odor, wet. Some NAPL present, strong coal tar odor, trace Brick and Concrete from 5.6' - 7.5' bgs.	
	220	4	6-8		993				
10									
	215								
15									

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Project: 36657.011
Data File: BB-125.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 7/27/04

Date Start/Finish: 6/29/04
Drilling Company: BBL, Inc.
Driller's Name: SLL
Drilling Method: Truck Mounted AMS Power Probe
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447170.2314
Easting: 639229.9291
Casing Elevation: NA

Borehole Depth: 4.0' below grade
Surface Elevation: 227.30' AMSL

Descriptions By: DEG

Boring ID: BB-126

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
230								
0							ASPHALT	
	1	0-2		82.8			Brown fine to coarse SAND, some fine Gravel.	
			3.1				Dark brown fine SAND, some coarse Sand, little coarse Gravel, strong odor.	
225	2	2-4		34.5				Borehole backfilled with Bentonite Pellets.
5								
220								
10								
215								
15								

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Project: 36657.011
Data File: BB-126.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 7/27/04

Date Start/Finish: 6/28/04
Drilling Company: BBL, Inc.
Driller's Name: SLL
Drilling Method: Truck Mounted AMS Power Probe
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447174.6992
Easting: 639224.6744
Casing Elevation: NA

Borehole Depth: 8.0' below grade
Surface Elevation: 227.36' AMSL

Descriptions By: DEG

Boring ID: BB-127

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
230								
0	1	0-2	3.5	1.7			ASPHALT Dark brown fine to coarse SAND, some fine to coarse Gravel, trace Brick. Light brown fine SAND. Dark brown fine to coarse SAND, some fine to coarse Gravel.	Borehole backfilled with Bentonite Pellets.
225	2	2-4		2.9			Dark brown fine to coarse SAND, little fine Gravel, moist.	
5	3	4-6	3.7	13.4			Dark gray fine SAND and SILT, moist.	
220	4	6-8		131	×		Dark gray fine SAND and SILT, some Clay, trace blebs of NAPL, wet.	
10								
215								
15								

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Sample collected from 6.0' - 8.0' bgs for BTEX, PAHs and Cyanide.

Date Start/Finish: 6/29/04
Drilling Company: BBL, Inc.
Driller's Name: SLL
Drilling Method: Truck Mounted AMS Power Probe
Sampler Size: 2" ID 4' L Macrocore

Northing: 1447450.8865
Easting: 639329.4312
Casing Elevation: NA

Borehole Depth: 8.0' below grade
Surface Elevation: 226.57' AMSL

Descriptions By: DEG

Boring ID: BB-128

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
0	225	1	0-2	3.2	627			ASPHALT Brown fine SAND and SILT, trace Asphalt and Concrete. Dark brown fine SILT and CLAY, Brick, strong odor, coal tar streaking on liner.	
		2	2-4		1034	X			Borehole backfilled with Bentonite Pellets.
5		3	4-6	3.7	683			Dark brown SILT and CLAY, trace fine to coarse Gravel, staining, strong odor, moist.	
	220	4	6-8		1834			Dark brown fine to coarse GRAVEL, little fine to coarse Sand, staining, strong odor.	
10	215								
15									

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Sample collected from 2.0' - 4.0' bgs for BTEX, PAHs and Cyanide.

Project: 36657.011
Data File: BB-128.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 7/28/04

Date Start/Finish: 7/30/04
Drilling Company: Lyon Drilling
Driller's Name: Jeff Grant/Jeff Lyon
Drilling Method: CME 45B
Bit Size: 4-1/4"
Auger Size: 4-1/4" Hollow Stem Auger
Rig Type: CME 45B
Sampling Method: 2" ID 2' Split Spoon

Northing: 1447196.5359
Easting: 639042.0455
Casing Elevation: NA

Borehole Depth: 8.0' below grade
Surface Elevation: 229.00' AMSL

Geologist: Jennifer Sandorf

Well/Boring ID: BB-129

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
	230										
0		1	0-2	1.4	12 25 27 9	52	640			Gray-brown GRAVEL FILL, trace red Brick, trace Coal, dense, dry.	
		2	2-4	1.2	3 4 3 2	7	4.5			Dark brown to gray fine SAND, little to some Silt, moderately dense, trace thick black tar-like material at 2.5' bgs.	Borehole backfilled to grade with cement/bentonite grout.
5	225	3	4-6	1.2	2 3 4 4	7	45.0			Brownish-gray fine SAND, little to some Silt, trace coarse Gravel, moderately dense, moist to wet.	
		4	6-8	1.7	4 6 8 8	14	41.9			Grayish-brown fine SAND, little to some Silt, slightly plastic, no apparent odor, moderately dense, wet.	
10	220										
15	215										

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Project: 36657.011
Data File: BB-129.dat

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS.ldf
Date: 8/31/04

Date Start/Finish: 7/26/04
Drilling Company: Lyon Drilling
Driller's Name: Jeff Grant/Jeff Lyon
Drilling Method: CME 45B
Bit Size: 4-1/4"
Auger Size: 4-1/4" Hollow Stem Auger
Rig Type: CME 45B
Sampling Method: 2" ID 2' Split Spoon

Northing: 1447138.4947
Easting: 639249.8794
Casing Elevation: NA

Borehole Depth: 6.0' below grade
Surface Elevation: 227.41' AMSL

Geologist: Jennifer Sandorf

Well/Boring ID: BB-130

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
	230										
0		1	0.5-2	1.1	6 6 4 3	10	0.0			Dark brown fine to coarse Sand and fine to medium Gravel, little coarse subrounded to subangular gravel, dense, dry. Dark brown fine to medium SAND, some Silt, low plasticity, trace subrounded Gravel, slight petroleum-type odor, moist to wet.	
	225	2	2-4	1.6	2 2 1 2	3	51.8			Dark brown fine to medium SAND, little Silt, dry to moist. Black staining from 3.4' - 3.6' moderate petroleum-type odor, moist to wet.	Borehole backfilled to grade with cement/bentonite grout.
5		3	4-6	1.7	2 1 3 2	4	35.8			Black staining throughout, medium dense, trace natural Organics (rootlets) and fine to medium subangular Gravel below 4.0' bgs, moderately dense, wet.	
	220										
10											
	215										
15											

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Project: 36657.011
Data File: BB-130.dat

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS.ldf
Date: 8/19/04

Date Start/Finish: 7/22/04
Drilling Company: Lyon Drilling
Driller's Name: Jeff Grant/Jeff Lyon
Drilling Method: CME 45B
Bit Size: 4 1/4"
Auger Size: 4 1/4" Hollow Stem Auger
Rig Type: CME 45B
Sampling Method: 2" ID 2' Split Spoon

Northing: 1447080.1031
Easting: 639103.494
Casing Elevation: NA

Borehole Depth: 10' below grade
Surface Elevation: 228.71' AMSL

Geologist: Jennifer Sandorf

Well/Boring ID: BB-131

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
	230										
0		1	0.5-2	0.8	NA 20 19 16	39	11.6			ASPHALT Dark brown to black fine to coarse SAND and fine to coarse subangular GRAVEL, trace Coal, medium dense, dry. [Gravel FILL]	
	225	2	2-4	1.4	7 8 7 15	15	5.0			Trace Concrete, faint odor from 2.0' - 4.0' bgs	Borehole backfilled with Grout to grade
5		3	4-6	0.5	8 3 3 3	6	0.3			Dry to moist below 4.0' bgs	
		4	6-8	0.1	1 2 3 3	5	0.5			Dark gray fine SAND, some Silt at tip of spoon.	
	220	5	8-10	1.6	2 2 1 1	3	2.9			Dark brown fine SAND, some Silt, some black staining, loose, slight odor, trace sheen. Dark gray to black SILT, trace to little Clay, medium stiff, slight petroleum-type odor.	
10											
	215										
15											

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Project: 36657.011
Data File: BB-131

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELL.ldf
Date: 8/26/04

Date Start/Finish: 7/30/04
Drilling Company: Lyon Drilling
Driller's Name: Jeff Grant/Jeff Lyon
Drilling Method: CME 45B
Bit Size: 4-1/4"
Auger Size: 4-1/4" Hollow Stem Auger
Rig Type: CME 45B
Sampling Method: 2" ID 2' Spilt Spoon

Northing: 1447173.5544
Easting: 639190.0211
Casing Elevation: NA

Borehole Depth: 8.0' below grade
Surface Elevation: 227.89' AMSL

Geologist: Jennifer Sandorf

Well/Boring ID: BB-132

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
	230										
0										ASPHALT CONCRETE	
		1	0.5-2	0.9	9 18 11	27	0.0			Gray to dark brown GRAVEL FILL, trace red brick [FILL].	
	225	2	2-4	1.1	3 4 5 7	9	0.0			Grayish-brown fine SAND, little Silt, trace coarse angular Gravel, dense, dry to moist. Gray at 3.0' bgs.	Borehole backfilled to grade with cement/bentonite grout.
5		3	4-6	1.8	1 1 1 2	2	166			Brown-gray fine SAND, some Silt, dense, moderate petroleum-type odor.	
	220	4	6-8	1.8	1 1 1 1	2	680			Trace sheen, trace bleb of brown oil-like material, lenses of grayish-brown Silty Clay, from 7.6' - 7.7' bgs.	
10											
	215										
15											

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Project: 36657.011
Data File: BB-132

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS.ldf
Date: 8/31/04

Date Start/Finish: 7/30/04
Drilling Company: Lyon Drilling
Driller's Name: Jeff Grant/Jeff Lyon
Drilling Method: CME 45B
Bit Size: 4-1/4"
Auger Size: 4-1/4" Hollow Stem Auger
Rig Type: CME 45B
Sampling Method: 2" ID 2' Split Spoon

Northing: 1447203.4163
Easting: 639118.9501
Casing Elevation: NA

Borehole Depth: 8.0' below grade
Surface Elevation: 228.09' AMSL

Geologist: Jennifer Sandorf

Well/Boring ID: BB-133

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
	230										
0										ASPHALT.	
		1	0.5-2	1.1	30 15 7	45	0.0			GRAVEL FILL, trace Brick, dense, dry.	
	225	2	2-4	0.9	1 2 1 1	3	0.0			Brown fine to medium SAND, little coarse subangular Gravel, trace Glass, moderately dense, moist.	Borehole backfilled to grade with cement/bentonite grout.
5		3	4-6	1.3	1 4 4 5	8	0.0			Brown fine to medium SAND, little Silt, moderately loose, no apparent odor.	
		4	6-8	2.0	3 3 2 3	5	0.0				
	220										
10											
	215										
15											

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Project: 36657.011
Data File: BB-133.dat

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS.ldf
Date: 8/31/04

Date Start/Finish: 7/22/04
Drilling Company: Lyon Drilling
Driller's Name: Jeff Grant/Jeff Lyon
Drilling Method: CME 45B
Bit Size: 4-1/4"
Auger Size: 4-1/4" Hollow Stem Auger
Rig Type: CME 45B
Sampling Method: 2" ID 2' Split Spoon

Northing: 1447785
Easting: 638964.1
Casing Elevation: NA

Borehole Depth: 20' below grade
Surface Elevation: 228.8' AMSL

Geologist: Jennifer Sandorf

Well/Boring ID: BB-134

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
	230										
0		1	0.5-2	1.0	2 3 4 4	7	32.4			Whitish ASH, CINDERS, red Brick, dark brown fine to medium Sand, trace medium to coarse subrounded Gravel, loose, dry. [FILL]	
	225	2	2-4	0.5	3 1 4 8	5	0.0			Increased red Brick with depth, from 2' - 4' bgs.	
5		3	4-6	1.0	1 1 2 1	3	0.0			Brown fine to medium SAND, little Silt, trace red Brick and subrounded to subangular medium to coarse Gravel, dense, moist to wet.	
		4	6-8	0.6	3 4 8 10	12	0.0			Brown fine SAND, some SILT, little medium Sand, trace medium to coarse subrounded Gravel, 0.1" lens (seam) of black stained material at 6.5' bgs with moderate petroleum-type odor, wet.	Borehole backfilled to grade with cement/bentonite grout.
	220	5	8-10	0.6	1 1 3 2	4	33.7			Black fine SAND and SILT, little Clay, trace medium to coarse subangular Gravel, moderate petroleum type odor, heavy sheen, soft, plastic, wet.	
10		6	10-12	2.0	1 2 2 1	4	170			Brownish-gray SILTY CLAY, trace natural Organics. Black fine SAND, some SILT, trace to little clinker-like material. Brownish-gray SILT and CLAY, trace fine Sand, bleb of brown oil-like material.	
		7	12-14	2.0	1/12" NA 1 2	1	34.1			Sheen and moderate petroleum-type odor. Gray brown SILTY CLAY, medium stiff, plastic.	
15	215	8	14-16	0.0	NA	NA	NA				

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level; WOH/R = Weight of Hammer/Rod.

Project: 36657.011
Data File: BB-134.dat

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS.ldf
Date: 8/19/04

Client:
Niagara Mohawk,
A National Grid Company

Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: BB-134

Borehole Depth: 20' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
		9	16-18	1.5	WOR WOR WOR WOR	NA	29.7			SILTY CLAY, soft, some Sand lens with heavy sheen, trace blebs of brown oil-like material.	Borehole backfilled to grade with cement/bentonite grout.
	210	10	18-20	2.0	WOH WOH WOH WOH	NA	12.2			Gray-brown SILT and fine SAND, trace Clay, very soft, wet. Black fine to medium Sand, trace reddish-brown oil-like material at bottom of spoon.	
20											
	205										
25											
	200										
30											
	195										
35											

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level; WOH/R = Weight of Hammer/Rod.

Project: 36657.011
Data File: BB-134.dat

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS.ldf
Date: 8/19/04

Date Start/Finish: 9/10/04
Drilling Company: Parratt Wolff
Driller's Name: Robert Baldoze/Steve Collins
Drilling Method: IR-8300
Sampler Size: 2" ID 2' Split Spoon

Northing: NA
Easting: NA
Casing Elevation: NA

Borehole Depth: 12' below grade
Surface Elevation: NA

Descriptions By: Jennifer Sandorf

Boring ID: BB-135

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
0	0	1	0-2	1.6	>9999			GRAVEL FILL. Dark brown to brown fine SAND, some Silt, bluish staining, slight to moderate odor, moderately loose, dry.	Borehole backfilled to grade with cement/bentonite grout.
		2	2-4	1.7	796			Gray fine to coarse GRAVEL, little fine to coarse Sand, moderately dense, dry. Brown fine SAND, some Silt, some black staining, moderately loose to moderately dense, slight to moderate odor, dry to slightly moist.	
5	-5	3	4-6	2.0	81.5			Dark brown, little fine to medium Gravel below 4.0' bgs. Dark gray fine SAND and SILT, slightly plastic, moderate odor, moderately loose to moderately dense, moist.	
		4	6-8	2.0	257			Moist to wet below 6.0' bgs. Trace brown oily NAPL throughout below 7.8' bgs.	
		5	8-10	2.0	227	☒		<0.1'-thick lens of Clay at 9.5' bgs. <0.1'-thick lens of Clay at 9.9' bgs.	
10	-10	6	10-12	0.65	NA	☒		Shelby Tube attepmted from 10' - 12' bgs.	
15	-15								

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Project: 36657.011
Data File: BB-135.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 9/10/04

Date Start/Finish: 11/2/04
Drilling Company: BBLES
Driller's Name: J. Boland
Drilling Method: Truck mounted PowerProbe
Sampler Size: 4'x1.5" ID Dual Tube Macrocore assembly with Lexan tubes.

Northing: 1447095.7
Easting: 638912.3
Casing Elevation: NA

Borehole Depth: 28.5' bgs
Surface Elevation: 228.8' AMSL

Descriptions By: Scott Powlin

Boring ID: BB-136

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	230								
0	225	1	0-4	2.4	0.0 0.0			CRUSHED STONE, damp. Brown fine to coarse SAND, moist. Black fine to coarse SAND, Cinders, loose, damp.	Borehole backfilled to grade with bentonite chips.
5		2	4-8	2.7	0.0 0.0			Dark brown fine to medium SAND, little coarse Sand, moist, loose. Brown fine SAND, trace Silt, loose, soft, wet.	
10	220	3	8-12	4.0	0.0 0.0 0.0			Dark brown-gray fine SAND and SILT, little Clay, soft, low plasticity, wet. Dark gray-brown fine to coarse SAND, loose, wet. Dark gray-brown SILT, little fine Sand and Clay, low plasticity, wet. Dark gray SILT and CLAY, trace fine SAND, firm, medium plasticity, wet.	
15	215	4	12-16	3.0	0.0 0.0			Dark gray CLAY, trace to no Silt, high plasticity, firm, moist.	

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Client:
Niagara Mohawk,

Site Location:
Broadway Street
Schenectady, NY

Boring ID: BB-136

Borehole Depth: 28.5' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	210	5	16-20	4.0	0.0 0.0 0.0			Dark gray CLAY, trace to no Silt, high plasticity, firm, moist. Dark Gray SILT, little to trace fine Sand, trace Clay, trace Rootlets, low plasticity, wet. Dark gray CLAY, some Silt, moderate plasticity, moist to wet.	
20	205	6	20-24	4.0	0.0 70.9			Fine SAND and SILT, no plasticity, no sheen, moderate mothball-like odor, wet.	Borehole backfilled to grade with bentonite chips.
25		7	24-28	3.5	49.5 213 61.9			Peaty fine SAND and SILT, firm, no plasticity, no sheen, moderate mothball-like odor, damp. Dark gray stratified fine SAND, trace SIlt, moderate mothball-like odor, moist.	
		8	28-28.5	0.5	40.2				
30	200							Boring terminated at 30' bgs due to flowing Sand in tube assembly.	
35	195								

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Project: 36657.011
Data File: BB-136.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 11/10/04

Date Start/Finish: 11/2/04
Drilling Company: BBLES
Driller's Name: J. Boland
Drilling Method: Truck mounted PowerProbe
Sampler Size: 4'x1.5" ID Dual Tube Macrocore assembly with Lexan tubes.

Northing: 1447129.0
Easting: 638927.6
Casing Elevation: NA

Borehole Depth: 24' bgs
Surface Elevation: 229.0' AMSL

Descriptions By: Scott Powlin

Boring ID: BB-137

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	230								
0								Brown fine to coarse SAND, loose, damp.	Borehole backfilled to grade with bentonite chips.
		1	0-4	2.1	0.4			Black fine to coarse SAND and CINDERS, loose, no impacts observed.	
5	225	2	4-8	1.9	0.5			Black CINDERS and COAL, no impacts noted. Wet at 7.0' bgs.	
								Brown-black fine SAND, loose, trace to little brown non-viscous oil, wet.	
		3	8-12	3.0	137			Dark gray SILT, trace fine Sand. 1" Sand seam with trace brown oil at 8.4' bgs.	
	220							Fine SAND, little Silt, some dark brown non-viscous oil, loose, wet.	
10					98.8			Dark gray SILT, trace to little fine Sand, trace to little dark brown oil throuhgout, stiff, moist to wet. Strong MGP-like odor throughout 8.0' - 11.0' bgs.	
								Dark gray-black fine SAND, little Silt, little to some dark brown oil throughout, loose, wet.	
		4	12-16	2.9	89.7			Dark gray SILT, trace fine Sand and Clay, low plasticity, little dark brown oil in fine Sand seams.	
15	215				22.1			Dark gray CLAY, trace Silt, moist, high plasticity streaks of black staining throughout, no oil or sheen observed, moderate odor, firm.	

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Project: 36657.011
Data File: BB-137.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 11/10/04

Client:
Niagara Mohawk,

Site Location:
Broadway Street
Schenectady, NY

Boring ID: BB-137

Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
					17.5			Dark gray CLAY, high plasticity, no oil ot sheen, moderate MGP-like odor, moist to wet.	
					86.7			Dark gray fine SAND, loose, saturated with dark brown oil, strong odor, wet.	
		5	16-20	2.8	150			Dark gray CLAY, high plasticity, firm, no oil or sheen, moderate odor, moist.	
					205			Fine SAND seam with little dark brown oil.	
	210				17.6			Dark gray CLAY, high plasticity, no oil or sheen, moist.	
20									Borehole backfilled to grade with bentonite chips.
					26.5			Seams of fine Sand with little dark brown oil at 20.5' and 21.2' bgs.	
		6	20-24	3.5	436			Dark gray fine SAND, little Silt, loose, saturated with dark brown non-viscous oil, wet.	
					40.6			Dark gray fine SAND and SILT, firm, no oil, wet.	
	205							Boring terminated at 24' bgs due to flowing Sand in tube assembly. Flowing Sands are saturated with dark brown non-viscous oil, likely from 21.5' - 22.5' bgs interval.	
25									
	200								
30									
	195								
35									

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Date Start/Finish: 11/2/04
Drilling Company: BBLES
Driller's Name: J. Boland
Drilling Method: Truck mounted PowerProbe
Sampler Size: 4'x1.5" ID Dual Tube Macrocore assembly with Lexan tubes.

Northing: 1447090.5
Easting: 638949.3
Casing Elevation: NA

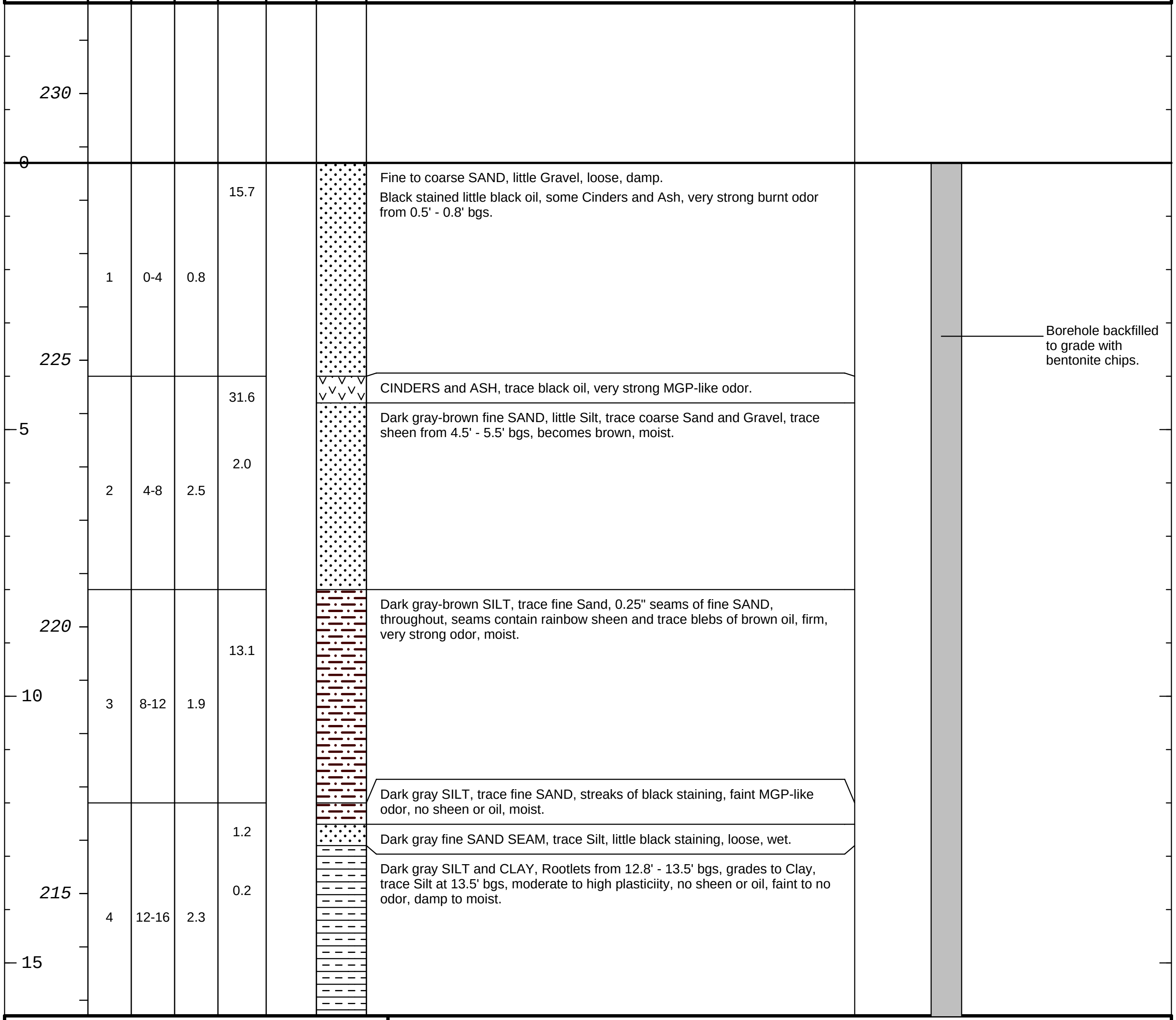
Borehole Depth: 28.0' bgs
Surface Elevation: 228.7' AMSL

Descriptions By: Scott Powlin

Boring ID: BB-138

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY



Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Stratigraphic Description
1	0-4	0.8	15.7		Fine to coarse SAND, little Gravel, loose, damp. Black stained little black oil, some Cinders and Ash, very strong burnt odor from 0.5' - 0.8' bgs.
2	4-8	2.5	31.6 2.0		CINDERS and ASH, trace black oil, very strong MGP-like odor. Dark gray-brown fine SAND, little Silt, trace coarse Sand and Gravel, trace sheen from 4.5' - 5.5' bgs, becomes brown, moist.
3	8-12	1.9	13.1		Dark gray-brown SILT, trace fine Sand, 0.25" seams of fine SAND, throughout, seams contain rainbow sheen and trace blebs of brown oil, firm, very strong odor, moist. Dark gray SILT, trace fine SAND, streaks of black staining, faint MGP-like odor, no sheen or oil, moist.
4	12-16	2.3	1.2 0.2		Dark gray fine SAND SEAM, trace Silt, little black staining, loose, wet. Dark gray SILT and CLAY, Rootlets from 12.8' - 13.5' bgs, grades to Clay, trace Silt at 13.5' bgs, moderate to high plasticiity, no sheen or oil, faint to no odor, damp to moist.

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Client:
Niagara Mohawk,

Site Location:
Broadway Street
Schenectady, NY

Boring ID: BB-138

Borehole Depth: 28.0' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	210	5	16-20	1.5	0.9 0.3			Dark gray fine SAND, little Silt, loose, no sheen or oil, faint to no odor, wet. Dark gray CLAY, trace Silt, high plasticity, faint to no odor, moist.	
20	205	6	20-24	4.0	11.7 0.3			Dark gray CLAY, high plasticity, soft, faint MPG-like odor, moist to wet. Dark gray SILT, little to trace fine Sand, trace Clay, faint MGP-like odor, low plasticity, no sheen or oil, wet.	Borehole backfilled to grade with bentonite chips.
25		7	24-28	3.2	24.8 5.6			Dark gray SILT, little to some fine Sand, firm, Peaty from 26.5' - 26.8' bgs, wet. Dark gray fine SAND, trace to little Silt, loose, no sheen or oil, wet.	
	200								
30									
	195								
35									

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Project: 36657.011
Data File: BB-138.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 11/10/04

Date Start/Finish: 11/4/04
Drilling Company: BBLES
Driller's Name: J. Boland
Drilling Method: Truck mounted PowerProbe
Sampler Size: 4'x1.5" ID Dual Tube Macrocore assembly with Lexan tubes.

Northing: 1447368.7
Easting: 639073.9
Casing Elevation: NA

Borehole Depth: 20' bgs
Surface Elevation: 228.3' AMSL

Descriptions By: Raymond Wagner

Boring ID: BB-139

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	230								
0	225	1	0-4	3.2	0.5			Brown fine SAND, trace medium to coarse Sand. Black granular COAL layer. Tan-brown fine SAND, trace Silt. Gray SILT, some fine Sand, loose, moist.	Borehole backfilled to grade with bentonite chips.
5		2	4-8	2.0	0.5			Brown fine SAND, some Silt, little medium to coarse Sand, loose, moist. Grades to medium to coarse Sand at 8.0' bgs.	
10	220	3	8-12	2.9	42.3			Brown fine SAND, some Silt, wet. Black fine SAND, black oily staining, NAPL saturated, odor. Dark gray SILT and CLAY, black NAPL staining (mottled), plastic, moist. Becoming less stained below 10.9' bgs.	
15	215	4	12-16	3.6	114 78.7			Gray to dark gray SILT and CLAY, trace fine Sand, occasional dark gray to black rootlet with brown NAPL staining, moderately plastic, slight odor, moist to wet. Dark gray SILT, little fine Sand, brown NAPL staining and sheen, odor, saturated.	

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

At 20' bgs, 4' of running Sands encountered in boring.

Project: 36657.011
Data File: BB-139.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 11/10/04

Client:
Niagara Mohawk,

Site Location:
Broadway Street
Schenectady, NY

Boring ID: BB-139

Borehole Depth: 20' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	210	5	16-20	2.3	17		▨	Dark gray SILT and fine SAND, saturated with moderate to heavy sheens throughout. 0.2' to 0.3' thick layers of brown Silt with little to some Clay at 17.3' and 17.5' bgs. 0.2' to 0.3' thick layers of brown Silt with little to some Clay at 18' and 18.3' bgs.	Borehole backfilled to grade with bentonite chips.
20									
	205								
25									
	200								
30									
	195								
35									

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

At 20' bgs, 4' of running Sands encountered in boring.

Project: 36657.011
Data File: BB-139.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 11/10/04

Date Start/Finish: 11/4/04
Drilling Company: BBLES
Driller's Name: J. Boland
Drilling Method: Truck mounted PowerProbe
Sampler Size: 4'x1.5" ID Dual Tube Macrocore assembly with Lexan tubes.

Northing: 1447385.3
Easting: 639132.7
Casing Elevation: NA

Borehole Depth: 24' bgs
Surface Elevation: 228.6' AMSL

Descriptions By: Raymond Wagner

Boring ID: BB-140

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	230								
0		1	0-4	2.6	0.0			Black SILT, CINDERS, and medium to coarse SAND, moist. [FILL] Tan fine SAND, some Silt, little medium to coarse Sand, moist.	Borehole backfilled to grade with bentonite chips.
	225								
5		2	4-8	2.6	0.0			Tan fine to medium SAND, little Silt, moist. Brown fine SAND, some Silt, trace Roots, moist. Gray fine SAND, some Silt, trace Roots, wet.	
	220								
10		3	8-12	3.5	0.0 10.3			Brown fine SAND and SILT. Saturated at 9.5' bgs. Gray SILT, little Clay, black rootlets in last 0.5' bgs for core, some black staining, MGP odor, moist to wet.	
	215								
15		4	12-16	3.3	79 23.7			Gray SILT and CLAY, little black staining and rootlets, moderate odor, moderately plastic, wet. Gray SILT, some fine Sand, black staining and brown oily sheens, strong odor, wet to saturated.	

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

At 24' bgs, 4' of running Sands encountered in boring.

Client:
Niagara Mohawk,

Site Location:
Broadway Street
Schenectady, NY

Boring ID: BB-140

Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	210	5	16-20	0.0	NA			No Recovery. Possibly saturated Silt and fine Sand, flowable.	
20		6	20-24	3.5	3.7		▨	Dark gray fine SAND, some Silt, slight odor and staining, saturated.	Borehole backfilled to grade with bentonite chips.
	205						▨	Dark gray fine SAND, little Silt, little black staining and odor, wet.	
25									
	200								
30									
	195								
35									

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

At 24' bgs, 4' of running Sands encountered in boring.

Project: 36657.011
Data File: BB-140.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 11/10/04

Date Start/Finish: 11/4/04
Drilling Company: BBLES
Driller's Name: J. Boland
Drilling Method: Truck mounted PowerProbe
Sampler Size: 4'x1.5" ID Dual Tube Macrocore assembly with Lexan tubes.

Northing: 1447352.4
Easting: 639108.5
Casing Elevation: NA

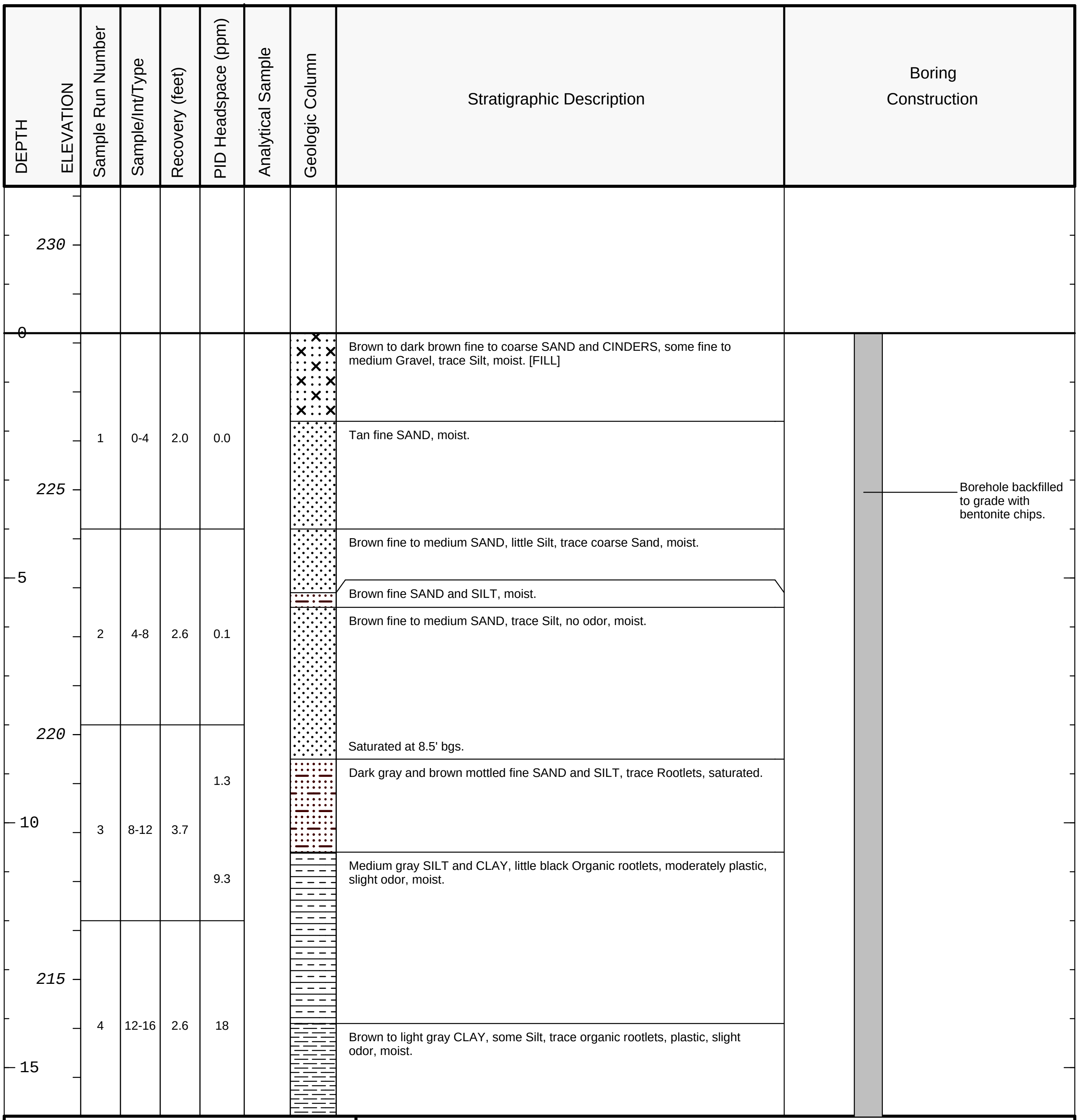
Borehole Depth: 28' bgs
Surface Elevation: 228.2' AMSL

Descriptions By: Raymond Wagner

Boring ID: BB-141

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY



Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample
1	0-4	2.0	0.0	
2	4-8	2.6	0.1	
3	8-12	3.7	1.3 9.3	
4	12-16	2.6	18	

Stratigraphic Description

Brown to dark brown fine to coarse SAND and CINDERS, some fine to medium Gravel, trace Silt, moist. [FILL]

Tan fine SAND, moist.

Brown fine to medium SAND, little Silt, trace coarse Sand, moist.

Brown fine SAND and SILT, moist.

Brown fine to medium SAND, trace Silt, no odor, moist.

Saturated at 8.5' bgs.

Dark gray and brown mottled fine SAND and SILT, trace Rootlets, saturated.

Medium gray SILT and CLAY, little black Organic rootlets, moderately plastic, slight odor, moist.

Brown to light gray CLAY, some Silt, trace organic rootlets, plastic, slight odor, moist.

Boring Construction

Borehole backfilled to grade with bentonite chips.

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At 28' bgs, 2' of running Sands encountered in boring.

Project: 36657.011
Data File: BB-141.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 11/10/04

Client:
Niagara Mohawk,

Site Location:
Broadway Street
Schenectady, NY

Boring ID: BB-141

Borehole Depth: 28' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
								Brown to light gray SILT, some Clay and fine Sand, slightly plastic, wet.	
	210	5	16-20	3.3	6.2			Gray SILT, little to some fine Sand, slight gray staining, slight odor, saturated.	
								Dark gray SILT and fine SANd, slight odor, saturated.	
20								Medium gray fine SAND and SILT, trace rootlets, saturated.	Borehole backfilled to grade with bentonite chips.
	205	6	20-24	4.0	1.7			Gray SILT and fine SAND, grading to fine Sand, no staining or odor, saturated. Trace Silt at 23.5' bgs.	
25								Dark gray SILT, little to some fine Sand, trace Wood fragments and rootlets, wet.	
		7	24-28	3.1	16.7			Gray fine to medium SAND, little Silt, MGP odor, slight sheen observed, wet to saturated.	
	200								
30									
	195								
35									

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

At 28' bgs, 2' of running Sands encountered in boring.

Project: 36657.011
Data File: BB-141.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 11/10/04

Date Start/Finish: 11/3/04
Drilling Company: BBLES
Driller's Name: J. Boland
Drilling Method: Truck mounted PowerProbe
Sampler Size: 4'x1.5" ID Dual Tube Macrocore assembly with Lexan tubes.

Northing: NA
Easting: NA
Casing Elevation: NA

Borehole Depth: 6.0' bgs
Surface Elevation: NA

Descriptions By: Scott Powlin

Boring ID: BB-142

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
0	0							ASPHALT.	
								CRUSHED STONE.	
		1	0-4	2.8	103			Brown fine to coarse SAND and GRAVEL, black staining, moderate odor, loose, dry. Spec of sticky black tar at 1.2' bgs.	
					228			Dark gray-black fine SAND and SILT, strong odor (possibly from Ammonia Separator), firm, damp to moist. Little to trace dark brown oil from 2.6' - 2.8' bgs.	Borehole backfilled to grade with bentonite chips.
								Dark gray fine SAND and SILT, little coarse Sand and Gravel, trace to little dark brown oil from 4.0' - 4.2' bgs, very strong pungent odor, loose, moist.	
5	-5	2	4-6	1.8	297 513			Black fine SAND and SILT, trace black taffy-like material throughout, loose, moist.	
								Refusal at 6.0' bgs.	
10	10								
15	15								

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Project: 36657.011
Data File: BB-142.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 11/10/04

Date Start/Finish: 11/5/04
Drilling Company: BBLES
Driller's Name: J. Boland
Drilling Method: Truck mounted PowerProbe
Sampler Size: 4'x1.5" ID Dual Tube Macrocore assembly with Lexan tubes.

Northing: 1447136.7
Easting: 639195.1
Casing Elevation: NA

Borehole Depth: 28' below grade
Surface Elevation: 227.8

Descriptions By: Raymond Wagner

Boring ID: BB-142R

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	230								
0		1	0-4	3.7	0.6			Brown fine to coarse SAND, gray Gravel subbase material, Cinders, dry. [FILL]	
	225							Dark gray SILT and fine SAND, some medium to coarse Sand, little Cinders, moist. [FILL]	Borehole backfilled to grade with bentonite chips.
5	220	2	4-8	2.1	0.3			Dark gray fine SAND, some Silt, trace Clay, no staining or odor, wet.	
10		3	8-12	1.7	37.2			Dark gray SILT, some Clay, little fine Sand, heavy staining, strong odor.	
								Dark gray fine SAND and SILT, oily sheen present, saturated.	
	215	4	12-16	2.5	1.7			Gray SILT, little fine Sand and Clay, mottled staining, MGP odor, saturated.	
15								Gray fine to medium SAND, little Silt, MGP odor, no sheen, saturated.	

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level; R = Relocated due to refusal.
At 28' bgs, 4' of running Sands encountered in boring.

Client:
Niagara Mohawk,

Site Location:
Broadway Street
Schenectady, NY

Boring ID: BB-142R

Borehole Depth: 28' below grade

DEPTH ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
210	5	16-20	0.4	0.8			Dark gray fine to medium SAND, little Silt, no sheen, slight odor, saturated.	
20 205	6	20-24	0.9	1.3			Gray fine SAND, some Silt, little Clay, no sheens, slight MGP odor, saturated	Borehole backfilled to grade with bentonite chips.
25 200	7	24-28	2.1	7.5			Dark gray fine SAND, some Silt, trace Clay, heavy sheens, strong MGP odor, saturated.	
30 195 35								

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At 28' bgs, 4' of running Sands encountered in boring.

Project: 36657.011
Data File: BB-142R.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 11/10/04

Date Start/Finish: 11/3/04
Drilling Company: BBLES
Driller's Name: J. Boland
Drilling Method: Truck mounted PowerProbe
Sampler Size: 4'x1.5" ID Dual Tube Macrocore assembly with Lexan tubes.

Northing: 1447142.7
Easting: 639198.1
Casing Elevation: NA

Borehole Depth: 24' bgs
Surface Elevation: 227.7' AMSL

Descriptions By: Scott Powlin

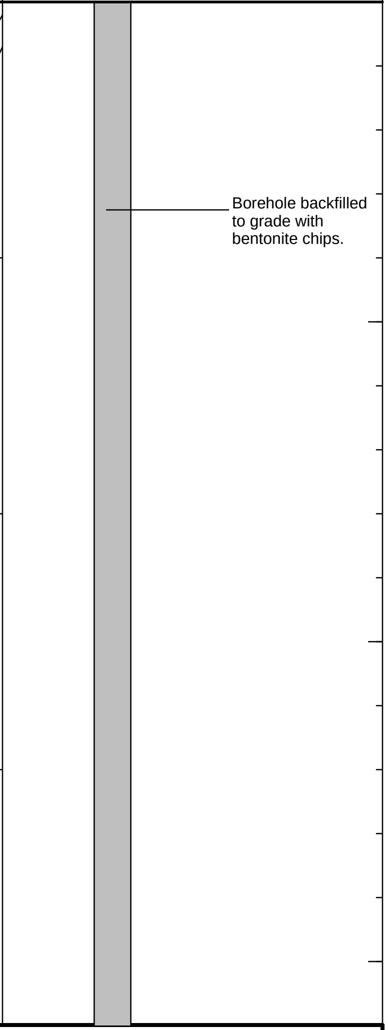
Boring ID: BB-143

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	230							
0	225	1	0-4	3.0	84.7			ASPHALT. CRUSHED STONE, loose, dry. Black fine to medium SAND and SILT, little coarse Sand, trace Gravel, strong odor. Little black oily material from 2.0' - 3.0' bgs.
5	220	2	4-8	1.6	206			Black fine SAND and SILT, little coarse Sand and Gravel, little black oil throughout, moist to wet.
10		3	8-12	0.5	122			Dark gray SILT, little fine Sand, black mottling, little brownish-black oil, strong odor, firm, moist.
15	215	4	12-16	1.3	106			Dark gray CLAY, little Silt, medium to high plasticity, moist to wet, outside of sample coated with dark brown non-viscous oil, fine Sand noted in sloppy portion of sample, oil likely from fine Sand seam.

Boring Construction



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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Project: 36657.011
Data File: BB-143.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 11/10/04

Client:
Niagara Mohawk,

Site Location:
Broadway Street
Schenectady, NY

Boring ID: BB-143

Borehole Depth: 24' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
								Dark gray fine SAND and SILT, saturated with dark brown non-viscous oil, loose, wet.	
								Dark gray SILT, little Clay, rootlets interbedded with <1 cm of fine Sand lenses to 19' bgs, Sand lenses saturated with oil, low plasticity.	
	210	5	16-20	3.5	119				
					29.3			No oil or sheen noted below 19' bgs.	
20								Dark gray-black fine SAND and SILT, rootlets, no oil or sheen, loose, wet.	Borehole backfilled to grade with bentonite chips.
					6.6				
		6	20-24	3.0				Dark gray SILT, little fine Sand, no oil or sheen, firm, wet.	
	205				7.6				
25									
	200								
30									
	195								
35									

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Date Start/Finish: 11/3/04
Drilling Company: BBLES
Driller's Name: J. Boland
Drilling Method: Truck mounted PowerProbe
Sampler Size: 4'x1.5" ID Dual Tube Macrocore assembly with Lexan tubes.

Northing: 1447146.1
Easting: 639200.8
Casing Elevation: NA

Borehole Depth: 20' bgs
Surface Elevation: 227.7' AMSL

Descriptions By: Scott Powlin

Boring ID: BB-144

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample
	230					
0		1	0-4	4.0	9.3 1.2 70	
	225					
5		2	4-8	1.3	1153	
	220					
10		3	8-12	4.0	239 494 64.5	
	215	4	12-16	3.3	71.1 291 7.0	
15						

Stratigraphic Description	Boring Construction
ASPHALT.	Borehole backfilled to grade with bentonite chips.
CRUSHED STONE, loose, dry.	
Gray to black fine to coarse SAND and GRAVEL, some Cinders, Ash, Wood pieces, faint odor, loose, dry.	
Gray fine SAND, faint odor, loose, damp.	
Dark gray fine SAND and SILT, black mottling, faint odor, damp.	
Dark gray to black fine SAND, trace Silt, little dark brown oil throughout, strong MGP-like odor, loose, moist. 1" Silt and Clay seam at 4.9' bgs.	
Dark gray fine SAND and SILT, little Clay, some dark brown non-viscous oil throughout, strong odor, loose, wet.	
Dark gray-black fine SAND, saturated with dark brown oil, strong odor, loose, wet.	
Dark gray SILT, trace fine Sand and Clay, black mottling, little dark brown oil throughout, firm, wet.	
Dark gray-black fine SAND, saturated with oil, loose.	
Dark gray-brown SILT and CLAY, trace Roots, black mottling, strong odor, no oil or sheen, low plasticity, firm.	
Dark gray-black fine SAND, some to saturated with dark brown non-viscous oil, loose, wet.	
Dark gray-brown SILT, some Clay, trace Roots, strong odor, no oil or sheen, low plasticity.	

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Project: 36657.011
Data File: BB-144.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 11/10/04

Client:
Niagara Mohawk,

Site Location:
Broadway Street
Schenectady, NY

Boring ID: BB-144

Borehole Depth: 20' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	210	5	16-20	2.5	22.3			Dark gray-brown SILT, trace Clay, fine Sand seams present, trace dark brown oil.	Borehole backfilled to grade with bentonite chips.
20								Boring terminated at 20' due to flowing sands.	
	205								
25									
	200								
30									
	195								
35									

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Project: 36657.011
Data File: BB-144.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 11/10/04

Date Start/Finish: 11/2/04
Drilling Company: BBLES
Driller's Name: J. Boland
Drilling Method: Truck mounted PowerProbe
Sampler Size: 4'x1.5" ID Dual Tube Macrocore assembly with Lexan tubes.

Northing: 1447108.9
Easting: 639013.3
Casing Elevation: NA

Borehole Depth: 28' bgs
Surface Elevation: 229.2' AMSL

Descriptions By: Scott Powlin

Boring ID: BB-145

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	230								
0								ASPHALT.	Borehole backfilled to grade with bentonite chips.
								CRUSHED STONE, loose, dry.	
5	225	1	0-4	2.3	0.4			Fine to coarse SAND, Cinders, Ash, Brick, moist.	
		2	4-8	3.1	0.0			Brown fine SAND, trace Coarse Sand and fine Gravel, moist.	
					19.3			Brown-black fine to coarse SAND, little Cinders and Clinkers, little sheen, moderate MGP-like odor, loose, moist to wet.	
								Brown fine SAND, little Silt, faint MGP-like odor, firm, moist to wet.	
	220				79.4			Black fine SAND, little to trace Silt, some dark brown non-viscous oil, strong MGP-like odor, wet.	
10		3	8-12	2.8	2.4			Dark gray SILT, Rootlets, moderate MGP-like odor, no oil ot sheen, moderate plasticity, stiff, wet.	
								Dark brown oil in Root, trace mottled black staining throughout below 12' bgs.	
					8.1			Approximately 1" Sand seam, saturated with dark brown oil at 12.8' bgs.	
								Approximately 1" Sand seam, saturated with dark brown oil at 13.2' bgs.	
15	215	4	12-16	2.3	2.4			Dark gray SILT and CLAY, firm, medium plasticity, black mottling thouhgout, occasional bleb of dark brown oil. Soft from 15.2' - 15.4' bgs.	
					10.7			Dark gray fine SAND, trace Silt, loose, heavy sheen, trace dark brown oil, wet.	

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Project: 36657.011
Data File: BB-145.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 11/10/04

Client:
Niagara Mohawk,

Site Location:
Broadway Street
Schenectady, NY

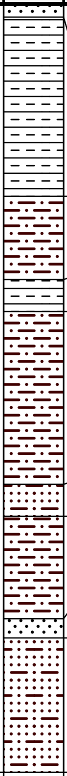
Boring ID: BB-145

Borehole Depth: 28' bgs

DEPTH	ELEVATION
	210
20	
	205
25	
	200
30	
	195
35	

Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample
5	16-20	3.7	4.5 27.4 56.8	
6	20-24	4.0	53.9 5.3	
7	24-28	3.1	213 84.7 87.9	

Geologic Column



Stratigraphic Description

Dark gray fine SAND, trace Silt, loose, heavy sheen, trace dark brown oil, wet.

Dark gray-brown SILT and CLAY, with fine Sand seams (>1 cm) throughout, dark brown oil observed in Sand seams, moderately plastic.

Dark gray SILT, little Clay, fine Sand seams (<1 cm) saturated with dark brown oil.

Dark gray SILT and CLAY, soft, moderately plastic, no oil or sheen, wet.

Dark gray SILT, little Clay, low plasticity, no oil or sheen, wet.

Dark gray fine SAND and SILT, Rootlets, some dark brown oil, loose, wet.

Dark gray-black SILT, trace fine Sand, rootlets throughout,

2" fine Sand seam with some dark brown oil at 24.8' bgs.
Peaty from 24.9' - 25.2' bgs.

Dark gray fine SAND, little Silt, little to some dark brown oil, loose, wet.

Dark gray fine SAND and SILT, some to saturated with dark brown oil, loose, wet.

Boring Construction

Borehole backfilled to grade with bentonite chips.

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Project: 36657.011
Data File: BB-145.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 11/10/04

Date Start/Finish: 11/3/04
Drilling Company: BBLES
Driller's Name: J. Boland
Drilling Method: Truck mounted PowerProbe
Sampler Size: 4'x1.5" ID Dual Tube Macrocore assembly with Lexan tubes.

Northing: 1447136.3
Easting: 639021.5
Casing Elevation: NA

Borehole Depth: 5.0' bgs
Surface Elevation: 229.3' AMSL

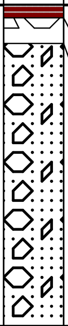
Descriptions By: Scott Powlin

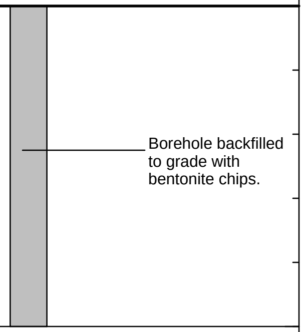
Boring ID: BB-146

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
0								ASPHALT.	
								CRUSHED STONE.	
		1	0-5	2.5	0.8			Brown fine to coarse SAND and GRAVEL, trace Cinders and Brick, loose, dry.	Borehole backfilled to grade with bentonite chips.
5								Refusal at 5.0' bgs. Possible retort foundation. Attempted two nearby locations with same results.	





Borehole backfilled to grade with bentonite chips.

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Date Start/Finish: 11/4/04
Drilling Company: BBLES
Driller's Name: J. Boland
Drilling Method: Truck mounted PowerProbe
Sampler Size: 4'x1.5" ID Dual Tube Macrocore assembly with Lexan tubes.

Northing: 1447293.2
Easting: 639004.3
Casing Elevation: NA

Borehole Depth: 24' below grade
Surface Elevation: 229.2' AMSL

Descriptions By: Raymond Wagner

Boring ID: BB-147

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	230								
0		1	0-4	1.6	0.8			Brown to black fine to medium SAND, some Cinders, Brick, and coarse Sand, moist. [FILL]	Borehole backfilled to grade with bentonite chips.
	225							Brown medium to coarse SAND, some fine Sand, little Silt, moist.	
5					18.9			Brown fine SAND and SILT, moist.	
		2	4-8	3.2				Gray SILT and fine SAND, some black staining, odor.	
					34.3			Black fine SAND, some Silt, black staining and sheens, odor.	
10	220	3	8-12	3.2	57.2			Black fine to mediuim SAND, little Silt, heavy brown to dark brown oil sheens, MGP odor, wet to saturated.	
					55.1			Dark gray SILT and CLAY, some black staining, MGP odor, moist.	
					29.6			Black fine SAND, some Silt, heavy brown to black oily sheen, MGP odor.	
15	215	4	12-16	3.0	8.6			Brown SILT and CLAY, minor staining from 13.5' - 14' bgs, no staining below 14' bgs, odor, wet.	

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

At 24' bgs,4' of running Sands encountered in boring.

Client:
Niagara Mohawk,

Site Location:
Broadway Street
Schenectady, NY

Boring ID: BB-147

Borehole Depth: 24' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
					37.2			Brown SILT and CLAY. some brown oily sheens and staining, oil staining noted along rootlets in sample, MGP odor, wet.	
		5	16-20	3.1					
								Gray-black fine SAND, some Silt, heavy brown oily sheens, strong odor, wet.	
	210				16.1				
20									Borehole backfilled to grade with bentonite chips.
		6	20-24	1.7	24.3				
	205								
25									
	200								
30									
	195								
35									

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

At 24' bgs,4' of running Sands encountered in boring.

Date Start/Finish: 11/5/04
Drilling Company: BBLES
Driller's Name: J. Boland
Drilling Method: Truck mounted PowerProbe
Sampler Size: 4'x1.5" ID Dual Tube Macrocore assembly with Lexan tubes.

Northing: 1447226.9
Easting: 638972.3
Casing Elevation: NA

Borehole Depth: 28' below grade
Surface Elevation: 228.7' AMSL

Descriptions By: Raymond Wagner

Boring ID: BB-148

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
	230								
0	225	1	0-4	2.0	0.3			Brown to black fine SAND, some Silt, medium to coarse Sand, Brick fragments, and Cinders, moist. [FILL]	Borehole backfilled to grade with bentonite chips.
5		2	4-8	2.6	0.0			Black CINDERS, some fine to medium Sand, little Silt. [FILL]	
								Brown SILT, some Clay, little fine Sand, slightly plastic, wet.	
	220	3	8-12	3.3				Brown fine SAND and SILT, wet to saturated.	
					0.0			Brown fine to medium SAND, little Silt, saturated.	
10					2.1			Black fine to medium SAND, little Silt, heavy oil sheen, strong MGP odor, saturated.	
					2.2			Dark gray SILT, some Clay, little fine Sand, some oil sheens, MGP odor, wet.	
		4	12-16	3.0				Dark gray SILT, some Clay, trace fine Sand, oil sheens and staining, strong MGP odor, saturated/	
					0.3			Dark gray fine SAND, little Silt, blebs of NAPL and heavy sheens, strong odor, saturated.	
15	215				0.3			Gray SILT and CLAY, trace fine Sand, minor staining from 13.4' - 13.9' bgs, slight odor, plastic, wet.	

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

At 28' bgs, 7' of running Sands encountered in boring.

Project: 36657.011
Data File: BB-148.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 11/10/04

Client:
Niagara Mohawk,

Site Location:
Broadway Street
Schenectady, NY

Boring ID: BB-148

Borehole Depth: 28' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Boring Construction
		5	16-20	3.7				Gray CLAY, some Silt, trace fine Sand, minor staining, plastic, wet.	
					1.6			Black fine Sand, little Silt and Clay, heavy NAPL sheen, strong MGP odor, saturated.	
	210				0.9			Gray CLAY, some Silt, trace fine Sand, minor staining.	
					0.5			Black fine SAND, NAPL saturated, odor.	
								Gray CLAY, some Silt, trace fine Sand, wet.	
20		6	20-24	2.0	0.0			Dark gray fine SAND, little Silt, no visible staining, sheens, or odor, saturated.	Borehole backfilled to grade with bentonite chips.
	205							Dark gray fine SAND and SILT, no staining or odor, moist.	
25		7	24-28	3.0	1.2			Dark gray SILT, little fine Sand and Wood fragments, Organic material, no staining or odor, moist.	
								Dark gray fine SAND, little Silt, no staining or odor, saturated.	
	200								
30									
	195								
35									

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

At 28' bgs, 7' of running Sands encountered in boring.

Project: 36657.011
Data File: BB-148.dat

Template: j:\rockware\logplot2001\logfiles\36657\Broadway.ldf
Date: 11/10/04

Date Start/Finish: 3/24/05
Drilling Company: Parratt-Wolff
Driller's Name: Doug Thoma
Drilling Method: Hollow Stem Auger
Bit Size: NA
Auger Size: 3 1/4"
Rig Type: IR A200 Truck-Mount
Sampling Method: 2" OD Split Spoon

Northing: 1447272.3
Easting: 639013.9
Casing Elevation: NA

Borehole Depth: 26' below grade
Surface Elevation: 228.7' AMSL

Geologist: Kristina Gross

Well/Boring ID: BB-149

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample
	230							
0		1	0-2	0.9	4 7 4 7	11	0.4	
	225	2	2-4	0.7	4 13 17 22	30	1.6	
5		3	4-6	2.0	7 12 10 10	22	76.0	
		4	6-8	1.8	6 8 6 6	14	80.5	
	220	5	8-10	2.0	1 1 1 4	2	34.2	
10		6	10-12	2.0	2 2 2 4	4	30.0	
	215	7	12-14	2.0	2 2 3 4	5	46.4	
15		8	14-16	2.0	2 2 2 2	4	60.2	

Stratigraphic Description

Brown fine SAND, SILT, and fine GRAVEL, loose, wet (from snow melt). [FILL]

Black COAL fragments. [FILL]

Red BRICK fragments, medium dense, moist, slight to moderate MGP-type odor. [FILL]

Brown SILT, some fine Sand, soft, moist, moderate to strong MGP-type odor, some black staining.

Reddish-brown SILT, little fine Sand and fine Gravel, medium dense, dry, moderate to strong MGP-type odor.

Grading to brownish-gray fine SAND, some Silt, medium dense, dry to moist, moderate MGP-type odor, little black staining.

Black-stained SILT, soft, moist, moderate to strong MGP-type odor.

Very soft, wet, slight rainbow sheen, trace gold oily NAPL.

Olive-green CLAY partings (up to 1/3" thick), soft, moderate rainbow sheen, little to some black sticky tar-like NAPL in Silt matrix.

Black-stained fine GRAVEL, loose, wet, strong MGP-type odor.

Black-stained SILT, soft, wet, strong MGP-type odor, heavy rainbow sheen, little gold oily NAPL.

Black-stained fine SAND and SILT, loose (soupy), wet, strong MGP-type odor, heavy rainbow sheen, little to some gold oily NAPL.

Black-stained Clayey SILT, soft, wet, strong MGP-type odor.

Black-stained fine SAND, loose, wet, strong MGP-type odor, heavy rainbow sheen, little to some gold oily NAPL.

Black-stained Clayey SILT, soft, medium plasticity, wet, moderate MGP-type odor, little to trace rainbow sheen, trace gold oily NAPL.

Well/Boring Construction

Borehole tremied with cement-bentonite grout to grade.

Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

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Client:
Niagara Mohawk,
A National Grid Company

Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: BB-149

Borehole Depth: 26' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
		9	16-18	1.4	2 2 2 3	4	20.5			Black-stained Clayey SILT, soft, medium plasticity, wet, moderate MGP-type odor.	
20	210	10	18-20	0.9	1 1 1 1	2	17.9			No odor or staining below 18' bgs.	Borehole tremied with cement-bentonite grout to grade.
		11	20-22	1.2	1 1 2 1	3	16.2			Brown fine SAND and SILT, soft, wet.	
	205	12	22-24	0.8	1 2 2 3	4	12.0			Brown Peaty Clayey SILT, trace fine Sand and Wood, soft, wet. Fine Sand laminations (1/8" thick) grading to fine Sand layers (1/2" - 1" thick) with depth.	
25		13	24-26	1.2	2 3 3 4	6	13.1			Gray fine SAND, loose, wet.	
	200										
30											
	195										
35											

Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

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Date Start/Finish: 3/24/05
Drilling Company: Parratt-Wolff
Driller's Name: Doug Thoma
Drilling Method: Hollow Stem Auger
Bit Size: NA
Auger Size: 3 1/4"
Rig Type: IR A200 Truck-Mount
Sampling Method: 2" OD Split Spoon

Northing: 1447182.9
Easting: 639196.9
Casing Elevation: NA

Borehole Depth: 24' below grade
Surface Elevation: 227.6' AMSL

Geologist: Kristina Gross

Well/Boring ID: BB-150

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample
1	0-2	1.5	- 7 8 5	NA	13.9	
2	2-4	1.1	3 4 5 5	9	101	
3	4-6	1.8	1 1 1 1	2	98.0	
4	6-8	2.0	2 2 2 2	4	833	
5	8-10	2.0	2 2 2 3	4	629	
6	10-12	0.8	1 1 1 2	2	297	
7	12-14	2.0	2 2 2 2	4	319	
8	14-16	1.6	1 1 1 1	2	97.0	

Stratigraphic Description

ASPHALT.

Black-stained fine SAND, trace fine Gravel, medium dense, dry, strong motor oil-type odor.

Some Silt.

Black-stained SILT, little fine Sand, very soft, moist, strong motor oil-type odor, some rainbow sheen, oily gold NAPL from 4.6' - 4.8' bgs.

Black-stained Clayey SILT, soft, moist to wet, strong motor oil-type odor, some rainbow sheen and oily gold NAPL.

Black stained SILT and fine SAND, with fine Sand laminations (up to 1/4" thick), strong motor oil-type odor, some rainbow sheen and oily gold NAPL.

Brown SILT, trace roots, soft to medium stiff, wet, moderate motor oil-type odor, some black staining, oily gold NAPL on exterior of sample likely from above.

Brown Clayey SILT, soft, wet, moderate motor oil-type odor, some black staining, oily gold NAPL on exterior of sample likely from above.

Brown SILT, dense, stiff, moist to dry, no odor/staining/sheen/NAPL.

Black-stained fine SAND, loose, wet, strong motor oil-type odor, little to strong rainbow sheen and oily gold NAPL.

Black-stained fine SAND and SILT, loose, wet, strong motor oil-type odor, some oily gold NAPL.

Black-stained fine SAND, loose, wet, strong motor oil-type odor, some oily gold NAPL.

Grayish-brown SILT, soft, wet, strong motor oil-type odor, some oily gold NAPL on exterior of sample likely from above. Layer of black-stained fine SAND with strong motor oil-type odor and some oily gold NAPL from 14.6' - 14.7' bgs.

Well/Boring Construction

Borehole tremied with cement-bentonite grout to grade.

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level; WOH = Weight of Hammer.

Client:
Niagara Mohawk,
A National Grid Company

Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: BB-150

Borehole Depth: 24' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
	210	9	16-18	1.4	WOH/ 2' - -	NA	86.2			Black-stained fine SAND, loose, wet, strong motor oil-type odor, some oily gold NAPL. Brown SILT, soft, wet, strong motor oil-type odor. Brown fine SAND and SILT, soft, wet, strong motor oil-type odor, trace black staining, trace oily gold NAPL. Brown SILT, soft, wet, strong motor oil-type odor.	Borehole tremied with cement-bentonite grout to grade.
		10	18-20	1.2	3 2 1 1	3	78.9			Black-stained fine SAND, little Silt, loose, wet, strong motor oil-type odor, some oily gold NAPL.	
20		11	20-22	0.9	1 2 2 3	2	79.0			Gray fine SAND and SILT, soft, wet, strong motor oil-type odor, little black staining, little oily gold NAPL.	
	205	12	22-24	2.0	3 3 5 6	8	80.0			Gray fine SAND, loose to medium dense, wet, strong motor oil-type odor, no staining/sheen/NAPL.	
25	200										
30	195										
35											

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level; WOH = Weight of Hammer.

Project: 36657.011
Data File: BB-150.dat

Template: J:\rockware\logplot2001\logfiles\36657\BroadwayWELLS_new.ldf
Date: 4/19/05

Appendix B

Monitoring Well Construction Logs

Date Start/Finish: 9/9/04
Drilling Company: Parratt Wolff
Driller's Name: Joe Percy
Drilling Method: IR-8300
Bit Size: 4-1/4"
Auger Size: 4-1/4" Hollow Stem Auger
Rig Type: IR-8300
Sampling Method: 2" ID 2' Split spoon advanced by Geoprobe

Northing: 1447039.9
Easting: 639310.1
Casing Elevation: 226.61' AMSL

Borehole Depth: 22' below grade
Surface Elevation: 226.87' AMSL

Geologist: Jennifer Sandorf

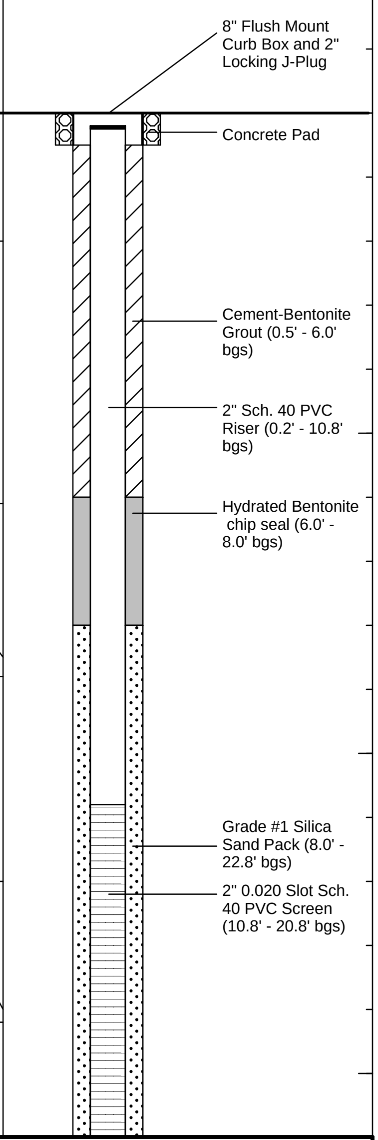
Well/Boring ID: MW-13SR

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Stratigraphic Description
0	225	1	0-2	0.5	NA	NA	NA		ASPHALT
		2	2-4	0.6	NA	NA	NA		Brown fine to medium SAND, little Silt and medium to coarse Gravel, trace red Brick fragments, moderately loose to moderately dense, slight odor, moist to wet (probably from rainfall).
5		3	4-6	0.2	NA	NA	NA		Trace medium to coarse Gravel, moderately loose, wet below 4.0' bgs.
	220	4	6-8	1.1	NA	NA	NA		Dark gray fine to medium SAND, little to some Silt, trace medium to coarse Gravel and Cinders, slightly plastic, moderately loose, wet.
		5	8-10	0.9	NA	NA	NA		Brown SILTY CLAY, trace fine Sand, moderately soft, very plastic. Brown medium SAND, little Silt moderately loose, wet.
10	215	6	10-12	1.5	NA	NA	NA		With Clay lens from 10.3' - 10.5' bgs.
		7	12-14	1.3	NA	NA	NA		Brown fine to medium SAND, little Silt, moderately loose, wet, trace coarse angular Gravel. Tan-gray SILTY CLAY, very soft and plastic.
15		9	14-16	1.2	NA	NA	NA		Brown fine to medium SAND, little Silt, moderately loose.

Well/Boring Construction



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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

PID unavailable due to rain and high humidity

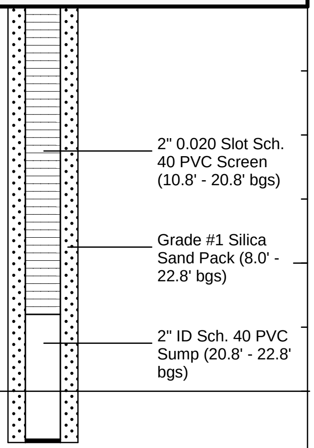
Client:
Niagara Mohawk,
A National Grid Company
Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-13SR

Borehole Depth: 22' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	210	10	16-18	1.1	NA	NA	NA			Brown fine to medium SAND, little Silt, moderately loose. Grayish-brown from 16.0' -16.4' bgs. Color change to Brown from 16.4' - 17.1' bgs.
		11	18-20	1.1	NA	NA	NA			Brown fine to medium SAND, little to trace Silt, moderately loose, wet.
20	205	12	20-22	1.5	NA	NA	NA			
25										
	200									
30										
	195									
35										

Well/Boring Construction



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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

PID unavailable due to rain and high humidity

Project: 36657.011
Data File: MW-13SR.dat

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS_new.ldf
Date: 9/14/04

Date Start/Finish: 3/8/05 - 3/11/05
Drilling Company: Parratt-Wolff
Driller's Name: Ian Grasse
Drilling Method: Hollow Stem Auger
Bit Size: 4 1/4"
Auger Size: 4 1/4" HSA
Rig Type: CME 75
Sampling Method: 2" OD split spoon

Northing: 1447049.0
Easting: 639302.8
Casing Elevation: 226.54' AMSL

Borehole Depth: 90' below grade
Surface Elevation: 226.73' AMSL

Geologist: Jason C. Sents

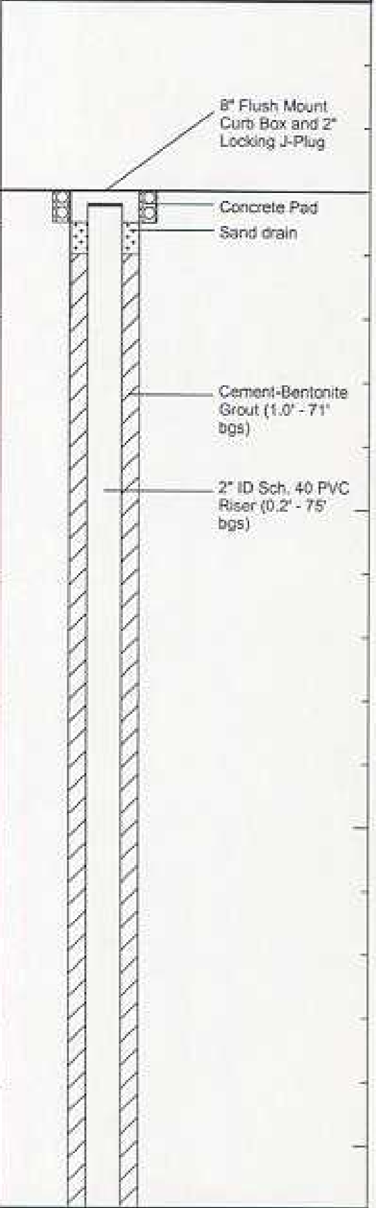
Well/Boring ID: MW-13T

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0										ASPHALT
	225	1	0-2	0.7	- 9 6 3	15	0.0			Black fine SAND, little Silt, trace Brick and Cinders, frozen. [FILL]
		2	2-4	1.5	5 5 6 5	11	0.0			Brown grading to black fine to medium SAND, trace Brick, loose, moist. [FILL]
5		3	4-6	0.0	4 6 1 1	7	0.0			No Recovery.
	220	4	6-8	1.1	3 1 1 2	2	0.0			Gray fine SAND, trace Silt, loose, wet.
		5	8-10	0.5	WOH WOH 1 1	NA	0.0			Gray medium SAND, trace fine and coarse Sand, trace Silt, loose, wet.
10	215	6	10-12	2.0	WOH WOH 1 1	NA	0.0			Gray-brown medium SAND, trace fine Sand, loose, wet.
		7	12-14	1.5	1 1 1 1	2	0.0			Gray-brown Clayey SILT, soft, wet, odor present.
15		8	14-16	0.9	1 1 1 1	2	0.1			Gray fine to medium SAND, loose, wet, odor present.

Well/Boring Construction



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Remarks: NA = Not Applicable/Available; HSA = Hollow Stem Auger; bgs = below ground surface; WOH = Weight of Hammer.

Client:
Niagara Mohawk,
A National Grid Company

Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-13T

Borehole Depth: 90' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
	210	9	16-18	2.0	3 2 2 3	4	0.0			Gray fine to medium SAND, loose, wet, odor present. 0.5" thick Silt stringer present at 17.7' bgs.	
		10	18-20	1.2	4 3 3 3	6	0.0				
20	205	11	20-22	2.0	2 2 3 2	5	0.0			Root at 20.5-20.6' bgs.	Cement-Bentonite Grout (1.0' - 71' bgs)
		12	22-24	2.0	4 4 8 7	12	0.0			Brown SILT and CLAY, interbedded fine Sand, medium plastic, wet. Fine SAND and SILT, loose, wet, no odor.	2" ID Sch. 40 PVC Riser (0.2' - 75' bgs)
25		13	24-26	2.0	6 5 4 3	9	0.0			Gray fine to medium SAND, loose, wet. Brown SILT and CLAY, trace fine Sand, medium plastic, trace rootlets. Black SILT/CLAY/WOOD, peat-like, medium plastic, trace fine Sand.	
	200	14	26-28	1.0	3 3 3 3	6	0.0				
		15	28-30	1.5	4 1 3 2	4	0.0			Dark gray to black fine SAND and SILT, trace medium Sand, loose.	
30	195	16	30-32	2.0	1 WOH WOH 2	NA	0.0			Gray-brown fine SAND, loose, wet, odor present. Running Sand observed.	
		17	32-34	2.0	5 4 4 4	8	0.0				
35		18	34-36	1.9	4 4 3 6	7	0.0			Brown-gray fine and medium SAND, trace coarse Sand, loose, wet.	

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Client:
Niagara Mohawk,
A National Grid Company

Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-13T

Borehole Depth: 90' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
	190	19	36-38	2.0	5 6 7 6	13	0.0			Gray fine and medium SAND, trace coarse Sand and well-rounded Gravel, loose, wet.	
		20	38-40	1.2	4 4 4 6	8	0.0			Gray medium and coarse SAND, little fine Sand, loose, wet.	
40	185	21	40-42	1.1	2 4 6 4	10	0.0			Gray medium to coarse SAND and fine GRAVEL, trace fine Sand, loose, wet.	Cement-Bentonite Grout (1.0' - 71' bgs)
		22	42-44	1.5	3 5 3 5	8	0.0				2" ID Sch. 40 PVC Riser (0.2' - 75' bgs)
45		23	44-46	2.0	4 4 6 8	10	0.0			Gray SILT and CLAY, medium plastic.	
	180	24	46-48	1.0	7 8 8 WOH	16	0.0				
		25	48-50	1.2	6 7 7 8	14	0.0				
50	175	26	50-52	0.8	8 7 15 16	22	0.0				
		27	52-54	2.0	7 7 9 8	16	0.0			Gray Clayey SILT, stiff, highly plastic, wet on outside of sample and damp in interior. Wet throughout.	
55		28	54-56	2.0	4 6 10 8	16	0.0				

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Remarks: NA = Not Applicable/Available; HSA = Hollow Stem Auger; bgs = below ground surface; WOH = Weight of Hammer.

Project: 36657.011
Data File: MW-13T.dat

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS_NEW.ldf
Date: 3/23/05

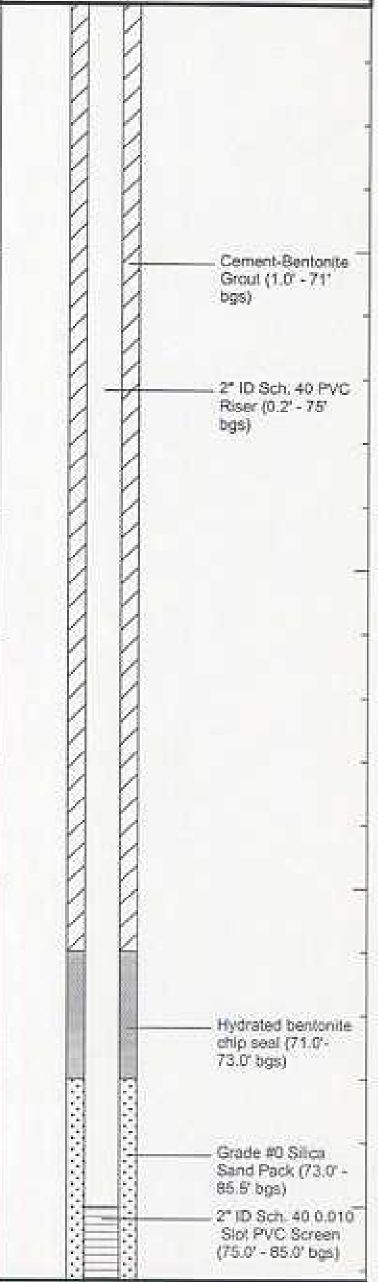
Client:
Niagara Mohawk,
A National Grid Company

Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-13T

Borehole Depth: 90' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
	170	29	56-58	1.3	8 11 15 16	26	0.0			Gray Clayey SILT, stiff, plastic, wet throughout.	
		30	58-60	1.1	10 11 16 17	27	0.0				
60	165	31	60-62	2.0	10 18 19 19	35	0.0			Gray SILT, trace sub-rounded Gravel, medium dense, wet.	
		32	62-64	2.0	11 12 12 12	24	0.0				
65		33	64-66	0.6	10 9 8 9	17	0.0			Gray Clayey SILT, trace fine Sand and fine to coarse Gravel, medium plastic, wet. [TILL]	
	160	34	66-68	1.3	10 10 10 10	20	0.0			Gray CLAY and SILT, little fine to coarse Sand and fine to coarse Gravel, stiff, wet. [TILL]	
		35	68-70	1.2	NA	NA	0.0			Shelby Tube collected.	
70	155	36	70-72	1.4	7 6 8 9	14	0.0			Dark gray CLAY and SILT, little fine to coarse Gravel, stiff, damp. Gravel pieces comprised of shale, striae on exterior of gravel. [TILL]	
		37	72-74	1.0	8 10 8 14	18	0.0				
75		38	74-76	0.4	12 14 12 19	26	0.0				



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Remarks: NA = Not Applicable/Available; HSA = Hollow Stem Auger; bgs = below ground surface; WOH = Weight of Hammer.

Client:
Niagara Mohawk,
A National Grid Company

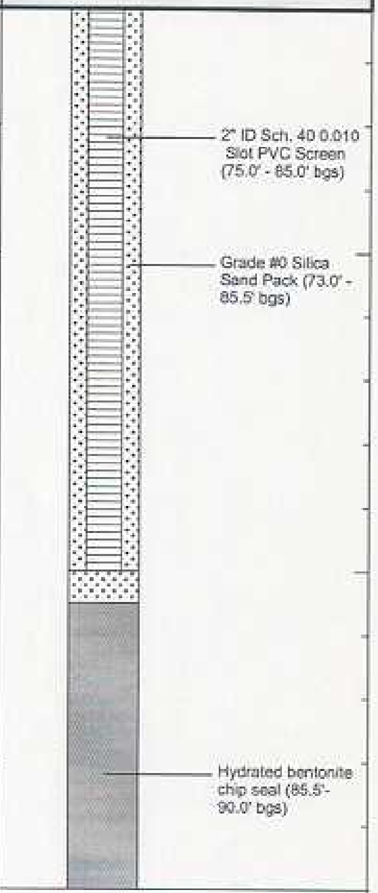
Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-13T

Borehole Depth: 90' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	150	39	76-78	0.4	12 10 22 21	32	0.0			Dark gray CLAY and SILT, little fine to coarse Gravel, stiff, damp. Gravel pieces composed of shale, striae on exterior of gravel.
		40	78-80	0.1	50/ 0.2 - -	NA	0.0			Possible Boulder, shattered cobble in shoe. Split spoon deformed and destroyed during drive. Auger to 80' bgs. [TILL]
80	145	41	80-82	0.6	5 6 12 18	18	0.0			Dark gray CLAY and SILT, little fine to coarse Gravel, stiff, damp. Gravel pieces comprised of shale, striae on exterior of gravel. [TILL]
		42	82-84	1.2	14 15 15 14	30	0.0			
85		43	84-86	1.0	21 24 36 50	60	0.0			Very stiff to 88' bgs.
	140	44	86-88	0.2	50/ 0.4 - -	NA	0.0			
		45	88-90	0.0	50/ 0.1 - -	NA	NA			No Recovery.
90 95	135									

Well/Boring Construction



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Remarks: NA = Not Applicable/Available; HSA = Hollow Stem Auger; bgs = below ground surface; WOH = Weight of Hammer.

Date Start/Finish: 3/22/05 - 3/24/05
Drilling Company: Parratt-Wolff
Driller's Name: Ian Grasse
Drilling Method: Hollow Stem Auger/Mud Rotary
Bit Size: 4 1/4" / 3 7/8" rollerbit
Auger Size: 4 1/4" HSA
Rig Type: CME 75
Sampling Method: 2" OD split spoon

Northing: 1447544.8
Easting: 639522.0
Casing Elevation: 225.60' AMSL

Borehole Depth: 84' below grade
Surface Elevation: 226.01' AMSL

Geologist: Jason C. Sents

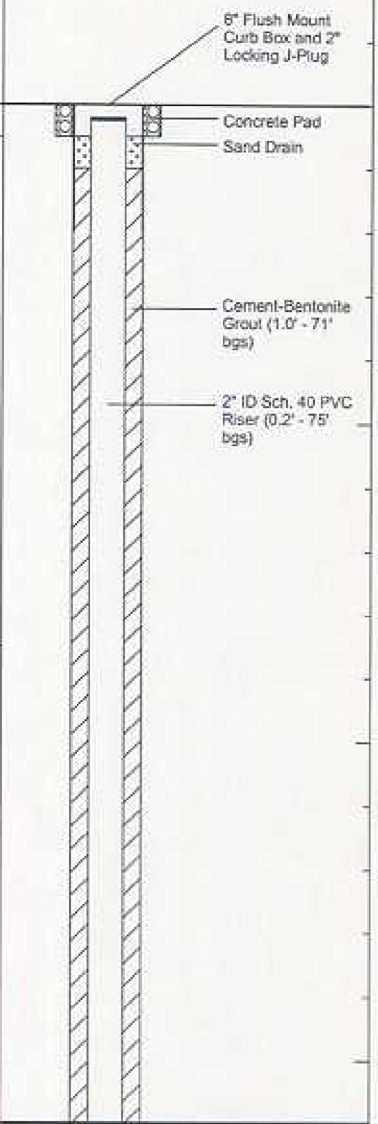
Well/Boring ID: MW-19T

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0										ASPHALT
	225	1	0-2	0.2	- 5 5 5	10	0.0			Brown-orange fine to coarse SAND, trace Crushed Stone, loose, wet. [FILL]
		2	2-4	1.1	4 3 3 2	6	0.0			
5		3	4-6	0.5	5 4 3 2	7	0.0			
	220	4	6-8	2.0	4 3 1 2	4	0.0			Orange-brown from 6-6.5' bgs. Gray from 6.5-7.8' bgs. Black-stained from 7.8-8' bgs.
		5	8-10	1.7	1 1 1 1	2	0.0			Dark gray SILT and CLAY, soft, damp to wet.
10	215	6	10-12	1.0	1 1 1 1	2	0.0			Trace rootlets, trace black staining, very soft, wet.
		7	12-14	1.0	WOH/ 2' - -	NA	0.0			
15		8	14-16	1.0	WOH/ 2' - -	NA	0.0			Change to mud rotary set-up. No rootlets present.

Well/Boring Construction



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Remarks: NA = Not Applicable/Available; HSA = Hollow Stem Auger; bgs = below ground surface; WOH = Weight of Hammer.

Client:
Niagara Mohawk,
A National Grid Company

Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-19T

Borehole Depth: 84' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
		9	16-18	1.5	WOH/ 1.5' - 2	NA	0.0			Dark gray SILT and CLAY, soft, damp to wet.	
		10	18-20	2.0	WOH/ 1" 1 1	NA	0.0			Dark gray fine SAND and SILT, with alternating laminae of organic matter from 19.5-20' bgs, very loose/soft, damp to wet, organic/peat-like odor present.	
20	205	11	20-22	2.0	2 4 4 5	8	0.0			Dark gray fine SAND, trace medium Sand, trace Silt, laminae of organic matter from 21.2-22' bgs, some fine sand are light gray to white, loose, damp to wet.	Cement-Bentonite Grout (1.0' - 71' bgs)
		12	22-24	1.2	2 2 3 3	5	0.0			Dark gray fine to medium SAND, loose, wet.	2" ID Sch. 40 PVC Riser (0.2' - 75' bgs)
25		13	24-26	2.0	4 4 4 4	8	0.0				
	200	14	26-28	1.0	3 5 4 4	9	0.0				
		15	28-30	1.6	2 4 4 3	8	0.0				
30	195	16	30-32	0.9	3 3 3 3	6	0.0			Dark gray fine to medium SAND, trace coarse Sand, loose, wet.	
		17	32-34	1.0	4 3 4 4	7	0.0				
35		18	34-36	1.0	1 1 2 3	3	0.0				

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Remarks: NA = Not Applicable/Available; HSA = Hollow Stem Auger; bgs = below ground surface; WOH = Weight of Hammer.

Client:
Niagara Mohawk,
A National Grid Company

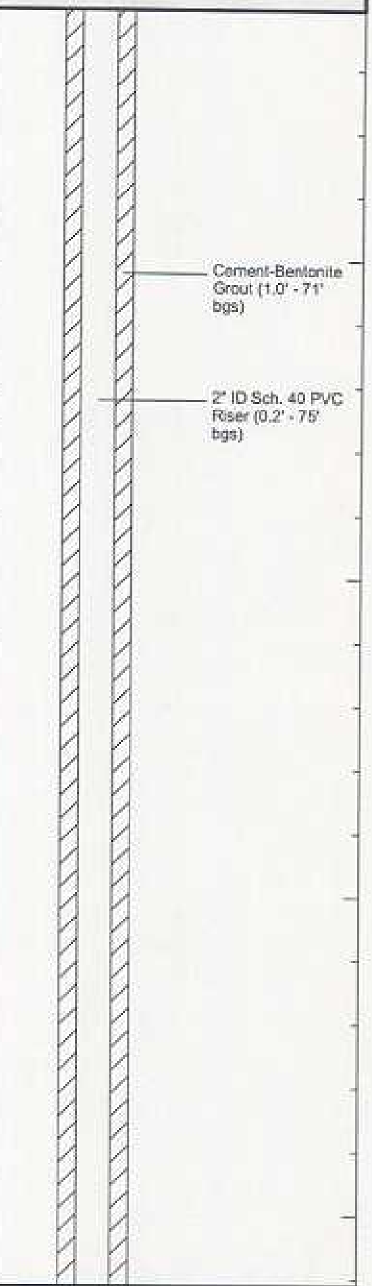
Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-19T

Borehole Depth: 84' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
		19	36-38	2.0	3 4 3 4	7	0.0			Dark gray fine to medium SAND, trace coarse Sand, loose, wet.
		20	38-40	1.0	3 2 2 4	4	0.0			
40	185	21	40-42	1.6	4 4 4 4	8	0.0			Dark gray fine to coarse SAND, trace subrounded fine Gravel, loose, wet.
		22	42-44	1.0	1 2 4 4	6	0.0			Dark gray fine to coarse SAND and GRAVEL, loose, wet. Dark gray Clayey SILT, soft, medium plastic, wet.
45		23	44-46	0.3	4 6 4 7	10	0.0			Dark gray CLAY and SILT, medium plastic, wet.
	180	24	46-48	1.5	12 12 17 14	29	NA			Dark gray SILT, stiff, wet.
		25	48-50	1.7	10 7 10 12	17	0.0			
50	175	26	50-52	1.5	4 4 4 8	8	0.0			
		27	52-54	1.7	8 8 10 11	18	0.0			
55	170	28	54-56	1.9	8 5 8 9	13	0.0			

Well/Boring Construction



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Remarks: NA = Not Applicable/Available; HSA = Hollow Stem Auger; bgs = below ground surface; WOH = Weight of Hammer.

Client:
Niagara Mohawk,
A National Grid Company

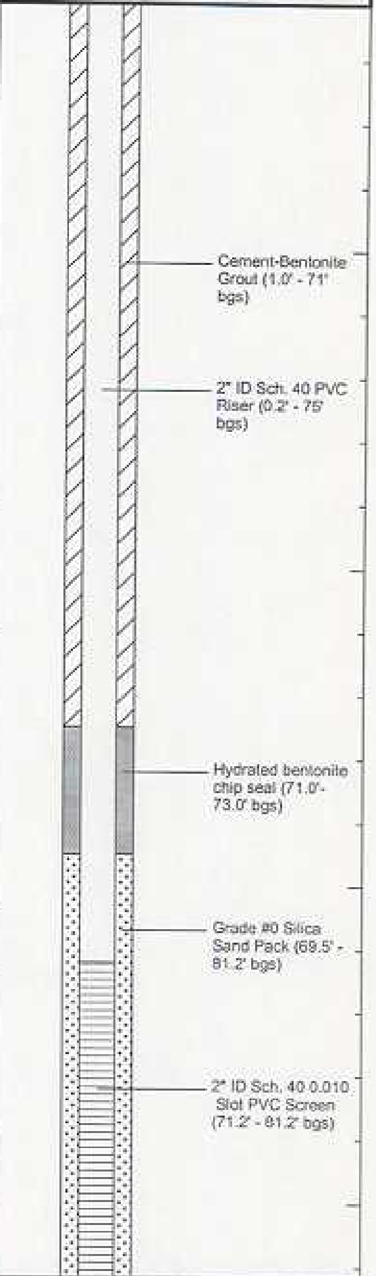
Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-19T

Borehole Depth: 84' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
		29	56-58	1.3	10 9 8 9	17	0.0			Dark gray SILT, stiff, wet.
		30	58-60	1.5	9 7 7 6	14	0.0			
60	165	31	60-62	1.7	10 9 9 11	18	0.0			
		32	62-64	2.0	9 8 7 8	15	0.0			
65		33	64-66	0.75	NA	NA	NA			Shelby Tube
	160	34	66-68	2.0	9 1 1 6	2	0.0			Dark gray Silty CLAY, little fine to coarse Sand, little fine Gravel, soft, wet. [TILL]
		35	68-70	1.0	2 6 8 8	14	0.0			
70	155	36	70-72	1.8	6 2 19 19	21	0.0			Dark gray fine SAND, loose, wet. [TILL] Dark gray SILT and CLAY, little fine to coarse Sand, trace Gravel, soft, wet. Trace shattered Cobble 71.7-71.8' bgs. [TILL]
		37	72-74	2.0	11 7 10 12	17	0.0			Fine to coarse SAND and GRAVEL, trace shattered Cobble. Borehole caved in. [TILL]
75	150	38	74-76	1.0	11 8 20 14	28	0.0			Dark gray SILT and CLAY, little fine to coarse Sand, trace Gravel, stiff, wet. [TILL]

Well/Boring Construction



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Remarks: NA = Not Applicable/Available; HSA = Hollow Stem Auger; bgs = below ground surface; WOH = Weight of Hammer.

Client:
Niagara Mohawk,
A National Grid Company

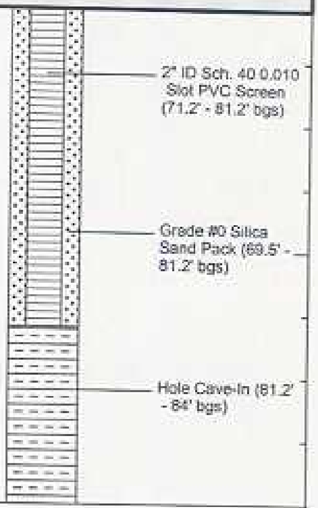
Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-19T

Borehole Depth: 84' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
		39	76-78	2.0	10 11 12 11	23	0.0		☰	Dark gray SILT and CLAY, little fine to coarse Sand, trace Gravel, stiff, wet.
		40	78-80	0.2	10 16 19 20	35	0.0		☰	Dark gray SILT and CLAY, little fine to coarse Sand, trace Gravel, stiff, wet. Borehole caved in. [TILL]
80	145	41	80-82	1.0	42 50/ 0.4 -	NA	0.0		☰	
		42	82-84	1.0	10 12 38 46	50	0.0		☰	Dark gray SILT and CLAY, little fine to coarse Sand, trace Gravel, wet. Borehole caved in. [TILL]
85	140									
90	135									
95	130									

Well/Boring Construction



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Remarks: NA = Not Applicable/Available; HSA = Hollow Stem Auger; bgs = below ground surface; WOH = Weight of Hammer.

Date Start/Finish: 7/20/04
Drilling Company: Lyon Drilling
Driller's Name: Jeff Grant/Jeff Lyon
Drilling Method: CME 45B
Bit Size: 4-1/4"
Auger Size: 4-1/4" Hollow Stem Auger
Rig Type: CME 45B
Sampling Method: 2" ID 4' L Macrocore

Northing: 1447159.2095
Easting: 639159.75
Casing Elevation: NA

Borehole Depth: 16.5' below grade
Surface Elevation: 228.1' AMSL

Geologist: Jennifer Sandorf

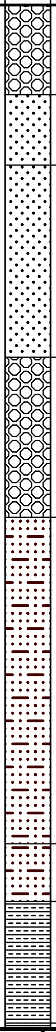
Well/Boring ID: MW-21

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample
	230							
0								
	225	1	1.4-5.5	1.7	NA	NA	97.2	
5								
	220							
10		2	8-12	0.8	NA	NA	41.6	
	215							
		3	12-16	4.0	NA	NA	33.0	
15								

Geologic Column



Stratigraphic Description

CONCRETE

Brown fine to medium SAND, little medium to coarse Gravel, trace Wood, moderately dense, moist.

Grades to black fine SAND, little Silt, trace coarse Gravel, brick and sheen at bottom, moderate coal-tar type odor, moist

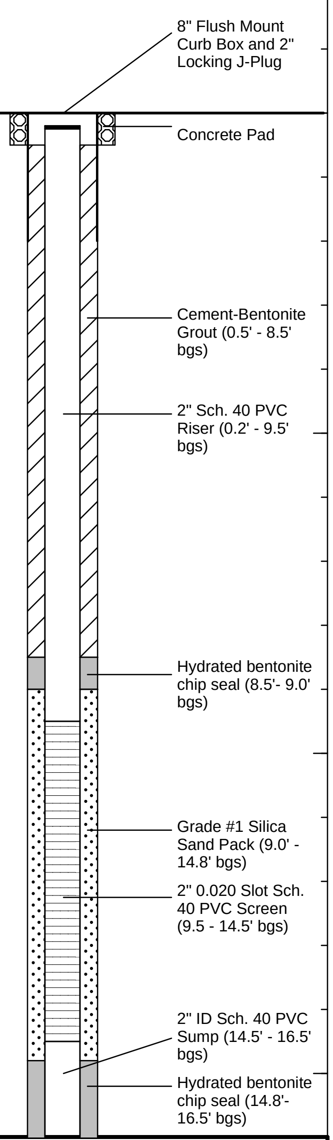
CONCRETE

Dark gray SILT and fine SAND, some broken Concrete fragments, trace Clay, sheen, slight petroleum-type odor, soft, plastic, trace yellow-brown blebs of oil-like material, wet.

Dark gray SILT, some fine SAND, trace Clay, very soft.

Grayish-brown SILTY CLAY, trace fine Sand, medium stiff, plastic, slight petroleum type odor, no sheen observed.

Well/Boring Construction



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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Project: 36657.011
Data File: MW-22.dat

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS.ldf
Date: 8/17/04

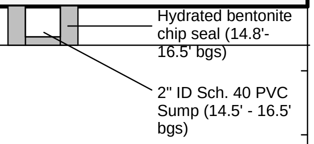
Client:
Niagara Mohawk,
A National Grid Company

Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-21

Borehole Depth: 16.5' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
		3	12-16	4.0	NA	NA	33.0		▤	Grayish-brown SILTY CLAY, trace fine Sand, medium siff, plastic, slight petroleum type odor, no sheen observed.	
	210										
20											
	205										
25											
	200										
30											
	195										
35											



Hydrated bentonite chip seal (14.8'-16.5' bgs)

2" ID Sch. 40 PVC Sump (14.5' - 16.5' bgs)

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Project: 36657.011
Data File: MW-22.dat

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS.ldf
Date: 8/17/04

Date Start/Finish: 7/21/04
Drilling Company: Lyon Drilling
Driller's Name: Jeff Grant/Jeff Lyon
Drilling Method: CME 45B
Bit Size: 4-1/4"
Auger Size: 4-1/4" Hollow Stem Auger
Rig Type: CME 45B
Sampling Method: 2" ID 2' Split spoon

Northing: 1447353.6769
Easting: 639029.4687
Casing Elevation: NA

Borehole Depth: 14.0' below grade
Surface Elevation: 229' AMSL

Geologist: Jennifer Sandorf

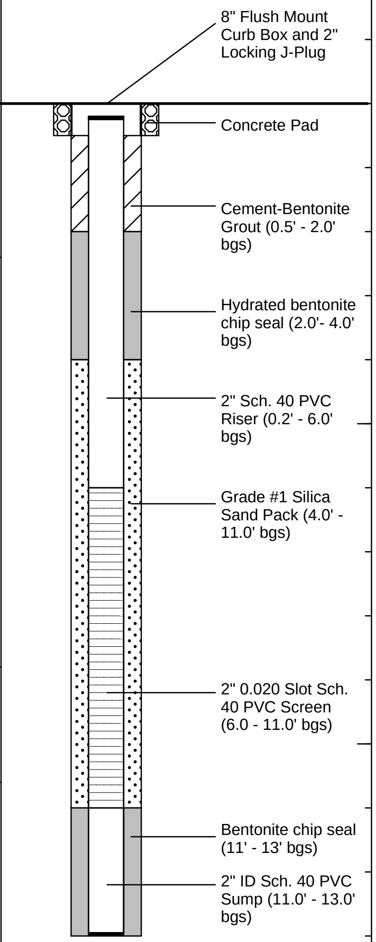
Well/Boring ID: MW-22

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	230									
0		1	0-2	0.9	1 3 7 13	10	0.0			Dark brown to black fine to medium SAND, little fine to medium Gravel, loose, dry.
		2	2-4	1.1	3 5 4 4	9	0.0			Light brown fine to medium SAND, little Silt, trace natural Organics, loose, dry.
5	225	3	4-6	1.5	3 4 3 3	7	0.0			Grades to some Silt from 4.0' - 6.0' bgs.
		4	6-8	1.9	4 6 4 4	10	0.0			Little Silt from 6.0' to 7.3' bgs. Color change to dark brown-black from 7.3' - 7.9' bgs.
	220	5	8-10	1.9	2 2 3 2	5	156			Low plasticity from 8.0' - 8.8' bgs Black fine SAND, little medium Sand and Silt, strong petroleum type odor, wet.
10		6	10-12	1.9	1 2 2 3	4	132			Sheen present below 10' bgs. Black CLAYEY SILT, plastic, moderate odor, little sheen, gray-brown at bottom of spoon.
		7	12-14	2.0	3 4 4 6	8	39.9			Little to some sheen below 12.0' bgs.
	215									
15										

Well/Boring Construction



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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Project: 36657.011
Data File: MW-22.dat
Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS.ldf
Date: 8/6/04

Date Start/Finish: 7/21/04
Drilling Company: Lyon Drilling
Driller's Name: Jeff Grant/Jeff Lyon
Drilling Method: CME 45B
Bit Size: 4-1/4"
Auger Size: 4-1/4" Hollow Stem Auger
Rig Type: CME 45B
Sampling Method: 2" ID 4' L Macrocore

Northing: 1447329.9977
Easting: 639300.2133
Casing Elevation: NA

Borehole Depth: 13' below grade
Surface Elevation: 227' AMSL

Geologist: Jennifer Sandorf

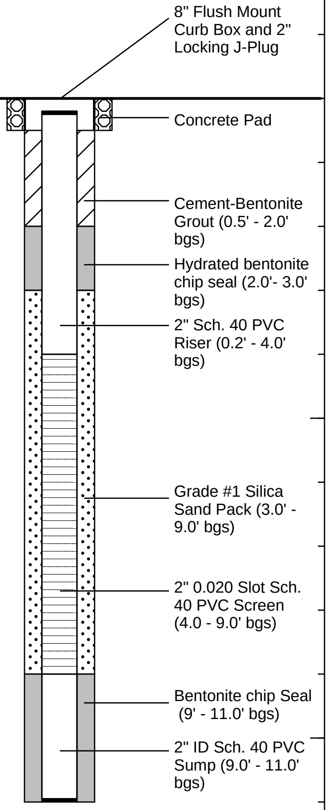
Well/Boring ID: MW-23

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Stratigraphic Description
0									ASPHALT.
		1	0.5-2	0.7	NA 9 12 18	21	623		Gray-brown fine to medium SAND, trace medium to coarse Gravel and red Brick, slight odor, loose, dry.
	225	2	2-4	1.2	39 33 12 9	45	1683		Grayish-brown fine to medium SAND, little to some medium to coarse Gravel, loose, moderate odor, dry to moist.
5		3	4-6	1.6	4 4 3 8	7	1091		Dark gray fine to medium SAND, little Silt, loose, moderate odor, moist to wet.
	220	4	6-8	1.9	6 2 3 3	5	1605		Trace Sheen, wet below 6.0' bgs.
		5	8-10	1.2	WOH WOH WOH WOH	NA	276		Brown-gray SILT, little fine Sand, cohesive, plastic, slight odor, wet. 1" thick fine Sand lense at 9.0' bgs.
10		6	10-12	1.8	2 2 2 2	4	72.1		Brown-gray CLAYEY SILT, trace fine Sand, cohesive, plastic, slight odor, wet.
	215								
15									

Well/Boring Construction



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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level; WOH = Weight of Hammer.

Project: 36657.011
Data File: MW-23.dat

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS.ldf
Date: 8/18/04

Date Start/Finish: 7/22/04
Drilling Company: Lyon Drilling
Driller's Name: Jeff Grant/Jeff Lyon
Drilling Method: CME 45B
Bit Size: 4-1/4"
Auger Size: 4-1/4" Hollow Stem Auger
Rig Type: CME 45B
Sampling Method: 2" ID 2' Split Spoon

Northing: 1447039.0667
Easting: 639263.0581
Casing Elevation: NA

Borehole Depth: 18.0' below grade
Surface Elevation: 226.9' AMSL

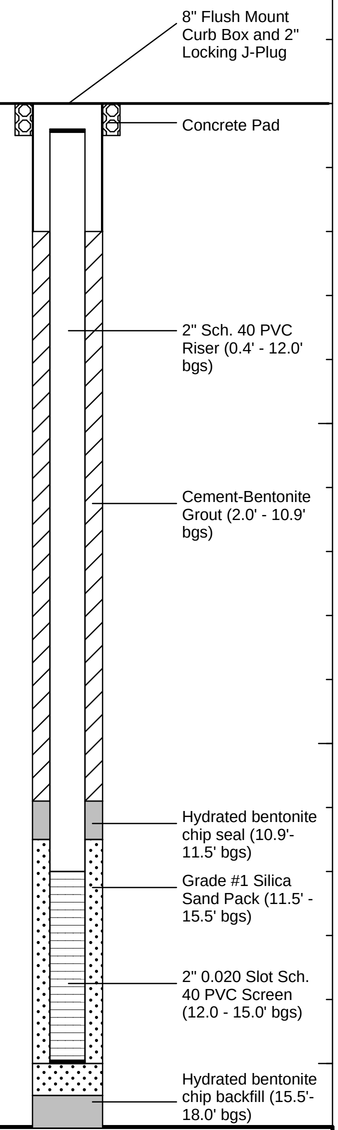
Geologist: Jennifer Sandorf

Well/Boring ID: MW-24

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	225	1	0.5-2	0.8	NA 4 7 2	11	70.6			Dark gray fine to coarse SAND and fine to medium GRAVEL, trace clinker-like material, moderately dense, dry.	
		2	2-4	0.4	2 2 2 2	4	291			Dark gray fine to coarse SAND and fine to medium GRAVEL, some Wood Fill, loose, slight odor, dry to moist.	
5		3	4-6	1.1	1 1 2 1	3	53.9			Dark gray to black fine SAND and SILT, 2" thick Sand lens at bottom of spoon, trace Wood Fill, low plasticity, sheen present, slight odor, wet.	
	220	4	6-8	2.0	2 3 3 2	6	34.7				
		5	8-10	1.8	WOH WOH WOH WOH	NA	0.0			2" thick Sand lens of brown-gray Clayey Silt at 9.2' bgs, trace brown oil-like material just above Clayey Silt lens. Brown fine SAND and SILT, some Clay, low plasticity, sheen, moderate odor, wet.	
10	215	6	10-12	0.8	WOH 1 1 1	2	0.0			Gray brown CLAYEY SILT, little fine Sand, trace odor, medium dense, plastic, slight sheen, wet.	
		7	12-14	2.0	2 2 3 3	5	0.0			Grayish brown SILTY CLAY, trace fine Sand, medium dense, plastic, very faint odor, trace sheen, wet.	
15		8	14-16	0.8	NA	NA	NA	×		Shelby tube collected from 14' - 16' bgs.	



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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Client:
Niagara Mohawk,
A National Grid Company

Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-24

Borehole Depth: 18.0' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
	210	9	16-18	1.5	4 4 4 3	8	1.1		░	Brown fine SAND, some Silt, slightly plastic, faint odor, no sheen present, wet.	▒ Hydrated bentonite chip backfill (15.5'-18.0' bgs)
20											
	205										
25											
	200										
30											
	195										
35											

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Date Start/Finish: 7/27/04
Drilling Company: Lyon Drilling
Driller's Name: Jeff Grant/Jeff Lyon
Drilling Method: CME 45B
Bit Size: 4-1/4"
Auger Size: 4-1/4" Hollow Stem Auger
Rig Type: CME 45B
Sampling Method: 2" ID 2' Split Spoon

Northing: 1447484.87
Easting: 639370.0644
Casing Elevation: NA

Borehole Depth: 16' below grade
Surface Elevation: 225.8' AMSL

Geologist: Jennifer Sandorf

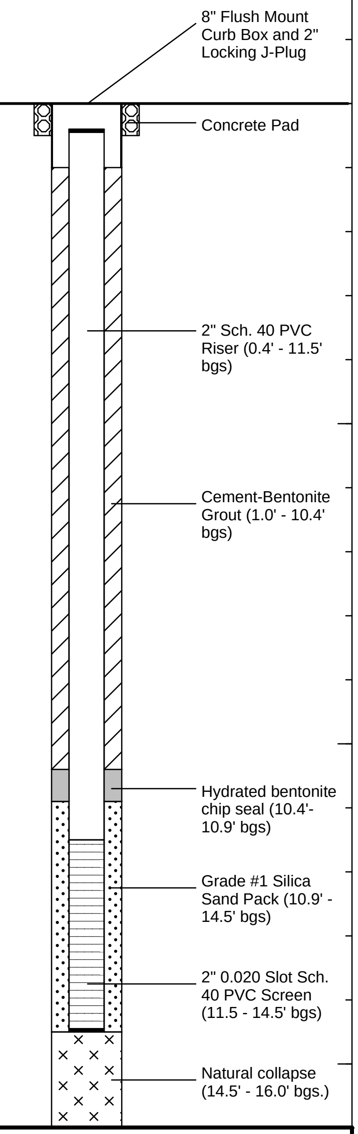
Well/Boring ID: MW-25

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0	225	1	0.5-2	0.3	NA 3 7 7	10	NA			ASPHALT Dark brown fine to medium SAND, little medium to coarse Gravel, trace Cobble, medium dense.
		2	2-4	1.4	3 3 4 2	7	NA			Some Silt from 2.9' - 3.2' bgs. Color changes to gray, slight odor, from 3.2' - 3.4' bgs.
5	220	3	4-6	1.6	3 2 2 2	4	NA			Gray fine to medium SAND, trace Silt. Gray medium to coarse SAND and fine to medium GRAVEL, trace whitish flaky material, moderate odor.
		4	6-8	1.8	1 1 1 1	2	NA			Trace Wood Fill, trace sheen from 6.0' - 8.0' bgs.
		5	8-10	2.0	1 2 2 2	4	NA			Brownish-gray SILTY CLAY, soft, slight odor, plastic. Stiff from 9.6' - 10.0' bgs.
10	215	6	10-12	1.3	NA	NA	NA	×		Shelby tube collected from 10' - 12' bgs.
		7	12-14	2.0	WOR 1 WOR 1	1	NA			Brownish-gray SILTY CLAY, little fine Sand, trace natural Organics, trace small Cobble, soft, plastic, soft at top of spoon and softer with depth.
15	210	8	14-16	1.6	WOH WOH 1 1	NA	NA			Grayish-brown fine to medium SAND, little to some Silt, loose, slight odor.

Well/Boring Construction



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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level; WOH = Weight of Hammer/Rod.

PID malfunction due to steady rain.

Date Start/Finish: 7/29/04
Drilling Company: Lyon Drilling
Driller's Name: Jeff Grant/Jeff Lyon
Drilling Method: CME 45B
Bit Size: 4-1/4"
Auger Size: 4-1/4" Hollow Stem Auger
Rig Type: CME 45B
Sampling Method: 2" ID 2' Split Spoon

Northing: 1447092.7671
Easting: 639020.2646
Casing Elevation: NA

Borehole Depth: 14' below grade
Surface Elevation: 229.1' AMSL

Geologist: Jennifer Sandorf

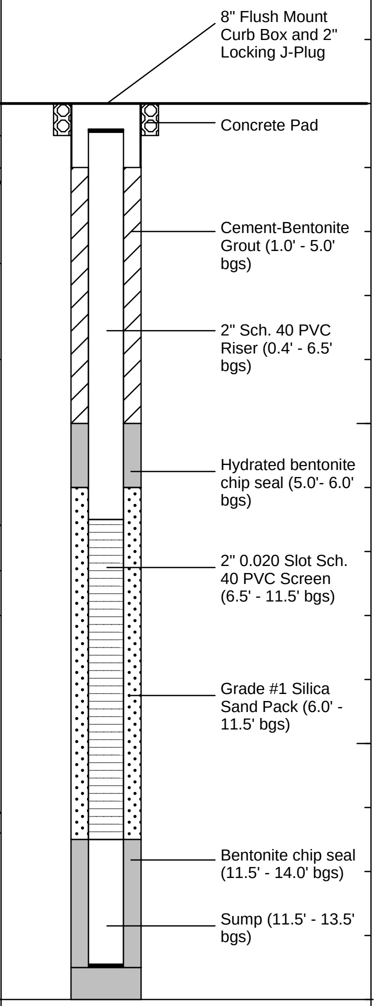
Well/Boring ID: MW-26

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0	230									
		1	0.5-2	0.9	NA 24 24 16	48	0.0			ASPHALT. GRAVEL. [FILL] ASPHALT. Red BRICK fragments, dry.
		2	2-4	0.8	10 50/.3 NA NA	>50	0.0			CONCRETE fragments, dry.
5	225	3	4-6	1.5	3 2 9 9	11	0.0			Brown fine SAND, little medium Sand, trace Silt and coarse Gravel, medium dense, moist. Wet from 4.8' - 5.2' bgs.
		4	6-8	1.6	7 7 6 5	13	19.8			Dark brown fine SAND, some medium Sand, trace coarse subangular Gravel, medium dense. Grayish-brown fine SAND, little Silt, medium dense, slight odor.
	220	5	8-10	1.1	2 6 4 2	10	130			Brownish-gray SILT, some fine Sand, medium stiff. Little oil-like material, some sheen, odor, from 8.8' - 9.1' bgs.
10		6	10-12	2.0	1 2 1 1	3	6.2			Trace to little Clay, some odor below 10.2' bgs. Black stained fine to medium SAND, loose. Grayish-brown SILTY CLAY, medium stiff, plastic.
		7	12-14	0.9	1 1 1 1	2	0.0			Trace natural Organics form 12.0' - 14.0' bgs.
15	215									

Well/Boring Construction


8" Flush Mount Curb Box and 2" Locking J-Plug

Concrete Pad

Cement-Bentonite Grout (1.0' - 5.0' bgs)

2" Sch. 40 PVC Riser (0.4' - 6.5' bgs)

Hydrated bentonite chip seal (5.0'- 6.0' bgs)

2" 0.020 Slot Sch. 40 PVC Screen (6.5' - 11.5' bgs)

Grade #1 Silica Sand Pack (6.0' - 11.5' bgs)

Bentonite chip seal (11.5' - 14.0' bgs)

Sump (11.5' - 13.5' bgs)

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level.

Date Start/Finish: 8/2/04
Drilling Company: Lyon Drilling
Driller's Name: Jeff Grant/Jeff Lyon
Drilling Method: CME 45B
Bit Size: 4-1/4"
Auger Size: 4-1/4" Hollow Stem Auger
Rig Type: CME 45B
Sampling Method: 2" ID 2' Split Spoon

Northing: 1447208.1272
Easting: 638775.4365
Casing Elevation: 227.1' AMSL

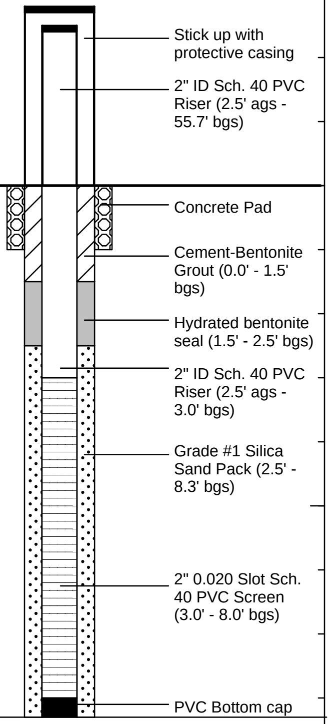
Borehole Depth: 8.3' below grade
Surface Elevation: 224.6' AMSL

Geologist: Jennifer Sandorf

Well/Boring ID: MW-27S

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
	225										
0 5	220									No samples collected from 0' - 8.3' bgs. See log for MW-27D for Stratigraphic description.	
10 15	215 210										

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Remarks: NA = Not Applicable/Available; a/bgs = above/below ground surface; AMSL = above mean sea level.

Project: 36657.011
Data File: MW-27S.dat

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS.ldf
Date: 9/1/04

Date Start/Finish: 7/30/04 - 8/2/04
Drilling Company: Lyon Drilling
Driller's Name: Jeff Grant/Jeff Lyon
Drilling Method: CME 45B
Bit Size: 4-1/4"
Auger Size: 4-1/4" Hollow Stem Auger
Rig Type: CME 45B
Sampling Method: 2" ID 2' Split Spoon

Northing: 1447207.7937
Easting: 638780.811
Casing Elevation: 227.1' AMSL

Borehole Depth: 66' below grade
Surface Elevation: 224.6' AMSL

Geologist: Jennifer Sandorf

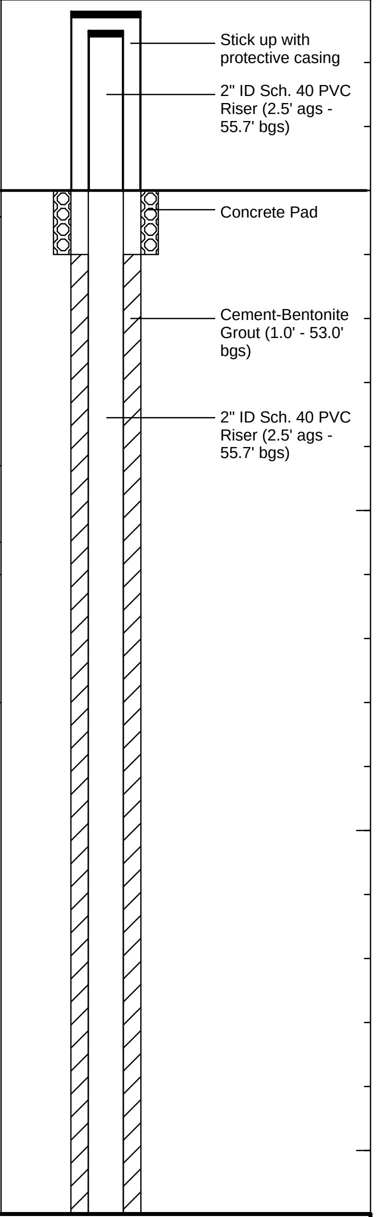
Well/Boring ID: MW-27D

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	225									
0		1	0-2	1.5	3 3 3 4	6	0.1			TOPSOIL. Brown to dark brown fine to medium SAND, little Silt, trace Concrete and natural Organics.
		2	2-4	1.2	2 4 3 3	7	0.0			Trace Coal fragments and coarse subrounded to subangular Gravel, moist at tip of spoon below 2.0' bgs.
5	220	3	4-6	1.9	3 4 2 2	6	0.0			Dark brown below 4.0' bgs. Brown fine to medium SAND, loose, moist to wet. Grayish-brown SILT and SAND, little natural Organics, wet.
		4	6-8	2.0	1 1 2 2	3	0.0			Grayish-brown CLAYEY SILT, little fine Sand, trace natural Organics, medium stiff, wet.
	215	5	8-10	1.4	1 2 3 3	5	0.0			Grayish-brown SILTY CLAY, stiff, plastic, wet.
10		6	10-12	1.4	1 2 1 1	3	0.0			
		7	12-14	1.8	1 1 1 1	2	3.8			Trace fine Sand below 12.0' bgs.
15	210	8	14-16	2.0	1 1 1 1	2	0.0			Color changes to gray below 15.2' bgs.

Well/Boring Construction



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Remarks: NA = Not Applicable/Available; a/bgs = above/below ground surface; AMSL = above mean sea level; WOR = Weight of Rod.

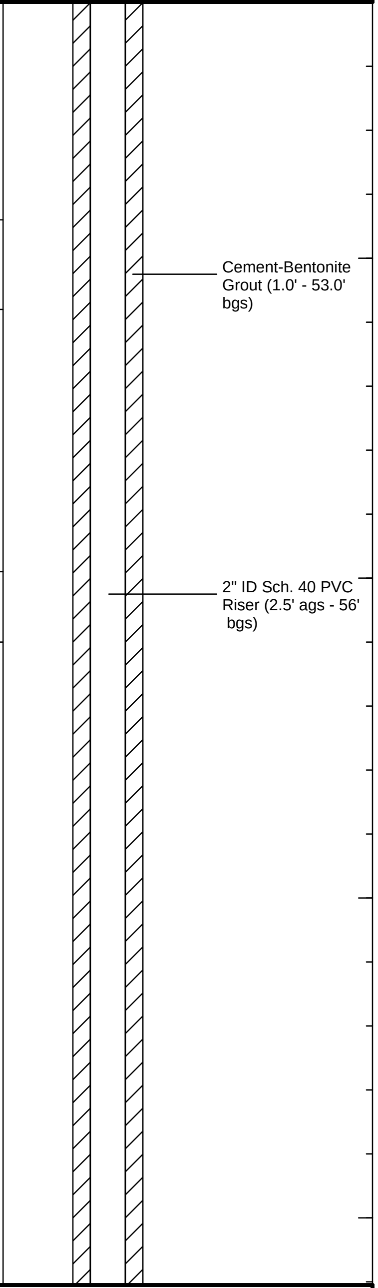
Client:
Niagara Mohawk,
A National Grid Company
Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-27D

Borehole Depth: 66' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
		9	16-18	1.5	WOR 1 1	2	0.0			Grayish-brown SILTY CLAY, stiff, plastic, wet. Little fine Sand from 17.2' - 17.5' bgs.
	205	10	18-20	1.6	1 1 1 2	2	0.0			Trace natural Organics below 18.0' bgs. Gray fine SAND and SILT, moderately loose, slightly plastic, wet.
20		11	20-22	2.0	WOR 1 1 1	2	0.0			Gray fine SAND, little Silt, trace natural Organics, moderately loose, wet.
		12	22-24	1.4	1 2 4 6	6	0.0			Interdebbed with Silty Peat-like material, moderately dense below 22' bgs.
25	200	13	24-26	1.2	2 5 6 6	11	0.0			Gray fine to medium SAND. 3 mm thick parting of reddish-brown Clay at 25.0' bgs.
		14	26-28	0.9	3 5 6 5	11	0.0			Gray fine to medium well sorted SAND, moderately loose, wet.
	195	15	28-30	1.1	1 2 5 6	7	0.0			
30		16	30-32	1.2	2 5 5 5	10	0.0			
		17	32-34	1.6	3 4 4 5	8	0.0			
35	190	18	34-36	1.3	2 2 4 4	6	0.0			Trace subrounded Gravel below 34.0' bgs.

Well/Boring Construction



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Remarks: NA = Not Applicable/Available; a/bgs = above/below ground surface; AMSL = above mean sea level; WOR = Weight of Rod.

Client:
Niagara Mohawk,
A National Grid Company

Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-27D

Borehole Depth: 66' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample
		19	36-38	1.3	2 3 3 4	6	0.0	
40	185	20	38-40	1.3	2 3 6 38	9	0.0	
		21	40-42	2.0	10 6 4 4	10	0.0	
		22	42-44	0.7	4 8 6 8	14	0.0	
45	180	23	44-46	1.6	3 4 4 6	8	0.0	
		24	46-48	2.0	6 7 8 10	15	0.0	
		25	48-50	1.7	16 13 16 13	29	0.0	
50	175	26	50-52	0.6	20 50/.4 NA NA	NA	0.0	
		27	52-54	0.4	18 50/.2 NA NA	NA	0.0	
55	170	28	54-56	0.7	50 50/.3 NA NA	NA	0.0	

Stratigraphic Description

Gray fine to medium well sorted SAND, moderately loose, wet.

Rock in tip of shoe at 40.0' bgs.

Light gray very fine to fine SAND, trace to little Silt, moderetaely dense, slightly plastic, wet.

Gray fine SAND and SILT, moderately dense, slightly plastic, wet.

Brown-gray fine to medium SAND, moderately dense, wet.

Brown-gray fine SAND and SILT, little Clay, stiff, plastic.

Brown-gray fine SAND and SILT, medium stiff, low plasticity.

Brown-gray fine to medium SAND, moderately dense, hard.

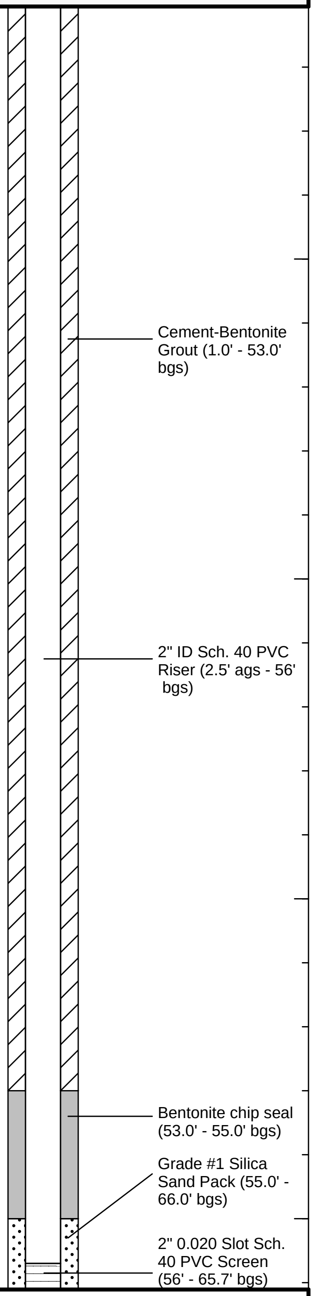
Gray fine to coarse SAND and fine to coarse GRAVEL, moderately dense.

Little Silt, trace Cobbles, dense, hard below 50' bgs.

Cobble in tip of spoon from 52.0' - 54.0' bgs.

Gray SILT, little medium to coarse subrounded Gravel, very dense, hard. [TILL]

Well/Boring Construction



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Remarks: NA = Not Applicable/Available; a/bgs = above/below ground surface; AMSL = above mean sea level; WOR = Weight of Rod.

Client:
Niagara Mohawk,
A National Grid Company

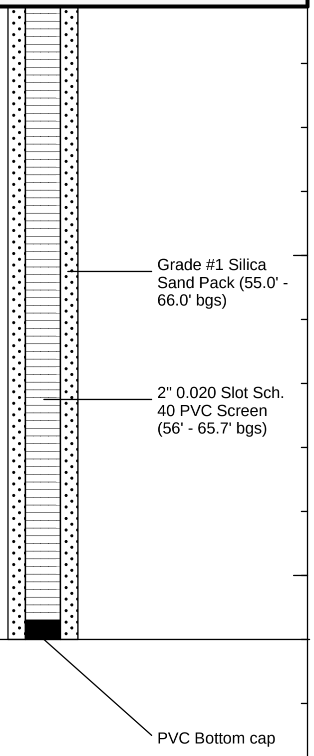
Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-27D

Borehole Depth: 66' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
		29	56-58	0.9	40 50/.3 NA NA	NA	0.0			Gray SILT, little medium to coarse subrounded Gravel, very dense, hard. [TILL]
60	165	30	58-60	0.7	18 48 40 50/.3	88	0.0			
		31	60-62	1.4	45 50 50/.3 NA	NA	0.0			
65	160									
70	155									
75	150									

Well/Boring Construction



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Remarks: NA = Not Applicable/Available; a/bgs = above/below ground surface; AMSL = above mean sea level; WOR = Weight of Rod.

Project: 36657.011
Data File: MW-27.dat

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS.ldf
Date: 8/31/04

Date Start/Finish: 3/22/05
Drilling Company: Parratt-Wolff
Driller's Name: Ian Grasse
Drilling Method: Hollow Stem Auger
Bit Size: 4 1/4"
Auger Size: 4 1/4" HSA
Rig Type: CME 75
Sampling Method: 2" OD split spoon

Northing: 1447242.4
Easting: 639050.7
Casing Elevation: 228.37' AMSL

Borehole Depth: 14' below grade
Surface Elevation: 228.88' AMSL

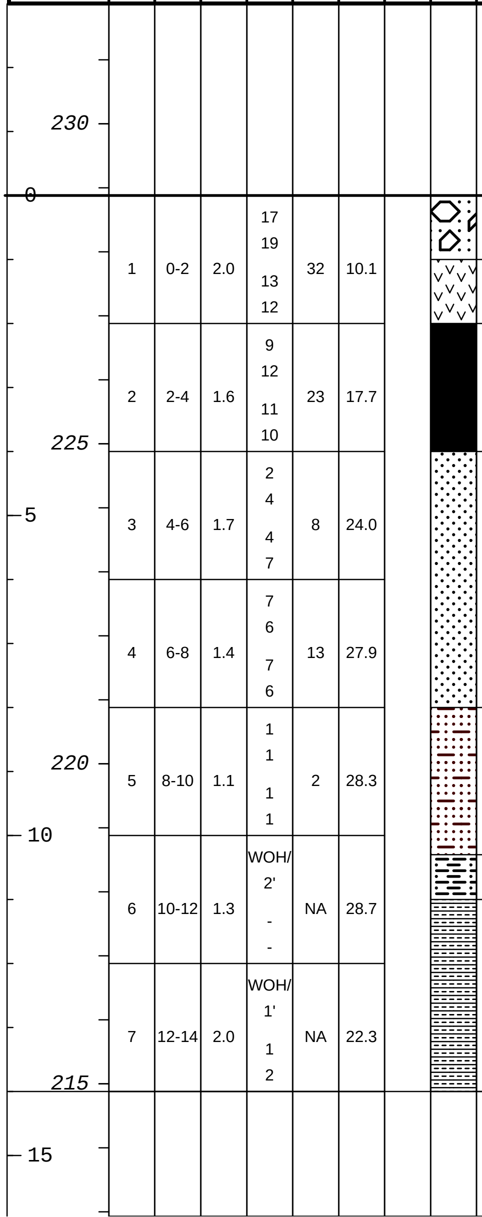
Geologist: Jason C. Sents

Well/Boring ID: MW-28S

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample
1	0-2	2.0	17 19 13 12	32	10.1	
2	2-4	1.6	9 12 11 10	23	17.7	
3	4-6	1.7	2 4 4 7	8	24.0	
4	6-8	1.4	7 6 7 6	13	27.9	
5	8-10	1.1	1 1 1 1	2	28.3	
6	10-12	1.3	WOH/ 2' - -	NA	28.7	
7	12-14	2.0	WOH/ 1' 1 2	NA	22.3	



Stratigraphic Description

Brown fine to medium SAND and CRUSHED STONE, medium dense, wet. [FILL]

Black CINDERS, ASH, and COAL, medium dense, dry, slight odor. [FILL]

Black pulverized COAL (fine to medium sand-size, trace gravel-size), loose, dry, odor present. [FILL]

Dark gray fine SAND, trace red Brick, black staining throughout, loose, damp, odor present. Trace sheen at 5.5' bgs at 2 cm diameter pockets in sample. [FILL]

No red brick, loose, damp, black stains throughout, odor present, no sheen.

Dark gray fine SAND and SILT, black staining throughout, loose, wet, trace sheen throughout.

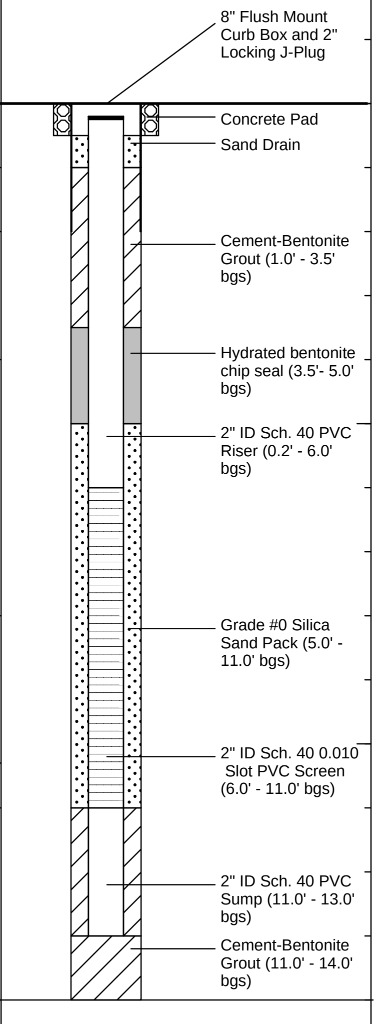
Trace rootlets.

Dark gray fine SAND, SILT, and CLAY, trace rootlets, odor present.

Dark gray Silty CLAY, black stains, very soft, damp to wet, odor present.

Trace staining.

Well/Boring Construction



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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level; WOH = Weight of Hammer.

Project: 36657.011
Data File: MW-28S.dat

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS_NEW.ldf
Date: 3/28/05

Date Start/Finish: 3/22/05
Drilling Company: Parratt-Wolff
Driller's Name: Ian Grasse
Drilling Method: Hollow Stem Auger
Bit Size: 4-1/4"
Auger Size: 4-1/4" Hollow Stem Auger
Rig Type: CME 75
Sampling Method: 2" OD split spoon

Northing: 1447244.0
Easting: 639046.9
Casing Elevation: 228.57' AMSL

Borehole Depth: 28' below grade
Surface Elevation: 228.94' AMSL

Geologist: Jason C. Sents

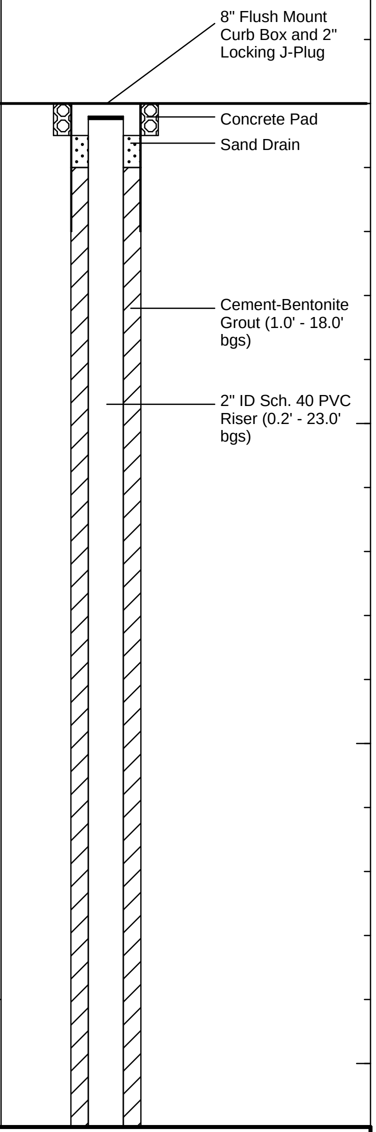
Well/Boring ID: MW-28I

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	230									
0										Auger to 14' bgs without sampling. See MW-29T for descriptions.
	225									
5										
	220									
10										
	215									
15		1	14-16	1.5	WOH/1' WOH/1'	NA	15.5		▤	Dark gray SILT and CLAY, black staining and orange mottling throughout, soft, damp, MGP odor present.

Well/Boring Construction



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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level; WOH = Weight of Hammer.

Client:
Niagara Mohawk,
A National Grid Company

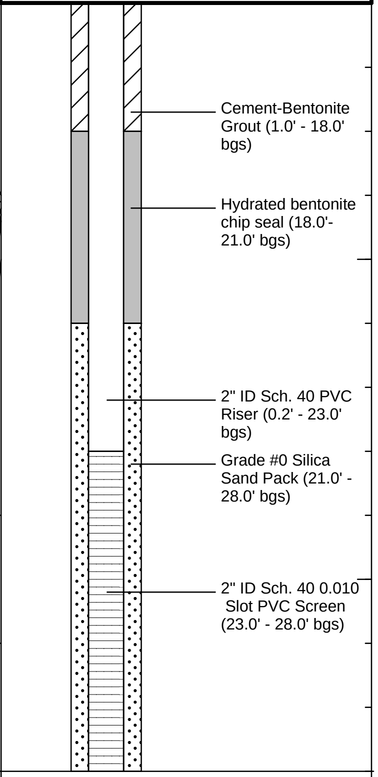
Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-28I

Borehole Depth: 28' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
		2	16-18	2.0	WOH 1 1 2	2	20.0			Dark gray SILT and CLAY, black staining and orange mottling throughout, soft, damp, odor present.
20	210	3	18-20	2.0	WOH/ 1' 2 1	NA	11.3			Dark gray fine SAND and Clayey SILT, soft, wet, MGP odor present. Dark gray SILT and CLAY, black staining and orange mottling throughout, soft, damp, MGP odor present. Black fine SAND, trace medium Sand, loose, wet.
		4	20-22	2.0	WOH/ 1' 1/ 1'	NA	7.8			Dark gray fine SAND and Clayey SILT, soft, wet, MGP odor present. Dark gray SILT and CLAY, black staining and orange mottling throughout, soft, damp, MGP odor present.
	205	5	22-24	2.0	1 1 1 1	2	5.4			Dark gray fine SAND, trace medium Sand, trace Silt, loose, wet, MGP odor present. Then at 22' bgs: Dark gray fine SAND, trace medium Sand, loose, wet.
25										Auger to 26' bgs without sampling.
		6	26-28	1.2	1 1 2 3	3	0.9			Dark gray fine SAND, trace medium Sand, trace Silt, trace organic laminae throughout, loose, wet, MGP odor present.
30	200									
35	195									

Well/Boring Construction



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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level; WOH = Weight of Hammer.

Date Start/Finish: 3/21/05
Drilling Company: Parratt-Wolff
Driller's Name: Ian Grasse
Drilling Method: Hollow Stem Auger
Bit Size: 4-1/4"
Auger Size: 4-1/4" Hollow Stem Auger
Rig Type: CME 75
Sampling Method: 2" OD split spoon

Northing: 1447248.5
Easting: 639049.3
Casing Elevation: 228.52' AMSL

Borehole Depth: 48' below grade
Surface Elevation: 228.97' AMSL

Geologist: Jason C. Sents

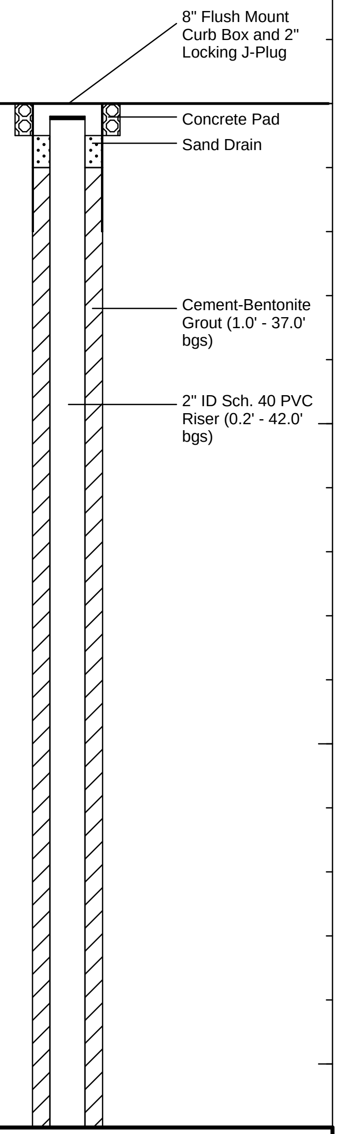
Well/Boring ID: MW-28D

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	230									
0										Auger to 2' bgs without sampling. See MW-28T for descriptions.
		1	2-4	2.0	8 9 10 11	19	15.7			Black CINDERS, COAL, ASH, little fine Sand, trace Brick fragments, loose, dry, MGP odor present.
5	225	2	4-6	1.1	9 10 7 8	17	22.0			Trace Silt, loose, damp.
10	220									Auger to 12' bgs without sampling.
	215	3	12-14	0.8	2 2 2 2	4	28.7			Dark gray SILT and CLAY, trace fine Sand, trace black staining, trace rootlets, soft, damp to wet, MGP odor present. [FILL]
15										Auger to 16' bgs without sampling.

Well/Boring Construction



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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level; WOH = Weight of Hammer.
Confirmatory sampling performed - see MW-28T for detailed descriptions.

Project: 36657.011
Data File: MW-28D.dat

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS_NEW.ldf
Date: 3/28/05

Client:
Niagara Mohawk,
A National Grid Company

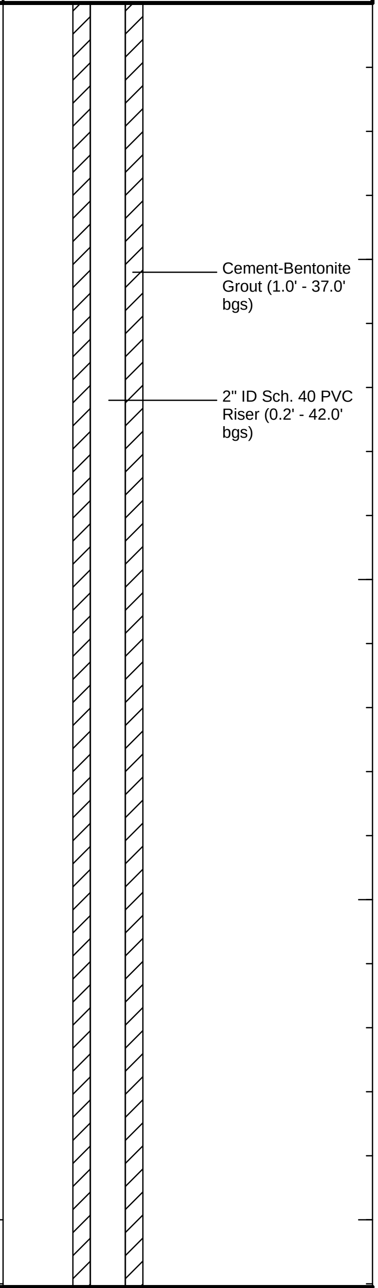
Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-28D

Borehole Depth: 48' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
										Auger to 35' bgs without sampling.
	210									
20										
	205									
25										
	200									
30										
	195									
35		4	35-37	2.0	WOH WOH	NA	0.0		⁙	Dark gray fine to coarse SAND, loose, wet.

Well/Boring Construction



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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level; WOH = Weight of Hammer.
Confirmatory sampling performed - see MW-28T for detailed descriptions.

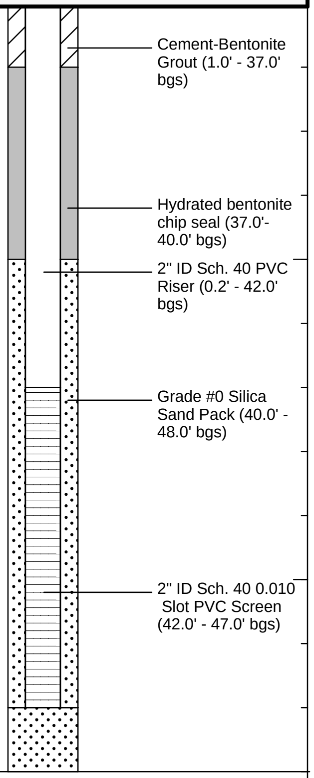
Client:
Niagara Mohawk,
A National Grid Company

Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-28D

Borehole Depth: 48' below grade

DEPTH ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
	4	35-37	2.0	1 4	NA	0.0			Dark gray fine to coarse SAND, trace fine Gravel, loose, wet.	
190 40 185 45									Auger to 46' bgs without sampling.	
	5	46-48	2.0	10 10 11 14	21	0.0			Dark gray fine to coarse SAND, little fine Gravel, loose, wet.	
									Dark gray SILT, soft to stiff, wet.	
180 50 175 55										



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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level; WOH = Weight of Hammer.
Confirmatory sampling performed - see MW-28T for detailed descriptions.

Project: 36657.011
Data File: MW-28D.dat

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS_NEW.ldf
Date: 3/28/05

Date Start/Finish: 3/17/05 - 3/18/05
Drilling Company: Parratt-Wolff
Driller's Name: Ian Grasse
Drilling Method: Hollow Stem Auger / Mud Rotary
Bit Size: 4-1/4"
Auger Size: 4-1/4" Hollow Stem Auger
Rig Type: CME 75
Sampling Method: 2" OD split spoon

Northing: 1447240.1
Easting: 639044.3
Casing Elevation: 228.61' AMSL

Borehole Depth: 74' below grade
Surface Elevation: 228.88' AMSL

Geologist: Jason C. Sents

Well/Boring ID: MW-28T

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION
	230
0	
	225
5	
	220
10	
	215
15	

Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column
1	0-2	1.0	- 18 14 8	32	3.6		
2	2-4	1.0	12 8 11 14	19	14.5		
3	4-6	1.0	8 3 4 2	7	21.6		
4	6-8	1.2	4 4 3 4	7	50.2		
5	8-10	1.5	6 4 3 3	7	31.2		
6	10-12	2.0	2 1 1 2	2	11.2		
7	12-14	1.3	2 2 3 1	5	13.5		
8	14-16	2.0	WOH WOH WOH WOH	NA	14.1		

Stratigraphic Description

Augered through Crushed STONE. [FILL]

Gray-brown fine SAND, Crushed STONE, and SILT, loose, dry. [FILL]

Black fine SAND, CINDERS, ASH, and BRICK, loose, dry, odor present. [FILL]

Black crushed COAL, trace Wood and Ash, medium dense, dry, strong odor. [FILL]

Gray fine SAND, trace Silt, loose, damp, strong MGP odor.

Gray fine to medium SAND, little Silt, loose, damp, trace black staining, strong MGP odor present.

Dark gray fine SAND and SILT, trace black stains, loose, damp to wet, strong MGP odor present.

Dark gray Silty CLAY, very soft, damp, strong MGP odor present.

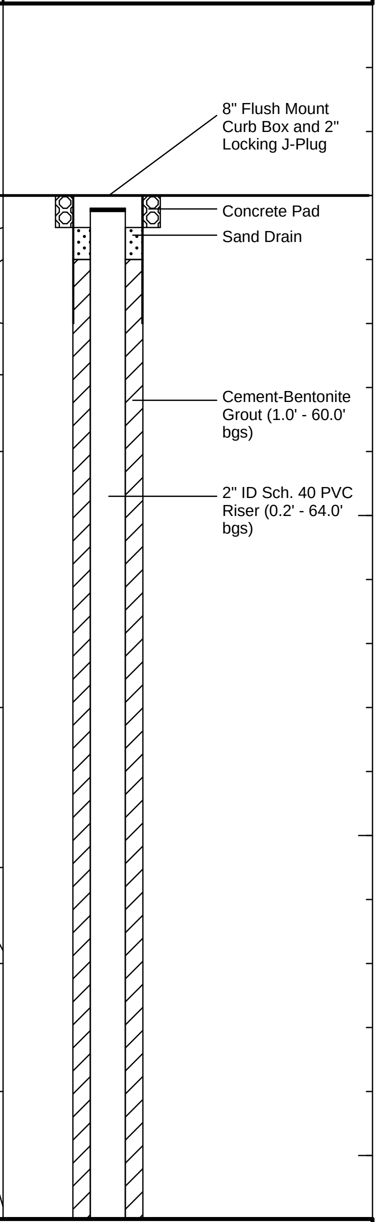
Dark gray fine SAND and SILT, little Clay, soft/loose, wet.

Dark gray fine SAND and SILT and CLAY, black staining throughout, soft/loose, damp, MGP odor present.

Dark gray SILT and CLAY, orange mottling and black staining, soft, damp, MGP odor present.

Dark gray fine to medium SAND, trace rounded Gravel, loose, wet, MGP odor present.

Well/Boring Construction



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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level; WOH = Weight of Hammer.

Client:
Niagara Mohawk,
A National Grid Company

Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-28T

Borehole Depth: 74' below grade

DEPTH: 20, 25, 30, 35
ELEVATION: 210, 205, 200, 195

Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample
9	16-18	2.0	WOH WOH WOH WOH	NA	4.5	
10	18-20	2.0	WOH WOH WOH WOH	NA	5.1	
11	20-22	1.5	1 2 1 1	3	3.6	
12	22-24	2.0	2 3 2 3	5	2.8	
13	24-26	1.0	2 4 4 3	8	4.3	
14	26-28	2.0	3 4 6 7	10	1.8	
15	28-30	1.8	WOH WOH 1 3	NA	0.5	
16	30-32	2.0	3 4 3 3	7	0.0	
17	32-34	1.5	2 3 4 6	7	0.0	
18	34-36	1.7	4 3 4 6	7	0.0	

Stratigraphic Description

Dark gray fine to medium SAND, trace rounded Gravel, loose, wet, MGP odor present.

Dark gray Silty CLAY, little mottling, trace black staining, soft, damp, slight MGP odor.

Change drilling method to mud rotary.

Fine sand lens at 19.2 and 19.6' bgs.

Dark gray fine SAND, trace medium Sand, loose, wet, MGP odor present.

Dark gray fine and medium SAND, trace rootlets, loose, wet, MGP odor present.

LEAVES, ROOTS, WOOD, trace fine Sand, soft, wet, visible leaf imprints.

Dark gray fine and medium SAND, trace rootlets, loose, wet, MGP odor present.

Wood, leaves, roots, organic matter seam from 29.6' - 29.7' bgs.

Organic/Peat seam at 31.5' bgs.

Dark gray fine to coarse SAND, trace organic matter, loose, wet.

Well/Boring Construction

Cement-Bentonite Grout (1.0' - 60.0' bgs)

2" ID Sch. 40 PVC Riser (0.2' - 64.0' bgs)

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level; WOH = Weight of Hammer.

Project: 36657.011
Data File: MW-28T.dat

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS_NEW.ldf
Date: 3/24/05

Client:
Niagara Mohawk,
A National Grid Company

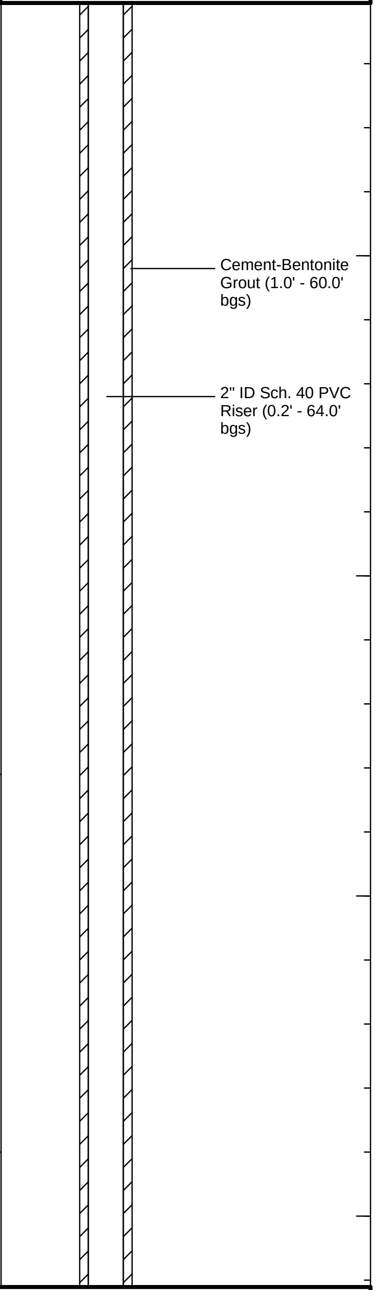
Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-28T

Borehole Depth: 74' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Stratigraphic Description
		19	36-38	0.5	1 3 3 4	6	0.0		Dark gray fine to coarse SAND and GRAVEL, gravel is well-rounded to subangular, loose, wet.
	190	20	38-40	1.0	2 4 5 5	9	0.0		
40		21	40-42	1.0	2 3 4 3	7	0.0		
	185	22	42-44	1.0	4 6 4 5	10	0.0		
45		23	44-46	0.5	2 4 3 6	7	0.0		
		24	46-48	1.7	2 4 4 4	8	0.0		
	180	25	48-50	1.5	4 9 14 14	23	0.0		Dark gray SILT, soft to stiff, wet.
50		26	50-52	1.6	16 6 11 10	17	0.0		Medium stiff to stiff from 50 to 52' bgs.
	175	27	52-54	2.0	4 7 3 4	10	0.0		Soft from 52 to 54' bgs.
55		28	54-56	1.6	5 10 16 12	26	0.0		Dark gray SILT, trace fine Sand, medium stiff to stiff, wet. [TILL]

Well/Boring Construction



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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level; WOH = Weight of Hammer.

Client:
Niagara Mohawk,
A National Grid Company

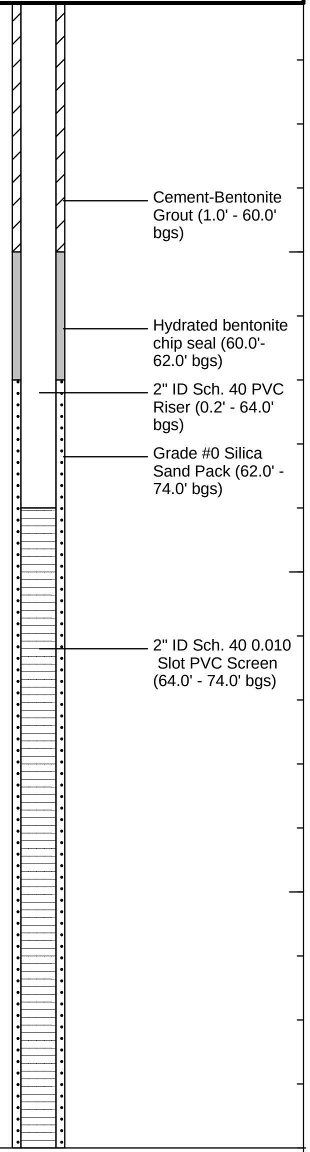
Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-28T

Borehole Depth: 74' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
		29	56-58	2.0	10 11 9 10	20	0.0			Dark gray SILT, trace fine Sand, medium stiff to stiff, wet.
	170	30	58-60	1.5	11 6 6 7	12	0.0			Subangular Gravel pieces in shoe.
60		31	60-62	1.2	7 11 15 25	26	0.0			Dark gray Clayey SILT, little fine to coarse Sand and Gravel, very stiff, damp. [TILL]
	165	32	62-64	0.8	28 36 34 35	70	0.0			Hard.
65		33	64-66	0.0	50/ 0.3' - -	NA	NA			Attempt #1 for Shelby Tube with no recovery and tube crushed. Attempt #2 with 3" split spoon had no recovery. Blows counts are for 3" SS.
		34	66-68	1.6	20 26 30 31	56	0.0			Dark gray Clayey SILT, little fine to coarse Sand and Gravel, hard, damp. [TILL]
	160	35	68-70	0.2	25 27 50/ 0.4'	NA	0.0			
70		36	70-72	0.3	15 18 17 18	35	0.0			Shattered Cobble in shoe.
	155	37	72-74	0.5	24 50/ 0.4' -	NA	0.0			
75										

Well/Boring Construction



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Project: 36657.011
Data File: MW-28T.dat

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS_NEW.ldf
Date: 3/24/05

Date Start/Finish: 3/16/05
Drilling Company: Parratt-Wolff
Driller's Name: Ian Grasse
Drilling Method: Hollow Stem Auger
Bit Size: 4-1/4"
Auger Size: 4-1/4" Hollow Stem Auger
Rig Type: CME 75
Sampling Method: 2" OD split spoon

Northing: 1446995.1
Easting: 638988.1
Casing Elevation: 230.12' AMSL

Borehole Depth: 14' below grade
Surface Elevation: 230.39' AMSL

Geologist: Jason C. Sents

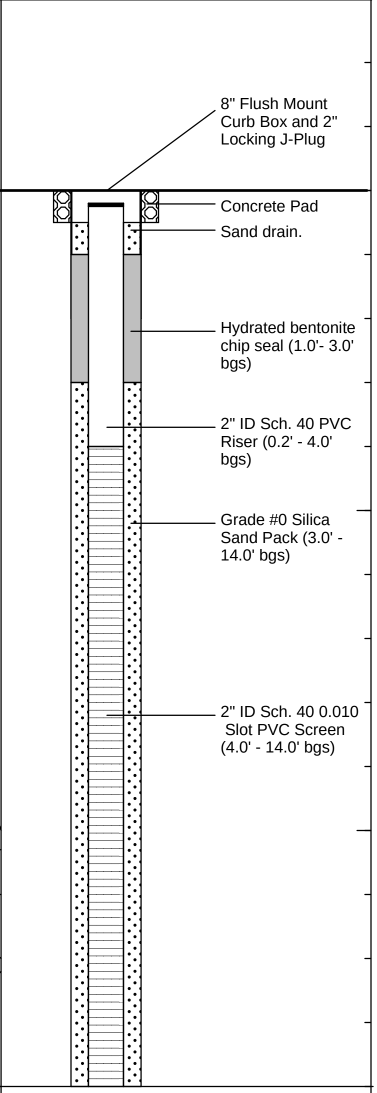
Well/Boring ID: MW-29S

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0	230									Auger to 10' bgs without sampling. See MW-29T for descriptions.
5	225									
10	220									Brown fine SAND and SILT, trace crushed Stone and red Brick, loose, damp. Gray fine to medium SAND, loose, wet.
		1	10-12	1.3	1 1 2 1	3	0.0			Dark gray Clayey SILT, black mottling and layering throughout, trace fine Sand, soft, damp to wet. Dark gray fine SAND, loose, wet.
		2	12-14	1.8	2 2 2 2	4	0.0			Dark gray-olive Clayey SILT, black mottling and layering throughout, trace fine Sand, soft, damp to wet.
15	215									

Well/Boring Construction



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Project: 36657.011
Data File: MW-29S.dat

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS_NEW.ldf
Date: 3/24/05

Date Start/Finish: 3/16/05
Drilling Company: Parratt-Wolff
Driller's Name: Ian Grasse
Drilling Method: Hollow Stem Auger
Bit Size: 4-1/4"
Auger Size: 4-1/4" Hollow Stem Auger
Rig Type: CME 75
Sampling Method: 2" OD split spoon

Northing: 1447000.9
Easting: 638993.2
Casing Elevation: 230.09' AMSL

Borehole Depth: 39' below grade
Surface Elevation: 230.31' AMSL

Geologist: Jason C. Sents

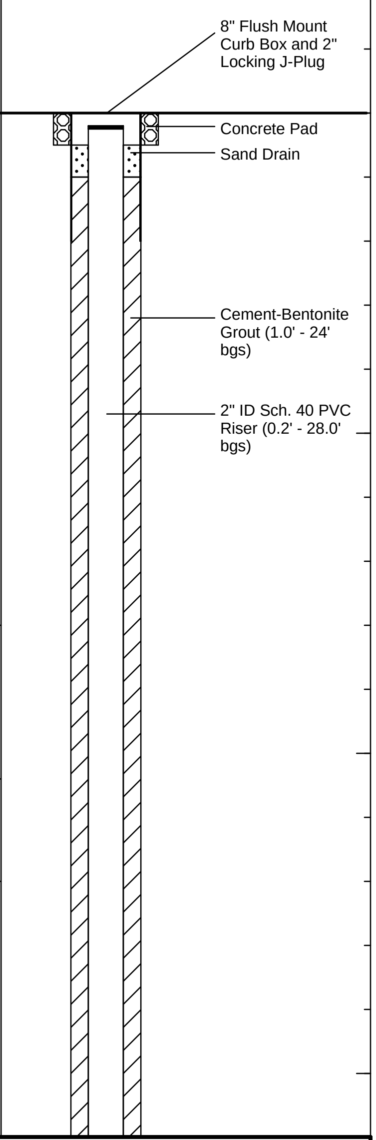
Well/Boring ID: MW-29I

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0	230									Auger to 8' bgs without sampling. See MW-29T for descriptions.
5	225									
		1	8-10	1.1	1 1 1 1	2	0.0			Dark brown fine to medium SAND, trace Silt, trace fine Gravel, trace Wood/Peat fragments, loose, damp to wet. Black mottling gradation near 10' bgs.
10	220	2	10-12	1.2	2 1 1 1	2	0.0			Dark gray SILT and PEAT, some organic matter and rootlets, very soft, damp, black layering and mottling throughout.
										Auger to 16' bgs without sampling.
15	215									

Well/Boring Construction



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Client:
Niagara Mohawk,
A National Grid Company

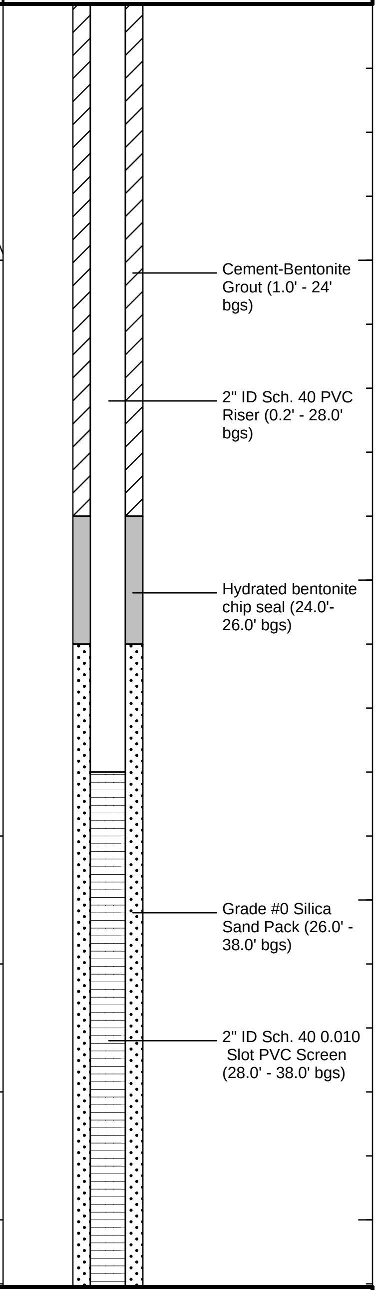
Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-29I

Borehole Depth: 39' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
		3	16-18	2.0	WOH WOH WOH WOH	NA	0.0			Gray-olive Clayey SILT, very soft, damp.
		4	18-20	2.0	WOH WOH WOH 4	NA	0.0			Gray fine to medium SAND, loose, wet.
20 25	210 205									Auger to 29' bgs without sampling.
30	200	5	29-31	0.7	WOH 2 2 1	4	0.0			Dark gray fine SAND, loose, wet. Thin beds (0.05' thick) of decaying rootlets at 29.2', 29.4', and 29.6' bgs.
										Auger to 33' bgs without sampling.
		6	33-35	0.5	WOH 1 2 2	3	0.0			Dark gray fine to medium SAND, trace coarse Sand, loose, wet.
35	195									Auger to 37' bgs without sampling.

Well/Boring Construction



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Client:
Niagara Mohawk,
A National Grid Company

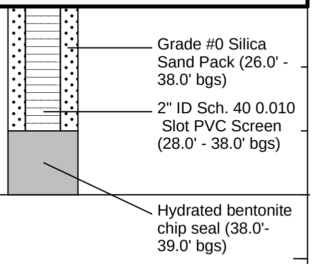
Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-29I

Borehole Depth: 39' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
										Auger to 37' bgs without sampling.
		7	37-39	0.4	WOH 2 2 1	4	0.0		⁘	Dark gray fine to coarse SAND, loose, wet.
40	190									
45	185									
50	180									
55	175									

Well/Boring Construction



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Project: 36657.011
Data File: MW-29I.dat

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS_NEW.ldf
Date: 3/24/05

Date Start/Finish: 3/14/05 - 3/15/05
Drilling Company: Parratt-Wolff
Driller's Name: Ian Grasse
Drilling Method: Hollow Stem Auger / Mud Rotary
Bit Size: 4-1/4"
Auger Size: 4-1/4" HSA
Rig Type: CME 75
Sampling Method: 2" OD split spoon

Northing: 1446999.4
Easting: 638982.6
Casing Elevation: 230.13' AMSL

Borehole Depth: 62' below grade
Surface Elevation: 230.45' AMSL

Geologist: Jason C. Sents

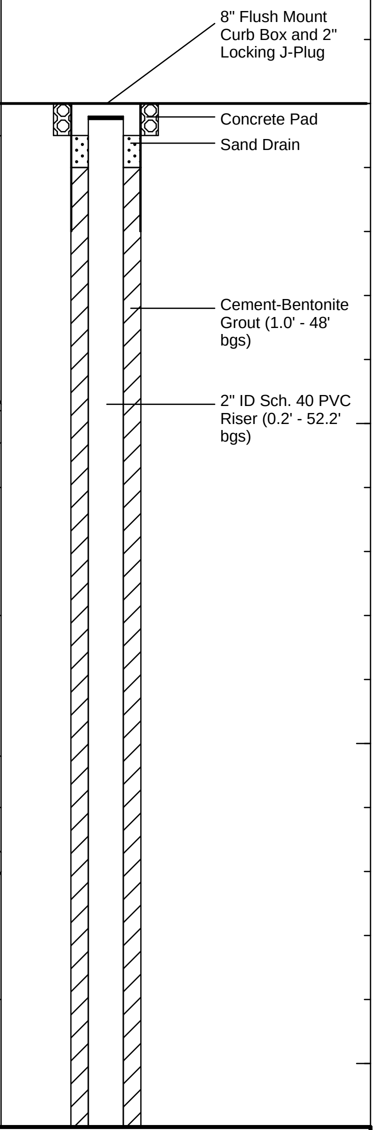
Well/Boring ID: MW-29T

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0	230	1	0-2	0.4	- 24 50/ 0.3	NA	0.0			ASPHALT Brown fine SAND and CRUSHED STONE, loose, dry. [FILL]
		2	2-4	1.4	7 20 28 20	48	0.1			Larger cobbles of crushed stone, trace Brick, dry, loose. Damp.
5	225	3	4-6	1.7	7 9 7 11	16	0.0			CINDERS, tan. [FILL] Black ASH, COAL and CINDERS, trace red Brick. [FILL] Red-brown SILT and fine SAND, loose, dry. [FILL]
		4	6-8	0.0	14 11 8 5	19	NA			No recovery.
		5	8-10	0.3	5 3 1 1	4	0.0			Dark brown fine SAND, little crushed Stone and red Brick, trace Cinders, Cobble in shoe, loose, dry. Wet at 10' bgs. [FILL]
10	220	6	10-12	2.0	WOH WOH WOH 2	NA	0.0			Brown fine and medium SAND, trace Silt. Peat at 10.9-11' bgs, mottled gray-brown. Gray fine SAND and SILT, soft, wet. Dark brown Clayey SILT, trace fine and medium Sand, very soft, slightly plastic, damp.
		7	12-14	2.0	WOH 1 1 1	2	0.0			Dark gray Clayey SILT, soft, wet, grades to black-stained at 13.5' bgs, slightly plastic, slight MGP odor.
15	215	8	14-16	2.0	WOH WOH WOH WOH	NA	0.0			Gray-olive Silty CLAY, very soft, medium plasticity, damp.

Well/Boring Construction



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Client:
Niagara Mohawk,
A National Grid Company

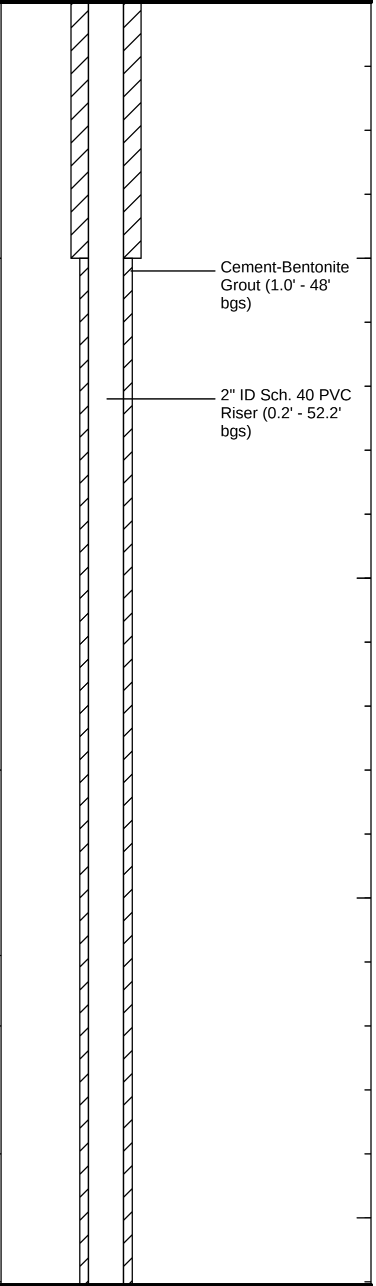
Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-29T

Borehole Depth: 62' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
		9	16-18	2.0	2 2 2 2	4	0.0			Gray fine to medium SAND, loose, wet, odor present.
		10	18-20	2.0	WOH WOH WOH WOH	NA	0.0			Fine to coarse SAND and trace rounded Gravel from 18.9 to 19' bgs, wet, loose. Sand color: white, clear, amber, olive, green, gray, and tan-brown.
20	210	11	20-22	2.0	1 2 1 2	3	0.0			Dark gray fine SAND and Clayey SILT, very loose/very soft, wet, very faint MGP odor. Switch to mud rotary.
		12	22-24	2.0	2 1 1 1	2	0.0			
25	205	13	24-26	1.5	1/ 1' 1/ 1'	NA	0.0			
		14	26-28	2.0	2 4 2 3	6	0.0			Trace organic matter or rootlets visible.
		15	28-30	1.0	WOH 1 1 2	2	0.0			Dark gray fine to medium SAND, trace coarse Sand, trace Silt, loose, wet, faint MGP odor.
30	200	16	30-32	1.8	2 3 3 2	6	0.0			Dark gray Clayey SILT, trace fine Sand, trace rootlets, soft, damp to wet, faint MGP odor.
		17	32-34	0.4	1 2 2 4	4	0.0			Dark gray fine to coarse SAND, trace Silt, loose, wet, faint MGP odor.
35	195	18	34-36	1.7	2 4 4 7	8	0.0			Dark gray Clayey SILT and fine SAND, loose, wet, very MGP faint odor.

Well/Boring Construction



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Project: 36657.011
Data File: MW-29T.dat

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS_NEW.ldf
Date: 3/24/05

Client:
Niagara Mohawk,
A National Grid Company

Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-29T

Borehole Depth: 62' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample
		19	36-38	1.0	2 2 2 2	4	0.0	
		20	38-40	0.9	2 4 3 3	7	0.0	
40	190	21	40-42	1.0	1 2 2 2	4	0.1	
		22	42-44	1.7	2 4 6 3	10	0.0	
45	185	23	44-46	1.0	7 6 7 8	13	0.0	
		24	46-48	0.6	38 50/ 0.1 -	NA	0.0	
		25	48-50	0.9	17 40 50/ 0.3	NA	0.0	
50	180	26	50-52	0.3	50/ 0.3 - -	NA	0.0	
		27	52-54	0.6	29 50/ 0.4 -	NA	0.0	
55	175	28	54-56	0.7	21 50/ 0.4 -	NA	0.0	

Stratigraphic Description

Dark gray fine to coarse SAND and fine GRAVEL, grading to dark gray fine SAND, trace medium Sand, loose, wet.

Dark gray fine to coarse SAND, trace fine Gravel, loose, wet.

Tan-pink WOOD fragments, very strong sulfur-type odor.

Dark gray fine to coarse SAND, loose.

WOOD, as above.

Dark gray fine SAND, loose.

Dark gray fine SAND and SILT, loose.

Dark gray SILT.

Dark gray Clayey SILT, little fine to coarse Sand, trace Gravel, medium stiff, wet. [TILL]

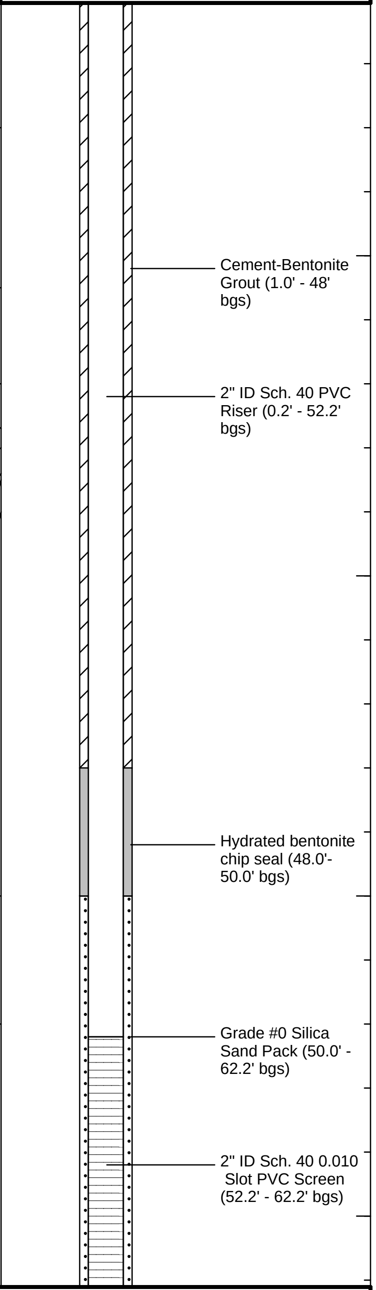
Hard, damp.

Attempted Shelby Tube, then advanced 3" split spoon and recovered same as above.

Dark gray Clayey SILT, little fine to coarse Sand and Gravel, very hard, damp. [TILL]

Wet throughout.

Well/Boring Construction



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Project: 36657.011
Data File: MW-29T.dat

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS_NEW.ldf
Date: 3/24/05

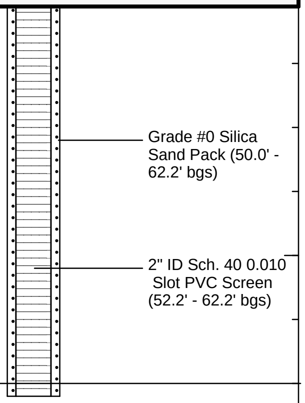
Client:
Niagara Mohawk,
A National Grid Company

Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-29T

Borehole Depth: 62' below grade

DEPTH ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
	29	56-58	0.6	19 34 50/ 0.3	NA	0.0		▨	Gray Clayey SILT, stiff, plastic, wet throughout.	
	30	58-60	0.0	50/ 0.4 - -	NA	NA			No recovery.	
60 170	31	60-62	0.5	16 50/ 0.4 -	NA	0.0		▨	Dark gray Clayey SILT, little fine to coarse Sand and Gravel, very hard, dry to damp. [TILL]	
65 165										
70 160										
75 155										



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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level; WOH = Weight of Hammer.

Date Start/Finish: 4/4/05
Drilling Company: Parratt-Wolff
Driller's Name: Ian Grasse
Drilling Method: Hollow Stem Auger/Mud Rotary
Bit Size: 4-1/4"
Auger Size: 4-1/4" Hollow Stem Auger
Rig Type: CME 75
Sampling Method: 2" OD split spoon

Northing: 1447186.4
Easting: 639372.4
Casing Elevation: 226.42' AMSL

Borehole Depth: 14' below grade
Surface Elevation: 226.72' AMSL

Geologist: Jason C. Sents

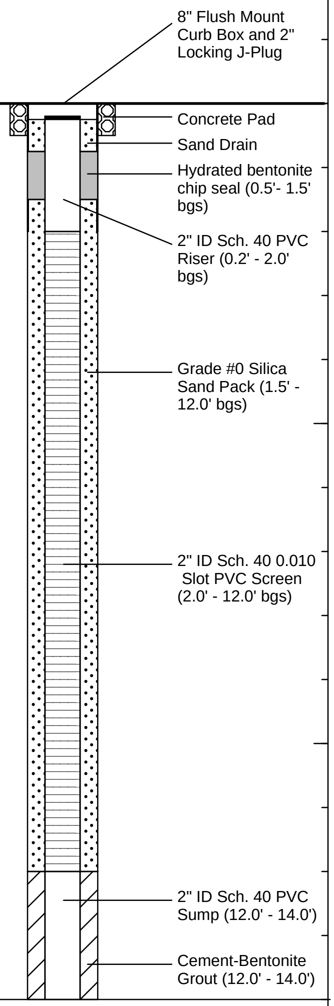
Well/Boring ID: MW-30S

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0										Auger to 10' bgs without sampling. See MW-30T for descriptions.
	225									
5										
	220									
10										Brown-orange fine to medium SAND, trace coarse Sand, trace Cinders, Ash, Brick, Coal, and Glass, loose, wet, odor. [FILL]
		1	10-12	0.7	1 1 1 1	2	31.6			Dark gray Clayey SILT, black stains in rootlets, soft, wet, MGP odor.
	215									
		2	12-14	1.5	1 1 1 1	2	44.7			Flecks of sheen throughout, from 12' - 14' bgs.
15										

Well/Boring
Construction



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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level; WOH/R = Weight of Hammer/Rods.

Project: 36657.011
Data File: MW-30S.dat

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS_NEW.ldf
Date: 4/18/05

Date Start/Finish: 4/4/05
Drilling Company: Parratt-Wolff
Driller's Name: Ian Grasse
Drilling Method: Hollow Stem Auger/Mud Rotary
Bit Size: 4 1/4"
Auger Size: 4 1/4" HSA
Rig Type: CME 75
Sampling Method: 2" OD split spoon

Northing: 1447181.8
Easting: 639375.2
Casing Elevation: 226.34' AMSL

Borehole Depth: 30' below grade
Surface Elevation: 226.69' AMSL

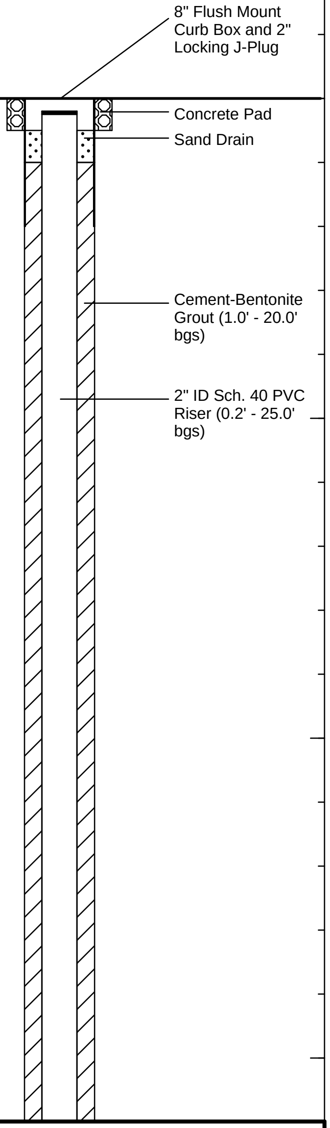
Geologist: Jason C. Sents

Well/Boring ID: MW-30I

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
0										Auger to 20' bgs without sampling. See MW-30T for descriptions.	
	225										
5											
	220										
10											
	215										
15											



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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level; WOH/R = Weight of Hammer/Rods.

Client:
Niagara Mohawk,
A National Grid Company

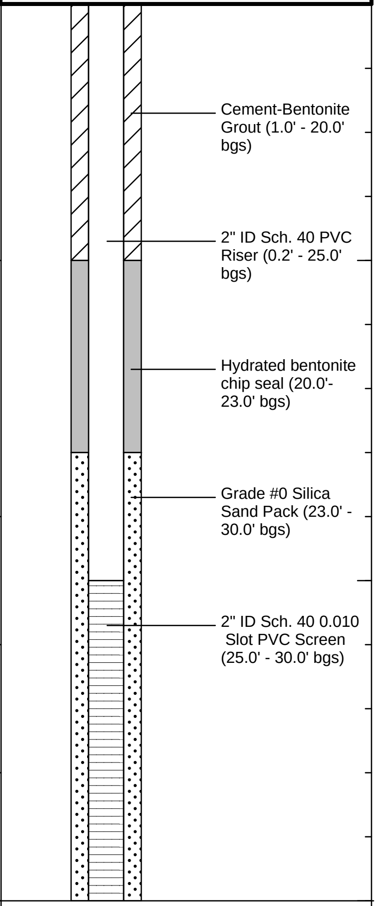
Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-30I

Borehole Depth: 30' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
	210									Auger to 20' bgs without sampling. See MW-30T for descriptions.
20	205	1	20-22	0.6	3 WOH/ 1.5' -	NA	1.2			Dark gray Clayey SILT, very soft, wet, slight odor.
		2	22-24	0.7	2 1 1 1	2	1.9			Little fine Sand, fine Sand seams and organic matter seams throughout, from 22.0' - 24.0' bgs.
25		3	24-26	0.4	1 1 2 1	3	0.0			Dark gray fine SAND, loose, wet.
	200									Auger to 28' bgs without sampling.
		4	28-30	0.8	WOH/ 1.5' - 1	NA	0.0			Dark gray fine SAND, organic matter/Clay seams throughout, trace Silt, loose, wet.
30 35	195									

Well/Boring Construction



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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level; WOH/R = Weight of Hammer/Rods.

Project: 36657.011
Data File: MW-30I.dat

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS_NEW.ldf
Date: 4/18/05

Date Start/Finish: 4/1/05
Drilling Company: Parratt-Wolff
Driller's Name: Ian Grasse
Drilling Method: Hollow Stem Auger/Mud Rotary
Bit Size: 4-1/4"
Auger Size: 4-1/4" Hollow Stem Auger
Rig Type: CME 75
Sampling Method: 2" OD split spoon

Northing: 1447183.7
Easting: 639378.9
Casing Elevation: 226.37' AMSL

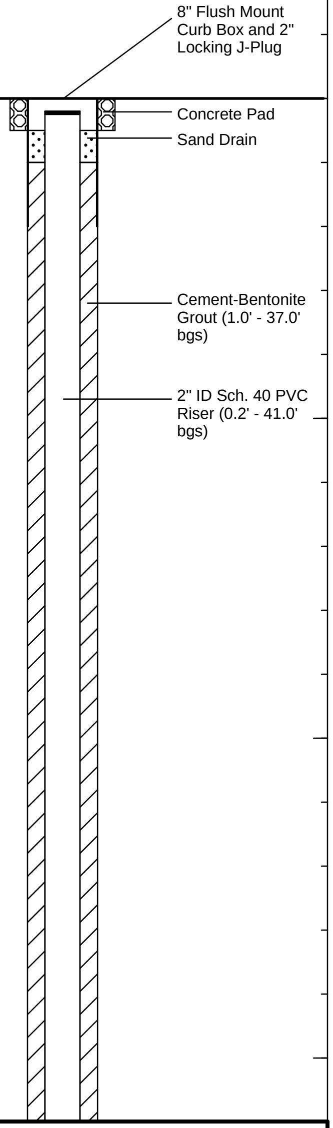
Borehole Depth: 46' below grade
Surface Elevation: 226.72' AMSL

Geologist: Jason C. Sents

Well/Boring ID: MW-30D

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
0										Auger to 28' bgs without sampling. See MW-30T for descriptions.	
	225										
5											
	220										
10											
	215										
15											

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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level; WOH/R = Weight of Hammer/Rods.

Client:
Niagara Mohawk,
A National Grid Company

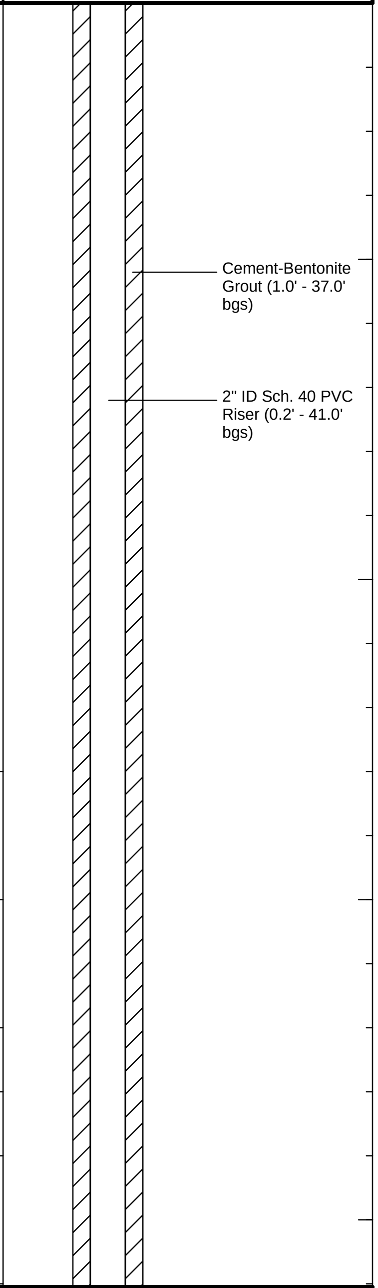
Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-30D

Borehole Depth: 46' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
20 25	210 205 200									Auger to 28' bgs without sampling.
		1	28-30	2.0	WOH 2 1 1	3	0.1			Dark gray fine SAND, little organic matter in seams throughout, trace Silt, loose, wet.
30	195									Auger to 30' bgs without sampling.
		2	32-34	1.5	1 1 1 1	2	0.0			Dark gray fine SAND, little organic matter in seams throughout, trace Silt, loose, wet.
										Dark gray fine to medium SAND, trace coarse Sand and organic seams, loose, wet.
35										Auger to 44' bgs without sampling.

Well/Boring Construction



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Client:
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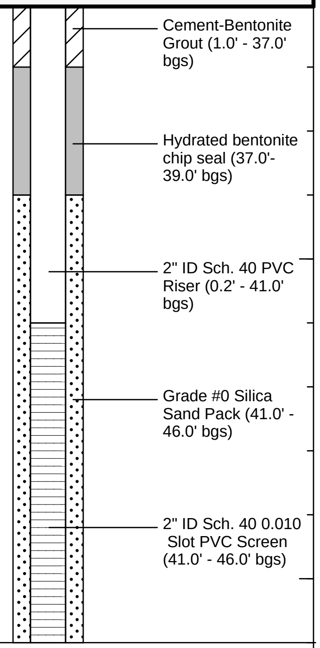
Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-30D

Borehole Depth: 46' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
40	190 185									Auger to 44' bgs without sampling.	
45		3	44-46	1.2	5 2 3 4	5	0.0		⁘	Dark gray fine to coarse SAND, trace Gravel and Wood, loose, wet.	
50 55	180 175										



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Project: 36657.011
Data File: MW-30D.dat

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS_NEW.ldf
Date: 4/18/05

Date Start/Finish: 3/25/05 - 3/31/05
Drilling Company: Parratt-Wolff
Driller's Name: Ian Grasse
Drilling Method: Hollow Stem Auger/Mud Rotary
Bit Size: 4-1/4" / 3-7/8" rollerbit
Auger Size: 4-1/4" Hollow Stem Auger
Rig Type: CME 75
Sampling Method: 2" OD split spoon

Northing: 1447188.7
Easting: 639376.3
Casing Elevation: 226.38' AMSL

Borehole Depth: 84' below grade
Surface Elevation: 226.73' AMSL

Geologist: Jason C. Sents

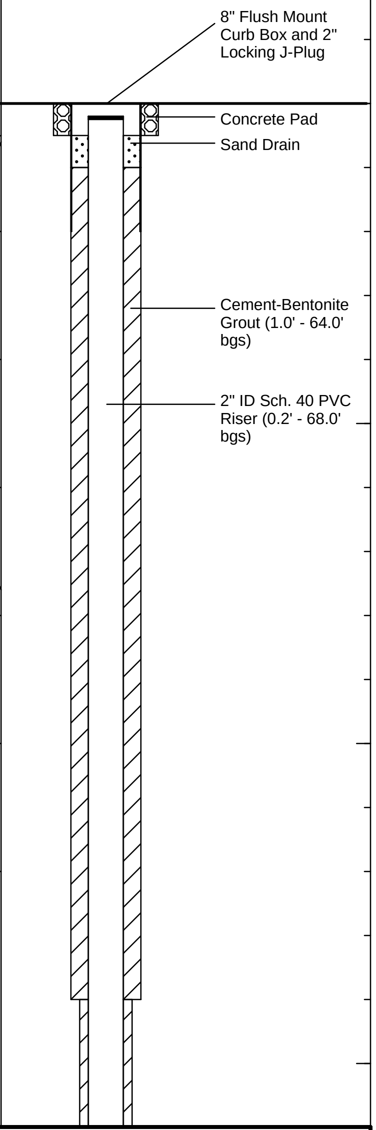
Well/Boring ID: MW-30T

Client: Niagara Mohawk,
A National Grid Company

Location: Broadway Street
Schenectady, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0	225	1	0-2	1.0	- 3 3 4	6	0.1			ASPHALT Dark brown fine SAND and CRUSHED STONE, loose, dry. Brown fine SAND, trace medium Sand, trace Cinders, trace Coal, trace Brick, loose, wet.
		2	2-4	1.5	1 3 1 5	4	0.3			Brown fine to medium SAND, trace coarse Sand, trace Gravel, trace Cinders, trace Ash, trace Coal, loose, wet.
5		3	4-6	0.1	5 1 1 1	2	0.2			Rock in shoe, trace recovery.
	220	4	6-8	2.0	1 1 1 1	2	0.1			Black-stained fine to medium SAND, trace coarse Sand, trace Cinders, loose, wet. Woody seam at 6.2-6.3' bgs, contains MGP odor and very slight sheen. Dark gray SILT and ORGANIC MATTER, black-stained rootlets, soft, damp, no odor.
		5	8-10	1.8	WOH/ 2' - -	NA	0.1			Dark gray Clayey SILT, trace fine Sand, black-stained rootlets, very soft, damp, very faint MGP odor.
10	215	6	10-12	0.3	WOH/ 2' - -	NA	0.9			Dark gray fine SAND, SILT, and CLAY, trace black staining, soft, nonplastic, wet, MGP odor present.
		7	12-14	1.5	WOH/ 2' - -	NA	11.2			Dark gray SILT and CLAY, very soft, medium plasticity, wet, MGP odor present
15		8	14-16	0.8	WOR/ 2' - -	NA	9.6			Change to mud rotary set-up.

Well/Boring Construction



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Client:
Niagara Mohawk,
A National Grid Company

Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-30T

Borehole Depth: 84' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
	210	9	16-18	0.8	WOH/ 1' 1 1	NA	12.1			Dark gray fine SAND, SILT, and CLAY, very soft,nonplastic, wet, MGP odor present.	
		10	18-20	1.8	WOH/ 2' - -	NA	26.6			Dark gray SILT and CLAY, fine Sand seam at 18.9' bgs, soft, wet.	
20	205	11	20-22	2.0	WOH/ 1.5' - 2	NA	17.7			Dark gray fine SAND and SILT, loose, wet. Dark gray Silty CLAY, soft, damp. Dark gray fine SAND and Clayey SILT, trace rootlets, soft/loose, damp.	Cement-Bentonite Grout (1.0' - 64.0' bgs)
		12	22-24	1.5	3 3 3 3	6	8.1			Dark gray fine SAND, trace Silt, trace medium Sand, loose, wet.	2" ID Sch. 40 PVC Riser (0.2' - 68.0' bgs)
25		13	24-26	1.0	2 2 3 4	5	0.5			Dark gray fine SAND and Clayey SILT, organic matter seams throughout, loose, wet.	
	200	14	26-28	2.0	4 7 11 6	18	0.2			WOOD, wet, MGP odor present.	
		15	28-30	1.0	6 5 6 5	11	0.0			Dark gray fine to medium SAND, trace coarse Sand, loose, wet.	
30	195	16	30-32	1.5	2 2 2 2	4	0.0			Dark gray fine SAND, little organic matter throughout, trace Silt, loose, wet.	
		17	32-34	1.8	6 4 5 11	9	0.0			Grading to dark gray fine to medium SAND, trace coarse Sand, well rounded Gravel, and Wood, loose, wet. Wood, from 33.4' - 33.5' bgs.	
35		18	34-36	0.5	4 4 5 4	9	0.0				

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Client:
Niagara Mohawk,
A National Grid Company
Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-30T

Borehole Depth: 84' below grade

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
	190	19	36-38	0.9	6 4 8 7	12	0.0			Grading to dark gray fine to medium SAND, trace coarse Sand, well rounded Gravel, and Wood, loose, wet.	
		20	38-40	0.7	4 4 5 5	9	0.0				
40	185	21	40-42	0.6	6 5 6 4	11	0.0				Cement-Bentonite Grout (1.0' - 64.0' bgs)
		22	42-44	0.5	3 3 5 8	8	0.0				2" ID Sch. 40 PVC Riser (0.2' - 68.0' bgs)
45		23	44-46	0.5	6 7 7 8	14	0.0				
	180	24	46-48	0.3	7 6 6 7	12	0.0			Dark gray SILT, soft, wet.	
		25	48-50	1.0	5 5 8 12	13	0.0				
50	175	26	50-52	0.5	8 10 10 15	20	0.0				
		27	52-54	1.0	7 9 10 11	19	0.0				
55		28	54-56	0.5	8 4 9 9	13	0.0				

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Client:
Niagara Mohawk,
A National Grid Company

Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-30T

Borehole Depth: 84' below grade

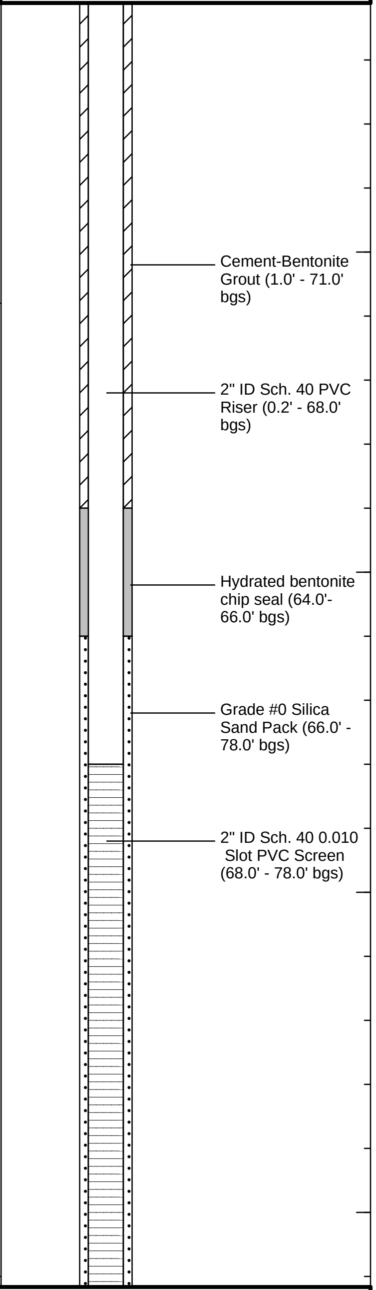
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample
	170	29	56-58	0.9	10 11 12 14	23	0.0	
		30	58-60	1.5	11 10 11 11	21	0.0	
60	165	31	60-62	1.8	8 10 11 15	21	0.0	
		32	62-64	1.5	8 11 14 16	25	0.0	
65		33	64-66	0.8	18 16 18 15	34	0.0	
	160	34	66-68	1.0	6 9 18 16	27	0.0	
		35	68-70	1.5	28 31 22 26	53	0.0	
70	155	36	70-72	1.5	6 11 11 16	22	0.0	
		37	72-74	1.3	9 12 14 12	26	0.0	
75		38	74-76	0.0	9 11 12 19	23	NA	

Stratigraphic Description

Dark gray SILT, soft, wet.

Dark gray Clayey SILT, trace fine to medium Sand and subrounded to subangular Gravel, stiff, wet. [TILL]

Well/Boring Construction



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Project: 36657.011
Data File: MW-30T.dat

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS_NEW.ldf
Date: 3/28/05

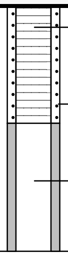
Client:
Niagara Mohawk,
A National Grid Company

Site Location:
Broadway Street
Schenectady, NY

Well/Boring ID: MW-30T

Borehole Depth: 84' below grade

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description	Well/Boring Construction
150	39	76-78	1.2	24 18 23 26	41	0.0		▤	Dark gray Clayey SILT, trace fine to medium Sand and subrounded to subangular Gravel, stiff, wet. [TILL]	2" ID Sch. 40 0.010 Slot PVC Screen (68.0' - 78.0' bgs) Grade #0 Silica Sand Pack (66.0' - 78.0' bgs)
	40	78-80	1.2	9 11 11 20	22	0.0		▤		Hydrated bentonite chip seal (78.0'- 80.0' bgs)
80										
145										
85										
140										
90										
135										
95										



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Remarks: NA = Not Applicable/Available; bgs = below ground surface; AMSL = above mean sea level; WOH/R = Weight of Hammer/Rods.

Project: 36657.011
Data File: MW-30T.dat

Template: j:\rockware\logplot2001\logfiles\36657\BroadwayWELLS_NEW.ldf
Date: 3/28/05

Appendix C

Groundwater Sampling Logs

BBL®
BLASLAND, BOUCK & LEE, INC.
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June 2002 Groundwater Sampling

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

Niagara Mohawk Power Corporation
Schenectady (Broadway) Service Center
Schenectady, New York
Groundwater Sampling Log

Well Data

Well ID: MW-1
Date: 6/11/02
Sampler(s): RBS
Purge/Sample Method: Bailer
PID Reading (ppm): 0.0
Depth to Water (ft BTOC): 4.42
Total Depth of Well (ft BTOC): 11.33
Height of Purge Column: 6.91
Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected	Volume Collected (ml)
PAHs	~~[illegible]~~ 1 Lte
~~BTEX~~ VOCs	40 ml
Total Cyanide	100 ml

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	16.8	7.49	3.42
1ST/ 2nd Well Volume	16.6 / 16.2	7.49 / 7.42	3.01 / 2.94
Final Well Volume	16.3	7.36	2.91

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):
Total volume purged (G): 4.6
Sample ID(s):
Sample Time: 1810

Well Data

Well ID: MW-18
Date: 6/11/02
Sampler(s): DLH
Purge/Sample Method: Bailer
PID Reading (ppm): 26
Depth to Water (ft BTOC): ~~14.98~~ 3.36
Total Depth of Well (ft BTOC): 14.98
Height of Purge Column: 11.62
Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected	Volume Collected (ml)
PAHs	1 Lite
~~BTEX~~ VOCs	40 ml
Total Cyanide	100 ml

Road salt inside well protection cover may have caused high PID

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	18.8	7.51	1.64
1ST/ 2nd Well Volume	16.2 / 16.4	7.42 / 7.39	2.75 / 2.74
Final Well Volume	18.8*	7.24	2.66

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):
Total volume purged (G): 1.9
Sample ID(s):
Sample Time: 18:15

Niagara Mohawk Power Corporation
Schenectady (Broadway) Service Center
Schenectady, New York
Groundwater Sampling Log

Well Data

Well ID: MW- 4
Date: 6/12/02
Sampler(s): RJG
Purge/Sample Method: Bailer
PID Reading (ppm): 0.0
Depth to Water (ft BTOC): 10.56
Total Depth of Well (ft BTOC): 20.42
Height of Purge Column:

9.49 LNAPL
10.56 WATER
NO DNAPL at Bottom of well

Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected — Volume Collected (ml)

PAHs ~~1000~~
~~BTEX~~ VOCs ~~40ml~~
Total Cyanide ~~100ml~~

No Sample collected - NAPL Well

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	—	—	—
2nd Well Volume	—	—	—
Final Well Volume	—	—	—

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC): —
Total volume purged (G): —
Sample ID(s): NO SAMPLE
Sample Time:

Well Data

Well ID: MW- MW-3
Date: 6/12/02
Sampler(s): RJG
Purge/Sample Method: Bailer
PID Reading (ppm): 0.0
Depth to Water (ft BTOC): 9.38
Total Depth of Well (ft BTOC): 24.36
Height of Purge Column:

Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.): NO NAPL DETECTED

Samples Collected — Volume Collected (ml)

PAHs —
BTEX —
Total Cyanide —

CLEANED NAPL OFF OF PROBE AND LINE. MINIMAL AMOUNT

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	—	—	—
2nd Well Volume	—	—	—
Final Well Volume	—	—	—

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC): —
Total volume purged (G): —
Sample ID(s): No Sample collected NAPL well
Sample Time:

Niagara Mohawk Power Corporation
Schenectady (Broadway) Service Center
Schenectady, New York
Groundwater Sampling Log

Well Data

Well ID MW- 6S
Date 6/12/02
Sampler(s) B. RJG
Purge/Sample Method Bailer
PID Reading (ppm) 0.0
Depth to Water (ft BTOC) 3.45
Total Depth of Well (ft BTOC) 7.30
Height of Purge Column 3.85
Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected Volume Collected (ml)
PAHs 1 liter
~~BTEX~~ VOCs 40 ml
Total Cyanide 100 ml

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
1 Initial	18.0	6.43	4.39
1ST/ 2nd Well Volume	157 / 15.3	5.01 / 3.73	5.48 / 4.36
Final Well Volume		3.45	6.95

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):
Total volume purged (G): 0.63
Sample ID(s): MW-6S
Sample Time: 14:00

Well Data

Well ID MW- 6I
Date 6/12/02
Sampler(s) RJG
Purge/Sample Method Bailer
PID Reading (ppm) 0.0
Depth to Water (ft BTOC) 8.85
Total Depth of Well (ft BTOC) 49.33
Height of Purge Column 42.48
Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected Volume Collected (ml)
PAHs 1 lite
~~BTEX~~ VOCs 40 ml
Total Cyanide 100 ml

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	13.9	6.49	0.699
1ST/ 2nd Well Volume	14.7 / 15.1	5.74 / 6.52	0.95 / 0.576
Final Well Volume	14.4	6.79	1.39

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):
Total volume purged (G): 6.5
Sample ID(s): MW-6I
Sample Time: 14:15

Niagara Mohawk Power Corporation
Schenectady (Broadway) Service Center
Schenectady, New York
Groundwater Sampling Log

Well Data

Well ID MW-7
Date 6/12/02
Sampler(s) DLK
Purge/Sample Method Bailer

PID Reading (ppm) 0.0
Depth to Water (ft BTOC) 7.57
Total Depth of Well (ft BTOC) 21.01
Height of Purge Column 13.44

Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected	Volume Collected (ml)
PAHs	1 liter
~~BTEX~~ VOCs	40 ml
Total Cyanide	100 ml

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	12.2°c	7.64	0.841
2nd Well Volume	12.3/11.0	7.15/7.09	0.757/0.791
Final Well Volume	10.5	7.07	0.819

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):

Total volume purged (G): 7.2 GALS

Sample ID(s): MW-7
Sample Time: 1555

Well Data

Well ID MW-
Date
Sampler(s)
Purge/Sample Method Bailer

PID Reading (ppm)
Depth to Water (ft BTOC)
Total Depth of Well (ft BTOC)
Height of Purge Column

Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected	Volume Collected (ml)
PAHs	
BTEX	
Total Cyanide	

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial			~~0.841~~
2nd Well Volume			
Final Well Volume			

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):

Total volume purged (G): ~~7.2 GALS~~

Sample ID(s):
Sample Time:

Niagara Mohawk Power Corporation
Schenectady (Broadway) Service Center
Schenectady, New York
Groundwater Sampling Log

Well Data

Well ID MW- 8S
Date 6/12/02
Sampler(s) DEK / RTG
Purge/Sample Method Bailer

PID Reading (ppm) 6.0
Depth to Water (ft BTOC) 11.83
Total Depth of Well (ft BTOC) 18.17
Height of Purge Column 6.34

Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected	Volume Collected (ml)
PAHs	1 liter
BTEX	40 ml
Total Cyanide	100 ml

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	12.2	7.71	0.684
2nd Well Volume	12.3 / 11.2	7.74 / 7.51	0.673 / 0.741
Final Well Volume	12.5	7.32	0.673

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):

Total volume purged (G): 1.1 Gals

Sample ID(s): MW- 8S

Sample Time: 11:30

Well Data

Well ID MW-
Date
Sampler(s)
Purge/Sample Method Bailer

PID Reading (ppm)
Depth to Water (ft BTOC)
Total Depth of Well (ft BTOC)
Height of Purge Column

Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected	Volume Collected (ml)
PAHs	
BTEX	
Total Cyanide	

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial			
2nd Well Volume			
Final Well Volume			

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):

Total volume purged (G):

Sample ID(s):

Sample Time:

Niagara Mohawk Power Corporation
Schenectady (Broadway) Service Center
Schenectady, New York
Groundwater Sampling Log

Well Data

Well ID MW- 8D
Date 6/12/02
Sampler(s) RJG
Purge/Sample Method Bailer
PID Reading (ppm) 0.0
Depth to Water (ft BTOC) 11.57
Total Depth of Well (ft BTOC) 48.24
Height of Purge Column 36.67
Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected	Volume Collected (ml)
PAHs	1 lite
~~BTEX~~ VOCs	40 ml
Total Cyanide	100 ml

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	12.2°C	8.27	0.714
2nd Well Volume	11.9/12.1	8.33/8.13	0.718/0.723
Final Well Volume	12.2	7.68	0.877

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):
Total volume purged (G): 6.0 GALS
Sample ID(s): 8D
Sample Time: 11:20

Well Data

Well ID MW- 8I
Date 6/12/02
Sampler(s) RJG
Purge/Sample Method Bailer
PID Reading (ppm) 0.0
Depth to Water (ft BTOC) 11.74
Total Depth of Well (ft BTOC) 37.23
Height of Purge Column 25.49
Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected	Volume Collected (ml)
PAHs	1 lite
BTEX	40 ml
Total Cyanide	100 ml

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	11.8	7.47	0.617
15 / 2nd Well Volume	11.1 / 11.2	7.34 / 7.28	0.619 / 0.617
Final Well Volume	11.6	7.21	0.619

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):
Total volume purged (G): 2.4
Sample ID(s): MW 8I
Sample Time: 11:50

Niagara Mohawk Power Corporation
Schenectady (Broadway) Service Center
Schenectady, New York
Groundwater Sampling Log

Well Data

Well ID MW- 9I
Date 6/13/02
Sampler(s) RSG
Purge/Sample Method Bailer
PID Reading (ppm) 0.0
Depth to Water (ft BTOC) 11.33
Total Depth of Well (ft BTOC) 25.5
Height of Purge Column 14.17
Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected	Volume Collected (ml)
PAHs	1 lite
~~BTEX~~ VOCs	40 ml
Total Cyanide	100 ml

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	11.4	7.51	0.449
1ST/2nd Well Volume	11.2 / 11.3	7.24 / 7.51	0.449 / 0.513
Final Well Volume	11.4	7.29	0.521

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):
Total volume purged (G): 2.3
Sample ID(s): MW-9I
Sample Time: 08:30

Well Data

Well ID MW- 9D
Date 6/13/02
Sampler(s) OLK
Purge/Sample Method Bailer
PID Reading (ppm) 0.0
Depth to Water (ft BTOC) 12.95
Total Depth of Well (ft BTOC) 42.78
Height of Purge Column 29.83
Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected	Volume Collected (ml)
PAHs	1 liter
BTEX	40 ml
Total Cyanide	100 ml

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	11.9	8.89	0.398
2nd Well Volume	11.4 / 11.5	8.34 / 8.25	0.397 / 0.397
Final Well Volume	11.7	7.07	0.636

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):
Total volume purged (G): 4.9
Sample ID(s): MW 9D
Sample Time: 8:45

Niagara Mohawk Power Corporation
Schenectady (Broadway) Service Center
Schenectady, New York
Groundwater Sampling Log

Well Data

Well ID MW- 9S
Date 6/13/02
Sampler(s) RJS
Purge/Sample Method Bailer
PID Reading (ppm) 0.0
Depth to Water (ft BTOC) 11.6
Total Depth of Well (ft BTOC) 15.71
Height of Purge Column 4.11
Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected	Volume Collected (ml)
PAHs	1 lite
~~BTEX~~ VOCs	40 ml
Total Cyanide	100 ml

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	11.1	7.06	0.521
1st/2nd Well Volume	11.0 / 10.9	7.01 / 7.02	0.509 / 0.527
Final Well Volume	11.0	7.02	0.527

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):
Total volume purged (G): 0.68
Sample ID(s): MW-9S
Sample Time: 9:05

Well Data

Well ID MW- 10
Date 6/13/02
Sampler(s) DKK
Purge/Sample Method Bailer
PID Reading (ppm) 0.0
Depth to Water (ft BTOC) 14.27
Total Depth of Well (ft BTOC) 31.00
Height of Purge Column 16.73
Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected	Volume Collected (ml)
PAHs	1 lite
~~BTEX~~ VOCs	40 ml
Total Cyanide	100 ml

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	11.4	7.04	0.733
1st/2nd Well Volume	11.5 / 11.6	7.09 / 7.11	0.753 / 0.747
Final Well Volume	11.1 / 11.1	7.10 / 7.04	0.746 / 0.736

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):
Total volume purged (G): 2.76
Sample ID(s): MW-10
Sample Time: 950

Niagara Mohawk Power Corporation
Schenectady (Broadway) Service Center
Schenectady, New York
Groundwater Sampling Log

Well Data

Well ID MW- 12
Date 6/12/02
Sampler(s) DLK
Purge/Sample Method Bailer

PID Reading (ppm) 0.0
Depth to Water (ft BTOC) 7.07
Total Depth of Well (ft BTOC) 20.03
Height of Purge Column ~~1[illegible]6~~ 13.06

Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected	Volume Collected (ml)
PAHs	1 litter
~~BTEX~~ VOCs	40 ml
Total Cyanide	100 ml

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	14.1	7.58	3.15
2nd Well Volume	11.8 / 11.9	7.52 / 7.51	3.23/3.29
Final Well Volume	11.4	7.48	3.36

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):

Total volume purged (G): 2.15

Sample ID(s):
Sample Time:

Well Data

Well ID MW- 11
Date 6/12/02
Sampler(s) RJG
Purge/Sample Method Bailer

PID Reading (ppm) 0.0
Depth to Water (ft BTOC) 5.29
Total Depth of Well (ft BTOC) 20.54
Height of Purge Column ~~0~~ 15.25

Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected	Volume Collected (ml)
PAHs	1 litr
~~BTEX~~ VOCs	40 ml
Total Cyanide	100 ml

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	13.8	7.82	~~13.8~~ 1.13
1st 2nd Well Volume	12.4 / 11.0	7.60/7.52	1.04/ 0.892
Final Well Volume	11.0	7.45	0.866

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):

Total volume purged (G): 2.5

Sample ID(s): MW-11
Sample Time: 10:20

Niagara Mohawk Power Corporation
Schenectady (Broadway) Service Center
Schenectady, New York
Groundwater Sampling Log

Well Data

Well ID MW- 13-I
Date 6/11/02
Sampler(s) DLK RJG
Purge/Sample Method Bailer

PID Reading (ppm) 0.0
Depth to Water (ft BTOC) 8.17
Total Depth of Well (ft BTOC) 34.41
Height of Purge Column 26.24

Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected Volume Collected (ml)

PAHs 1 lite
~~BTEX~~ VOCs 40ml
Total Cyanide 100ml

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	15°C	7.28 /	1.73
1st/ 2nd Well Volume	14.0 / 13.5	7.38 / 7.31	1.75 / 1.75
Final Well Volume	13.7	7.22	1.75

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):

Total volume purged (G): 4.33

Sample ID(s): MW-13 I
Sample Time: 1145

Well Data

Well ID MW- 13 D
Date 6/11/02
Sampler(s) DLK/RJG
Purge/Sample Method Bailer

PID Reading (ppm) 0.0
Depth to Water (ft BTOC) 7.21
Total Depth of Well (ft BTOC) 56.46
Height of Purge Column 49.25

Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected Volume Collected (ml)

PAHs 1 L
BTEX 2x40ml VOAS
Total Cyanide 1

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	16.5°C	7.19	0.317
1st Well Vol 2nd Well Volume	14.7°C ~~15.0~~	7.88 7.05	0.250 0.247
Final Well Volume	14.9°C	[illegible] ~~7.90~~ 8.43	0.240

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):

Total volume purged (G): 8.13

Sample ID(s): MW- 13D
Sample Time: 8:13

Niagara Mohawk Power Corporation
Schenectady (Broadway) Service Center
Schenectady, New York
Groundwater Sampling Log

Well Data

Well ID MW- 13S
Date 6/11/02
Sampler(s) DLK /RJG
Purge/Sample Method Bailer

PID Reading (ppm) 0.0
Depth to Water (ft BTOC) 3.0
Total Depth of Well (ft BTOC) ~~[illegible]~~ 14.88
Height of Purge Column 11.88

Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected	Volume Collected (ml)
PAHs	1 liter
~~BTEX~~ VOCs	40 ml
Total Cyanide	100 ml

NOTE TOP OF WELL CASING BROKEN, NO CAP, NO COVER

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	19.5	7.69	0.288
15 2nd Well Volume	16.0/ 14.4	7.98 /7.38	0.675 / 1.32
Final Well Volume	14.0	7.43	1.42

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):
Total volume purged (G): 1.96
Sample ID(s): MW-13S
Sample Time:

Well Data

Well ID MW- 14I
Date 6/11/02
Sampler(s) DLK/RJG
Purge/Sample Method Bailer

PID Reading (ppm) 0.0
Depth to Water (ft BTOC) ~~35.68~~ 9.62
Total Depth of Well (ft BTOC) 35.68
Height of Purge Column 26.06

Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected	Volume Collected (ml)
PAHs	1 liter
~~BTEX~~ VOCs	40 ml
Total Cyanide	100 ml

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	16.5	9.08	0.347
15 2nd Well Volume	~~9.15~~ 15.3/14.9	9.15 /9.09	0.334/0.335
Final Well Volume	14.9	9.15	0.317

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):
Total volume purged (G): 4.3
Sample ID(s): MW-14I
Sample Time:

Niagara Mohawk Power Corporation
Schenectady (Broadway) Service Center
Schenectady, New York
Groundwater Sampling Log

Well Data

Well ID MW- 14D
Date 6/11/01
Sampler(s) DLK/RJG
Purge/Sample Method Bailer

PID Reading (ppm) 0.0
Depth to Water (ft BTOC) 10.03
Total Depth of Well (ft BTOC) 53.52
Height of Purge Column 43.49

Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected	Volume Collected (ml)
PAHs	1 liter
~~BTEX~~ VOCs	40 ml
Total Cyanide	100 ml

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	15.2	7.18	0.607
1st/2nd Well Volume	14.5 / 14.2	6.82 / 6.71	0.621 / 0.640
Final Well Volume	14.2	6.35	0.687

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):

Total volume purged (G): 7.2

Sample ID(s): MW-14D
Sample Time:

Well Data

Well ID MW- 14S
Date 61
Sampler(s) DLK/RJG
Purge/Sample Method Bailer

PID Reading (ppm) 0.0
Depth to Water (ft BTOC) 5.03
Total Depth of Well (ft BTOC) ~~[illegible]~~ 18.01
Height of Purge Column 12.98

Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected	Volume Collected (ml)
PAHs	1 lite
~~BTEX~~ VOCs	40 ml
Total Cyanide	100 ml

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	15.8	8.18	0.598
2nd Well Volume	~~[illegible]~~ 14.4	7.07 / 6.77	2.53 / 3.15
Final Well Volume	14.2	6.82	3.44

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):

Total volume purged (G): 2.1

Sample ID(s): MW-14S
Sample Time:

Niagara Mohawk Power Corporation
Schenectady (Broadway) Service Center
Schenectady, New York
Groundwater Sampling Log

Well Data

Well ID MW- 15I
Date 6/12/02
Sampler(s) RJG/DLK
Purge/Sample Method Bailer

PID Reading (ppm) 0.0
Depth to Water (ft BTOC) 10.25
Total Depth of Well (ft BTOC) 48.35
Height of Purge Column 38.1

Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected	Volume Collected (ml)
PAHs	1 liter
~~BTEX~~ VOCs	40ml
Total Cyanide	100ml

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	12.5	9.14	2.44
1st/ 2nd Well Volume	11.6 / 12.3	8.53/7.85	2.34 / 2.40
Final Well Volume	12.3	7.41	2.62

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):

Total volume purged (G): 6.3

Sample ID(s): MW-15I
Sample Time: 8:50

Well Data

Well ID MW- 15S
Date 6/12/02
Sampler(s) DLK/RJG
Purge/Sample Method Bailer

PID Reading (ppm) 0.0
Depth to Water (ft BTOC) 9.44
Total Depth of Well (ft BTOC) 21.80
Height of Purge Column 12.36

Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected	Volume Collected (ml)
PAHs	1 liter
~~BTEX~~ VOCs	40ml
Total Cyanide	100ml

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	12.9	8.20	1.22
1st/ 2nd Well Volume	12.8 / 12.6	7.83/7.81	0.669/1.55
Final Well Volume	12.6	7.81	1.50

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):

Total volume purged (G): 2.0

Sample ID(s): MW 15S
Sample Time: 900

Niagara Mohawk Power Corporation
Schenectady (Broadway) Service Center
Schenectady, New York
Groundwater Sampling Log

Well Data

Well ID MW-19 D
Date 6/11/02
Sampler(s) RJG / DLK
Purge/Sample Method Bailer

PID Reading (ppm) 15.4
Depth to Water (ft BTOC) 7.19
Total Depth of Well (ft BTOC) 70.33
Height of Purge Column 63.14

Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected	Volume Collected (ml)
PAHs	1 lite
~~BTEX~~ VOCs	40ml
Total Cyanide	100ml

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	10.8	8.23	0.623
1st/2nd Well Volume	14.0/ 14.0	8.10 / 9.09	0.577/ 0.598
Final Well Volume	13.0	8.68	0.587

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):

Total volume purged (G): 10.4

Sample ID(s): MW-19D

Sample Time:

Well Data

Well ID MW-19 I
Date 6/11/02
Sampler(s)
Purge/Sample Method Bailer

PID Reading (ppm) 21.6
Depth to Water (ft BTOC) 7.10
Total Depth of Well (ft BTOC) 47.69
Height of Purge Column 40.59

Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected	Volume Collected (ml)
PAHs	1 lite
~~BTEX~~ VOCs	40ml
Total Cyanide	100ml

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	14.9	11.63	1.81
1ST/ 2nd Well Volume	13.8 / 13.6	11.68 / 11.65	1.84 / 1.70
Final Well Volume	13.2	9.04	0.842

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):

Total volume purged (G): 6.7

Sample ID(s): MW 19 I

Sample Time:

Niagara Mohawk Power Corporation
Schenectady (Broadway) Service Center
Schenectady, New York
Groundwater Sampling Log

Well Data

Well ID MW-195
Date 6/11/02
Sampler(s)
Purge/Sample Method Bailer
PID Reading (ppm) 8.1
Depth to Water (ft BTOC) 3.55
Total Depth of Well (ft BTOC) 16.65
Height of Purge Column 13.10

Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected	Volume Collected (ml)
PAHs	1liter
~~BTEX~~ VOCs	40ml
Total Cyanide	100ml

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	17.6	7.48	0.696
2nd Well Volume	14.8 / 14.6	7.36 / 7.34	0.780 / 0.800
Final Well Volume	14.1	7.32	0.860

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):

Total volume purged (G): 2.2

Sample ID(s): MW-195

Sample Time:

Well Data

Well ID MW-
Date
Sampler(s)
Purge/Sample Method Bailer
PID Reading (ppm)
Depth to Water (ft BTOC)
Total Depth of Well (ft BTOC)
Height of Purge Column

Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected	Volume Collected (ml)
PAHs	
BTEX	
Total Cyanide	

Purge Data

Time	Water Quality Parameters		
	Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	~~17.6°C~~	~~7.48~~	~~0.696~~
2nd Well Volume	~~14.8°C~~/14.6	~~7.36~~/7.34	~~0.780~~/0.800
Final Well Volume	~~14.1°C~~	~~7.32~~	~~0.860~~

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):

Total volume purged (G):

Sample ID(s):

Sample Time:

Niagara Mohawk Power Corporation
Schenectady (Broadway) Service Center
Schenectady, New York
Groundwater Sampling Log

Well Data

Well ID MW- 20
Date 6/13/02
Sampler(s) DLK / RJG
Purge/Sample Method [✓ Bailer]

PID Reading (ppm) 0.0
Depth to Water (ft BTOC) 5.92
Total Depth of Well (ft BTOC) 22.14
Height of Purge Column 16.22

Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.):

Samples Collected	Volume Collected (ml)
PAHs	1 x 1L BR AMBER
~~BTEX~~ VOCs	2 x 40ml VOA
Total Cyanide	1 x 250 ml HDPE

Purge Data

Time	Water Quality Parameters Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	15.4	7.76	1.33
2nd Well Volume	13.2 / 13.0	7.64 / 7.59	1.34 / 1.38
Final Well Volume	12.8	7.51	1.41

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):
Total volume purged (G): 2.70
Sample ID(s):
Sample Time:

PETROLEUM ODOR.
SLIGHT SHEEN (NOT MEASURABLE)

Well Data

Well ID MW- 5
Date 6/13/02
Sampler(s) RJG
Purge/Sample Method Bailer

PID Reading (ppm) 0.0
Depth to Water (ft BTOC) 6.81
Total Depth of Well (ft BTOC) 17.55
Height of Purge Column

Other Observations (weather conditions, well deterioration/damage, evidence of tampering, odor, etc.): Depth to NAPL 12.47

Samples Collected	Volume Collected (ml)
PAHs	—
BTEX	—
Total Cyanide	—
Purge, Amt	500 ml

No sample collected for VOCs PAHs + Total Cyanide

NAPL observed in bailer was only 1-2 inches thick had difficulty filling sample jar. Took numerous bails NAPL was not 5' thick. May have been suspended at 12.47

Purge Data

Time	Water Quality Parameters Temperature (°C)	pH	Specific Conductance (mmhos/cm)
Initial Stablization Criteria	±0.5°C	+0.1	±3%
Initial	—	—	—
2nd Well Volume	—	—	—
Final Well Volume	—	—	—

Final (post sample) depth to groundwater prior to pump shutoff (ft BTOC):
Total volume purged (G): Bailed approximately 2 Gallons of NAPL/water mixture
Sample ID(s): MW-5
Sample Time: 12:00

November 2004 and January 2005 Groundwater Sampling

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Event

Site

GROUND-WATER SAMPLING LOG

Sampling Personnel: TMG, AES
Client / Job Number: Niagara Mohawk / 36657.009
Weather: 30°s, rain
Well ID: MW-1
Date: 11/5/04
Time In: 9:42
Time Out:

Well Information

Depth to Water: (feet) 3.41 (from MP)
Total Depth: (feet) 11.40 (from MP)
Length of Water Column: (feet) 7.99
Volume of Water in Well: (gal) 1.30
Three Well Volumes: (gal) 3.91

Well Type: [✓ Flushmount] Stick-Up
Well Material: Stainless Steel [✓ PVC]
Well Locked: [✓ Yes] No
Measuring Point Marked: [✓ Yes] No
Well Diameter: 1" 2" Other:

Conversion Factors				
	1" ID	2" ID	4" ID	6" ID
gal / ft. of water	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3875 ml = 0.1337 cubic feet

Purging Information

Purging Method: Bailer [✓ Peristaltic] Waterra Other:
Tubing/Bailer Material: Steel [✓ Polyethylene] Teflon Other:
Sampling Method: [✓ Bailer] Peristaltic Waterra Other:
Duration of Pumping: (min) 27
Average Pumping Rate: (ml/min) 200
Total Volume Removed: (gal) 1.59
Water-Quality Meter Type: Horiba U-22
Did well go dry: Yes [✓ No]

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	9:50	9:53	9:56	9:59	10:02	10:05	10:08	10:11	10:14
Volume Purged (gal)	—	1	2	3	3.5	4	4	4.5	5.0
Rate (mL/min)	250	200	200	200	200	200	200	200	200
Depth to Water (ft.)	3.41	3.45	3.46	3.46	3.49	3.50	3.50	3.50	3.50
pH	7.48	7.23	7.20	7.14	7.14	7.17	7.18	7.16	7.16
Temp. (C)	11.20	12.09	12.03	11.84	11.79	11.90	12.02	11.96	12.22
Conductivity (mS/cm)	1.65	1.83	1.75	1.80	1.70	1.63	1.56	1.56	1.53
Dissolved Oxygen (mg/L)	13.65	6.00	4.72	3.08	3.09	2.61	2.23	1.69	1.67
ORP (mV)	-74	-76	-73	-67	-64	-60	-54	-48	-43
Turbidity (NTU)	104	26.6	47.5	42.8	48.4	42.8	0.00	24.3	9.0
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
MNA Analysis	0	See COC for details.
NAPL Analysis	0	Queen's University, See COC for detail.

Sample ID:
Sample Time: 10:21
MS/MSD: Yes No
Duplicate: Yes No
Duplicate ID
Dup. Time:
Chain of Custody Signed By:

Problems / Observations

7 drops CO2 - high range
CO2 = 35 mg/L

Site *Event*

GROUND-WATER SAMPLING LOG

Sampling Personnel: AES/KMG
Well ID: MW-1
Client / Job Number: Niagara Mohawk / 36657.009
Date: 11/5/04
Weather:
Time In:
Time Out:

Well Information

Depth to Water:	(feet)	(from MP)
Total Depth:	(feet)	(from MP)
Length of Water Column:	(feet)	
Volume of Water in Well:	(gal)	
Three Well Volumes:	(gal)	

Well Type:	Flushmount		Stick-Up
Well Material:	Stainless Steel		PVC
Well Locked:	Yes		No
Measuring Point Marked:	Yes		No
Well Diameter:	1"	2"	Other:

see page 1

Purging Information

Purging Method:	Bailer	Peristaltic	Waterra	Other:
Tubing/Bailer Material:	Steel	Polyethylene	Teflon	Other:
Sampling Method:	Bailer	Peristaltic	Waterra	Other:

Duration of Pumping: (min)
Average Pumping Rate: (ml/min)
Water-Quality Meter Type:
Total Volume Removed: (gal)
Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3875 ml = 0.1337 cubic feet

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	10:17								
Volume Purged (gal)	6nL								
Rate (mL/min)	200								
Depth to Water (ft.)	3.58								
pH	7.18								
Temp. (C)	12.42								
Conductivity (mS/cm)	1.[illegible]49								
Dissolved Oxygen (mg/L)	1.62								
ORP (mV)	-38								
Turbidity (NTU)	42.5								
Notes:	clear, no sheen, mothball odor								

Sampling Information

Analyses	#	Laboratory
BTEX (8260)		CompuChem
PAHs (8270)		CompuChem
MNA Analysis		See COC for details.
NAPL Analysis		Queen's University, See COC for detail.

see page 1

Sample ID:
Sample Time:
MS/MSD: Yes No
Duplicate: Yes No
Duplicate ID
Dup. Time:
Chain of Custody Signed By:

Problems / Observations

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site *Event*

GROUND-WATER SAMPLING LOG

Sampling Personnel: KMG / JDL
Client / Job Number: Niagara Mohawk / 36657.009
Weather: 30°s, blue sky
Well ID: MW-3
Date: 11/11/04
Time In:
Time Out:

Well Information

LNAPL : 9.35'

Depth to Water: (feet) 9.36' (from MP)
Total Depth: (feet) 24.30' (from MP)
Length of Water Column: (feet) 14.94
Volume of Water in Well: (gal) 2.44
Three Well Volumes: (gal) 7.31 gal

Well Type:	Flushmount	[✓ Stick-Up]
Well Material:	Stainless Steel	[✓ PVC]
Well Locked:	[✓ Yes]	No
Measuring Point Marked:	[✓ Yes]	No
Well Diameter:	1" [✓ 2"]	Other:

Purging Information

Purging Method:	Bailer	[✓ Peristaltic]	Waterra	Other:
Tubing/Bailer Material:	Steel	[✓ Polyethylene]	Teflon	Other:
Sampling Method:	[✓ Bailer]	Peristaltic	Waterra	Other:

Duration of Pumping: (min) 60
Average Pumping Rate: (ml/min) 300
Water-Quality Meter Type: Horiba U-22
Total Volume Removed: (gal) 5.55
Did well go dry: Yes [✓ No]

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	0737	0742	0747	0752	0757	0802	0807	0812	0817
Volume Purged (gal)	—	1.5L	3L	4.5L	6L	7.5L	9L	10.5L	12L
Rate (mL/min)	300	300	300	300	300	300	300	300	300
Depth to Water (ft.)	9.36	10.00	10.08	10.14	10.20	10.25	10.28	10.28	10.28
pH	10.13	9.62	9.58	8.21	7.90	7.71	7.61	7.47	7.33
Temp. (C)	11.40	11.89	12.82	12.99	13.11	13.23	13.34	13.21	13.03
Conductivity (mS/cm)	1.20	1.20	1.22	1.24	1.25	1.25	1.25	1.25	1.25
Dissolved Oxygen (mg/L)	4.39	3.48	1.60	1.04	0.70	0.49	0.38	0.16	0.00
ORP (mV)	-126	-115	-103	-104	-106	-108	-109	-112	-115
Turbidity (NTU)	20.1	20.0	15.4	10.7	8.9	9.7	10.1	7.9	8.0
Notes:	clear, moderate sheen and odor								

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
MNA Analysis	✓	See COC for details.
NAPL Analysis	—	Queen's University, See COC for detail.

Sample ID: MW-3 Sample Time: 0950
MS/MSD: [✓ Yes] No
Duplicate: [✓ Yes] No
Duplicate ID: Dup 2 Dup. Time: 0950
Chain of Custody Signed By: KMG

Problems / Observations

Note: LNAPL encountered at this location similar in appearance to LNAPL at MW-20 and MW-21 → brown when streaked on probe, black in blebs, thicker than water, strong odor (not MGP-type mothball odor)

CO2 (1100) = 275 mg/L

Site *Event*

GROUND-WATER SAMPLING LOG

Sampling Personnel: KMG/JDL
Well ID: MW-3
Client / Job Number: Niagara Mohawk / 36657.009
Date: 11/11/04
Weather: 30°s, blue sky
Time In:
Time Out:

Well Information

Depth to Water: (feet) (from MP)
Total Depth: (feet) (from MP)
Length of Water Column: (feet)
Volume of Water in Well: (gal)
Three Well Volumes: (gal)

Well Type: Flushmount Stick-Up
Well Material: Stainless Steel PVC
Well Locked: Yes No
Measuring Point Marked: Yes No
Well Diameter: 1" 2" Other:

See page 1

Purging Information

Purging Method: Bailer Peristaltic Waterra Other:
Tubing/Bailer Material: Steel Polyethylene Teflon Other:
Sampling Method: Bailer Peristaltic Waterra Other:
Duration of Pumping: (min)
Average Pumping Rate: (ml/min) Water-Quality Meter Type:
Total Volume Removed: (gal) Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	0822	0827	0832	0837	0842	0847			
Volume Purged (gal)	13.5L	15L	16.5L	18L	19.5L	21L			
Rate (mL/min)	300	300	300	300	300	300			
Depth to Water (ft.)	10.28	10.28	10.28	10.28	10.28	10-28			
pH	7.27	7.14	7.10	7.02	6.99	6.96			
Temp. (C)	13.61	12.40	13.10	13.16	13.61	13.69			
Conductivity (mS/cm)	1.25	1.25	1.26	1.25	1.26	1.24			
Dissolved Oxygen (mg/L)	0.00	0.00	0.00	0.00	0.00	0.00			
ORP (mV)	-117	-119	-120	-123	-126	-128			
Turbidity (NTU)	7.3	10.8	7.3	6.4	6.5	3.5			
Notes:	-	Heavy sheen				heavy sheen, moderate odor			

Sampling Information

Analyses	#	Laboratory
BTEX (8260)		CompuChem
PAHs (8270)		CompuChem
MNA Analysis		See COC for details.
NAPL Analysis		Queen's University, See COC for detail.

See page 1

Sample ID: Sample Time:
MS/MSD: Yes No
Duplicate: Yes No
Duplicate ID Dup. Time:
Chain of Custody Signed By:

Problems / Observations

CO2 (1100): 2.75 mg/L

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: KMG/JDC
Well ID: MW-6I
Client / Job Number: Niagara Mohawk / 36657.009
Date: 11/10/04
Weather: teens, clear, cld.
Time In: 710
Time Out:

Well Information

Depth to Water:	(feet)	9.31	(from MP)
Total Depth:	(feet)	49.35	(from MP)
Length of Water Column:	(feet)	40.04	
Volume of Water in Well:	(gal)	6.53 gal	
Three Well Volumes:	(gal)	19.58 gal	

Well Type: [✓ Flushmount] Stick-Up
Well Material: Stainless Steel [✓ PVC]
Well Locked: [✓ Yes] No
Measuring Point Marked: [✓ Yes] No
Well Diameter: 1" [✓ 2"] Other:

Purging Information

Pump Start: 715 Pump Stop: 810

Purging Method: Bailer [✓ Peristaltic] Waterra Other:
Tubing/Bailer Material: Steel [✓ Polyethylene] Teflon Other:
Sampling Method: [✓ Bailer] BTEX [✓ Peristaltic] PAHs Waterra Other:
Duration of Pumping: (min) ~~55 mins~~ 30 min
Average Pumping Rate: (ml/min) 300
Water-Quality Meter Type: Horiba U-22
Total Volume Removed: (gal) 1.50 gal
Did well go dry: Yes [✓ No]

Conversion Factors

gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3875 ml = 0.1337 cubic feet

Unit Stability

pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	720	725	730	735	740	745	750		
Volume Purged (gal)	—	1.5	3.0	4.5	6.0	7.5	9.0		
Rate (mL/min)	300	300	300	300	300	300	300		
Depth to Water (ft.)	9.31	9.31	9.31	9.31	9.31	9.31	9.31		
pH	5.57	6.06	6.28	6.41	6.50	6.54	6.59		
Temp. (C)	11.77	13.97	14.15	14.10	14.00	14.01	13.57		
Conductivity (mS/cm)	0.725	0.801	0.851	0.860	0.863	0.863	0.863		
Dissolved Oxygen (mg/L)	7.58	2.07	1.49	1.39	1.52	1.57	1.63		
ORP (mV)	199	174	145	119	102	96	93		
Turbidity (NTU)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
~~MNA Analysis~~		~~See COC for details.~~
~~NAPL Analysis~~		~~Queen's University, See~~ COC for detail.

Sample ID: MW-6I Sample Time: 755
MS/MSD: Yes [✓ No]
Duplicate: Yes [✓ No]
Duplicate ID — Dup. Time: —
Chain of Custody Signed By: KMG

Problems / Observations

Initial purge - Clear, colorless, odorless

CO_2 = 25 mg/L

Site *Event*

GROUND-WATER SAMPLING LOG

Sampling Personnel: JDL/KMG
Client / Job Number: Niagara Mohawk / 36657.009
Weather: 30s, Sunny
Well ID: MW-6S
Date: 11/9/04
Time In: 1520 **Time Out:**

Well Information

Depth to Water: (feet) ~~3.99~~ 3.78 (from MP)
Total Depth: (feet) 12.90 (from MP)
Length of Water Column: (feet) 9.12
Volume of Water in Well: (gal) 1.49
Three Well Volumes: (gal) 4.46

Well Type: [✓ Flushmount] Stick-Up
Well Material: Stainless Steel [✓ PVC]
Well Locked: [✓ Yes] No
Measuring Point Marked: [✓ Yes] No
Well Diameter: 1" [✓ 2"] Other:

Purging Information

Pump Start: 1528

Purging Method: Bailer [✓ Peristaltic] Waterra Other:
Tubing/Bailer Material: Steel [✓ Polyethylene] Teflon Other:
Sampling Method: [✓ Bailer] BTEX [✓ Peristaltic] PAHs Waterra Other:
Duration of Pumping: (min) 70
Average Pumping Rate: (ml/min) 300 Water-Quality Meter Type: Horiba U-22
Total Volume Removed: (gal) 5.68 gal Did well go dry: Yes [✓ No]

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	1533	1538	1543	1548	1553	1558	1603	1608	1613
Volume Purged ~~(gal)~~ L	—	2.0	4.0	5.5	6.5	8.0	9.5	11	12.5
Rate (mL/min)	300	300	300	300	300	300	300	300	300
Depth to Water (ft.)	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
pH	5.40	5.05	5.03	5.15	5.19	5.11	5.03	4.97	4.96
Temp. (C)	14.41	14.13	14.59	14.42	14.25	14.28	14.38	14.59	14.55
Conductivity (mS/cm)	5.40	5.78	5.97	5.90	5.74	5.44	5.46	5.57	5.59
Dissolved Oxygen (mg/L)	5.13	1.93	0.63	0.13	0.06	1.24	0.72	0.45	0.40
ORP (mV)	83	110	100	81	75	82	94	102	105
Turbidity (NTU)	>999	>999	>999	>999	>999	538	485	367	355
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
MNA Analysis	✓	See COC for details.
NAPL Analysis	—	Queen's University, See COC for detail.

Sample ID: MW-6S Sample Time: 1650
MS/MSD: Yes [✓ No]
Duplicate: Yes [✓ No]
Duplicate ID — Dup. Time: —
Chain of Custody Signed By: KMG

Problems / Observations

Initial purge - reddish, to white color, looks similar to milk. white cream-like substance came up in first few seconds of pumping. No odor.

CO2 = 70 mg/L

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel:

Well ID: MW-6S

Client / Job Number: Niagara Mohawk / 36657.009

Date: 11/9/04

Weather:

Time In: **Time Out:**

Well Information

See Page 1

Depth to Water:	(feet)	(from MP)	Well Type:	Flushmount	Stick-Up
Total Depth:	(feet)	(from MP)	Well Material:	Stainless Steel	PVC
Length of Water Column:	(feet)		Well Locked:	Yes	No
Volume of Water in Well:	(gal)		Measuring Point Marked:	Yes	No
Three Well Volumes:	(gal)		Well Diameter:	1" 2"	Other:

Purging Information

Purging Method:	Bailer	Peristaltic	Waterra	Other:
Tubing/Bailer Material:	Steel	Polyethylene	Teflon	Other:
Sampling Method:	Bailer	Peristaltic	Waterra	Other:
Duration of Pumping:	(min)			
Average Pumping Rate:	(ml/min)	Water-Quality Meter Type:		
Total Volume Removed:	(gal)	Did well go dry:	Yes	No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	1618	1623	1628	1633	1639	1643			
Volume Purged (~~gal~~) L	14	15.5	17	18.5	20	21.5			
Rate (mL/min)	300	300	300	300	300	300			
Depth to Water (ft.)	4.50	4.50	4.50	4.50	4.50	4.50			
pH	4.96	4.95	4.97	4.99	5.00	5.01			
Temp. (C)	14.55	14.57	14.16	14.57	14.52	14.78			
Conductivity (mS/cm)	5.49	5.54	5.91	5.91	5.91	5.91			
Dissolved Oxygen (mg/L)	0.41	0.30	0.47	0.05	0.00	0.00			
ORP (mV)	106	108	106	103	101	100			
Turbidity (NTU)	336	267	203	164	163	164			
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX (8260)		CompuChem
PAHs (8270)		CompuChem
MNA Analysis		See COC for details.
NAPL Analysis		Queen's University, See COC for detail.

Sample ID: Sample Time:

MS/MSD: Yes No

Duplicate: Yes No

Duplicate ID Dup. Time:

Chain of Custody Signed By:

Problems / Observations

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: AES, TMG

Client / Job Number: Niagara Mohawk / 36657.009

Weather: 42°F, sunny, partly cloudy

Well ID: MW-7

Date: 11/9/04

Time In: 11:29

Time Out:

Well Information

Depth to Water:	(feet)	8.00	(from MP)
Total Depth:	(feet)	21.08	(from MP)
Length of Water Column:	(feet)	13.08	
Volume of Water in Well:	(gal)		
Three Well Volumes:	(gal)		

Well Type:	Flushmount	[✓ Stick-Up]	
Well Material:	Stainless Steel	[✓ PVC]	
Well Locked:	[✓ Yes]	No	
Measuring Point Marked:	[✓ Yes]	No	
Well Diameter:	1"	[✓ 2"]	Other:

Purging Information

Purging Method:	Bailer	[✓ Peristaltic]	Waterra	Other:
Tubing/Bailer Material:	Steel	[✓ Polyethylene]	Teflon	Other:
Sampling Method:	[✓ Bailer]	Peristaltic	Waterra	Other:

Duration of Pumping: (min) 45

Average Pumping Rate: (ml/min) 200

Water-Quality Meter Type: Horiba U-22

Total Volume Removed: (gal) 1.85 gal

Did well go dry: Yes [✓ No]

Conversion Factors

gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3875 ml = 0.1337 cubic feet

Unit Stability

pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	1136	1141	1146	1151	1156	1201	1206	1211	
Volume Purged (gal)	—	1L	2L	3L	4L	5L	6L	7L	
Rate (mL/min)	200	200	200	200	200	200	200	200	
Depth to Water (ft.)	8.00	8.55	8.60	8.62	8.67	8.67	8.67	8.67	
pH	7.87	7.16	6.91	6.89	6.89	6.88	6.86	6.81	
Temp. (C)	10.49	10.26	10.90	11.06	11.30	11.28	11.29	11.26	
Conductivity (mS/cm)	0.99	1.00	1.03	1.03	1.02	1.00	1.00	1.01	
Dissolved Oxygen (mg/L)	13.17	4.42	2.04	1.34	0.84	0.00	0.00	0.00	
ORP (mV)	-119	-103	-86	-85	-85	-85	-83	-80	
Turbidity (NTU)	>999	>999	769.0	438.0	202.0	167.0	51.0	34.1	
Notes:	orange, turbid, no odor or sheen							clear, no odor or sheen	

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
MNA Analysis	—	See COC for details.
NAPL Analysis	—	Queen's University, See COC for detail.

Sample ID: MW-7 Sample Time: 1215

MS/MSD: Yes [✓ No]

Duplicate: Yes [✓ No]

Duplicate ID — Dup. Time: —

Chain of Custody Signed By: KMG

Problems / Observations

CO2 (1211) : 65 mg/L

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site *Event*

GROUND-WATER SAMPLING LOG

Sampling Personnel: KMG/JDL
Well ID: MW-8D
Client / Job Number: Niagara Mohawk / 36657.009
Date: 11/9/04
Weather: 20°s, Sunny
Time In:
Time Out:

Well Information

Depth to Water:	(feet)	12.09	(from MP)
Total Depth:	(feet)	50.04	(from MP)
Length of Water Column:	(feet)	37.95	
Volume of Water in Well:	(gal)	6.19	
Three Well Volumes:	(gal)	18.56 gal	

Well Type:	Flushmount	[✓ Stick-Up]	
Well Material:	Stainless Steel	[✓ PVC]	
Well Locked:	[✓ Yes]	No	
Measuring Point Marked:	[✓ Yes]	No	
Well Diameter:	1"	[✓ 2"]	Other:

Purging Information

Pump Start: 855

Purging Method:	Bailer	[✓ Peristaltic]	Waterra	Other:
Tubing/Bailer Material:	Steel	[✓ Polyethylene]	Teflon	Other:
Sampling Method:	[✓ Bailer]	[✓ Peristaltic]	Waterra	Other:

Duration of Pumping: (min) 55
Average Pumping Rate: (ml/min) 200
Water-Quality Meter Type: Horiba U-22
Total Volume Removed: (gal) 2.91 gal
Did well go dry: Yes [✓ No]

Conversion Factors

gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3875 ml = 0.1337 cubic feet

Unit Stability

pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	905	915	920	925	930	935	940	945	950
Volume Purged (gal)	—	20	3.0	4.0	5.0	6.0	7.0	8.0	9.0
Rate (mL/min)	200	200	200	200	200	200	200	200	200
Depth to Water (ft.)	12.10	12.10	12.10	12.10	12.10	12.10	12.10	12.10	12.10
pH	6.45	6.44	6.45	6.51	6.52	6.51	6.53	6.56	6.58
Temp. (C)	8.82	9.59	10.40	10.74	10.91	10.91	11.00	11.13	10.92
Conductivity (mS/cm)	1.19	1.23	1.24	1.23	1.22	1.22	1.22	1.35	1.25
Dissolved Oxygen (mg/L)	6.34	3.36	2.35	1.32	1.18	0.80	0.60	0.30	0.14
ORP (mV)	-11	-28	-39	-46	-48	-54	-61	-66	-70
Turbidity (NTU)	43.9	35.7	32.6	11.6	10.3	4.6	0.0	3.4	1.5
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
MNA Analysis	✓	See COC for details.
NAPL Analysis	—	Queen's University, See COC for detail.

Sample ID: MW-8D Sample Time: 1005
MS/MSD: Yes [✓ No]
Duplicate: Yes [✓ No]
Duplicate ID — Dup. Time: —
Chain of Custody Signed By: KMG

Problems / Observations

CO_2= 70 mg/L

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site *Event*

GROUND-WATER SAMPLING LOG

Sampling Personnel: JDL/kmG
Well ID: MW-8D
Client / Job Number: Niagara Mohawk / 36657.009
Date: 11/9/04
Weather:
Time In: **Time Out:**

Well Information

Depth to Water: (feet) (from MP)
Total Depth: (feet) (from MP)
Length of Water Column: (feet)
Volume of Water in Well: (gal)
Three Well Volumes: (gal)

Well Type: Flushmount Stick-Up
Well Material: Stainless Steel PVC
Well Locked: Yes No
Measuring Point Marked: Yes No
Well Diameter: 1" 2" Other:

see Pg 1

Purging Information

Purging Method: Bailer Peristaltic Waterra Other:
Tubing/Bailer Material: Steel Polyethylene Teflon Other:
Sampling Method: Bailer Peristaltic Waterra Other:
Duration of Pumping: (min)
Average Pumping Rate: (ml/min) Water-Quality Meter Type:
Total Volume Removed: (gal) Did well go dry: Yes No

Conversion Factors

gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3875 ml = 0.1337 cubic feet

Unit Stability

pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	955	1000							
Volume Purged (gal)	10	11							
Rate (mL/min)	200	200							
Depth to Water (ft.)	12.10	12.10							
pH	6.60	6.61							
Temp. (C)	10.98	10.97							
Conductivity (mS/cm)	1.23	1.20							
Dissolved Oxygen (mg/L)	0.00	0.00							
ORP (mV)	-74	-76							
Turbidity (NTU)	1.0	0.4							
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX (8260)		CompuChem
PAHs (8270)		CompuChem
MNA Analysis		See COC for details.
NAPL Analysis	1	Queen's University, See COC for detail.

see page 1

Sample ID: Sample Time:
MS/MSD: Yes No
Duplicate: Yes No
Duplicate ID Dup. Time:
Chain of Custody Signed By:

Problems / Observations

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: JDL/KMG

Client / Job Number: Niagara Mohawk / 36657.009

Weather: 30°, sunny

Well ID: MW-8I

Date: 11/9/04

Time In:

Time Out:

Well Information

Depth to Water:	(feet)	12.26	(from MP)
Total Depth:	(feet)	39.22	(from MP)
Length of Water Column:	(feet)	26.96	
Volume of Water in Well:	(gal)	4.39 gal	
Three Well Volumes:	(gal)	13-12 gal	

Well Type:	Flushmount	[✓ Stick-Up]	
Well Material:	Stainless Steel	[✓ PVC]	
Well Locked:	[✓ Yes]	No	
Measuring Point Marked:	[✓ Yes]	No	
Well Diameter:	1"	[✓ 2"]	Other:

Purging Information

Pump start: 739 Pump stop: 850

Purging Method:	Bailer	[✓ Peristaltic]	Waterra	Other:
Tubing/Bailer Material:	Steel	[✓ Polyethylene]	Teflon	Other:
Sampling Method:	[✓ Bailer] BTEX	[✓ Peristaltic] PAHs	~~Waterra~~	Other:

Duration of Pumping: (min) 40

Average Pumping Rate: (ml/min) 400

Water-Quality Meter Type: Horiba U-22

Total Volume Removed: (gal) 4.23 gal

Did well go dry: Yes [✓ No]

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1 745	2 750	3 755	4 800	5 805	6 810	7 815	8 820	9 825
Volume Purged (gal)	—	3.0	5.0	7.0	9.0	10	13	15	16
Rate (mL/min)	400	400	400	400	400	400	400	400	400
Depth to Water (ft.)	12.28	12.30	12.30	12.30	12.30	12.30	12.30	12.30	12.30
pH	6.16	5.98	6.21	6.45	6.61	6.74	6.78	6.80	6.79
Temp. (C)	9.19	9.50	9.48	9.27	9.43	9.20	8.80	8.64	8.67
Conductivity (mS/cm)	0.96	0.96	0.97	1.00	1.00	1.01	1.02	1.02	1.02
Dissolved Oxygen (mg/L)	18.86	7.53	2.96	1.24	0.64	0.00	0.00	0.00	0.0
ORP (mV)	155	111	72	39	23	10	4	2	0
Turbidity (NTU)	36.8	11.5	1.0	5.8	1.4	3.5	5.4	6.5	5.7
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX (8260)		CompuChem
PAHs (8270)		CompuChem
~~MNA Analysis~~		~~See COC for details.~~
~~NAPL Analysis~~		Queen's ~~University. See~~ COC for detail.

Sample ID: MW-8I Sample Time: 830

MS/MSD: Yes [✓ No]

Duplicate: Yes [✓ No]

Duplicate ID — Dup. Time: —

Chain of Custody Signed By: KMG

Problems / Observations

Co_2 = 80mg/L

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: KME
Client / Job Number: Niagara Mohawk / 36657.009
Weather: 20's, blue sky
Well ID: MW-85
Date: 11/9/04
Time In: 0700
Time Out:

Well Information

Depth to Water:	(feet)	11.34	(from MP)
Total Depth:	(feet)	21.09	(from MP)
Length of Water Column:	(feet)	9.75	
Volume of Water in Well:	(gal)	1.59 gal	
Three Well Volumes:	(gal)	~~3.01 gal~~ 4.77 gal	

Well Type:	Flushmount	[✓ Stick-Up]	
Well Material:	Stainless Steel	[✓ PVC]	
Well Locked:	[✓ Yes]	No	
Measuring Point Marked:	[✓ Yes]	No	
Well Diameter:	1"	[✓ 2"]	Other:

Purging Information

Purging Method:	Bailer	[✓ Peristaltic]	Waterra	Other:
Tubing/Bailer Material:	Steel	[✓ Polyethylene]	Teflon	Other:
Sampling Method:	[✓ Bailer]	[✓ Peristaltic]	Waterra	Other:

Duration of Pumping: (min) 40
Average Pumping Rate: (ml/min) 200
Water-Quality Meter Type: Horiba U-22
Total Volume Removed: (gal) 2.11 gal
Did well go dry: Yes [✓ No]

Conversion Factors

gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3875 ml = 0.1337 cubic feet

Unit Stability

pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	0742	0747	0752	0757	0802	0807	0812	0817	0822
Volume Purged (gal)	—	1L	2L	3L	4L	5L	6L	7L	8L
Rate (mL/min)	200	200	200	200	200	200	200	200	200
Depth to Water (ft.)	11.34	11.46	11.46	11.46	11.46	11.46	11.46	11.46	11.46
pH	6.25	6.49	6.12	6.08	6.08	6.08	6.08	6.09	6.09
Temp. (C)	9.82	9.75	8.39	8.15	8.31	8.30	8.74	8.67	8.86
Conductivity (mS/cm)	0.856	0.819	0.849	0.848	0.849	0.846	0.846	0.845	0.845
Dissolved Oxygen (mg/L)	6.47	4.91	2.70	0.76	0.35	0.24	0.00	0.00	0.00
ORP (mV)	264	248	239	223	219	213	201	199	197
Turbidity (NTU)	41.6	5.0	1.9	0.0	1.1	1.0	0.0	0.0	0.0
Notes:	slightly turbid, no odor/sheen	clear							clear, no odor/sheen

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
MNA Analysis	—	See COC for details.
NAPL Analysis	—	Queen's University, See COC for detail.

Sample ID: MW-85 Sample Time: 0824
MS/MSD: Yes [✓ No]
Duplicate: Yes [✓ No]
Duplicate ID — Dup. Time: —
Chain of Custody Signed By:

Problems / Observations

CO2 (DG2-1) - 55 mg/L

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: TG, AS
Well ID: MW-11
Client / Job Number: Niagara Mohawk / 36657.009
Date: 11/1/04
Weather: Sunny, ~50°F
Time In: 1430 **Time Out:**

Well Information

Depth to Water:	(feet)	5.48	(from MP)
Total Depth:	(feet)	24.05	(from MP)
Length of Water Column:	(feet)	18.57	
Volume of Water in Well:	(gal)	3.03	
Three Well Volumes:	(gal)	9.08 gal	

Well Type:	Flushmount	[✓ Stick-Up]
Well Material:	Stainless Steel	[✓ PVC]
Well Locked:	[✓ Yes]	No
Measuring Point Marked:	[✓ Yes]	No
Well Diameter:	1" [✓ 2"]	Other:

Purging Information

Purging Method:	Bailer	[✓ Peristaltic]	Waterra	Other:
Tubing/Bailer Material:	Steel	[✓ Polyethylene]	Teflon	Other:
Sampling Method:	[✓ Bailer]	Peristaltic	Waterra	Other:

Duration of Pumping: (min) 30
Average Pumping Rate: (ml/min) 360 Water-Quality Meter Type: Horiba U-22
Total Volume Removed: (gal) 3.17 gal Did well go dry: Yes [✓ No]

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	1529	1534	1539	1544	1549	1554	1559		
Volume Purged (gal)	—	4L	4.5L	6L	9L	10L	12L		
Rate (mL/min)	600mL/min	360mL/min	360mL/min	360 mL/min	360 mL/min	360 mL/min	360 mL/min		
Depth to Water (ft.)	~~5.60~~	5.60	5.60	5.60	5.60	5.60	5.60		
pH	5.87	6.88	7.00	7.04	7.08	7.09	7.09		
Temp. (C)	11.88	12.18	11.94	12.00	11.93	11.88	11.78		
Conductivity (mS/cm)	1.19	1.16	1.14	1.17	1.17	1.17	1.17		
Dissolved Oxygen (mg/L)	7.54	4.00	3.89	0.66	0.00	0.00	0.00		
ORP (mV)	-118	-155	-161	-172	-174	-173	-172		
Turbidity (NTU)	196.0	124	62.6	24.0	18.3	17.7	20.0		
Notes:	no odor no sheen slightly turbid								

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
MNA Analysis	—	See COC for details.
NAPL Analysis	—	Queen's University, See COC for detail.

Sample ID: MW-11 Sample Time: 16:05
MS/MSD: Yes [✓ No]
Duplicate: Yes [✓ No]
Duplicate ID — Dup. Time: —
Chain of Custody Signed By: KMK

Problems / Observations

13 CO_2 drops @ high range. = 65 mg/L
Final depth to H_2O = 5.60

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: AES/KMG
Client / Job Number: Niagara Mohawk / 36657.009
Weather: 40°s, v. light drizzle
Well ID: MW-12
Date: 11/2/04
Time In:
Time Out:

Well Information

Depth to Water: (feet) 7.75' (from MP)
Total Depth: (feet) 27.05' (from MP)
Length of Water Column: (feet) 19.3'
Volume of Water in Well: (gal) 3.15
Three Well Volumes: (gal) 9.44

Well Type: Flushmount [✓ Stick-Up]
Well Material: Stainless Steel [✓ PVC]
Well Locked: [✓ Yes] No
Measuring Point Marked: [✓ Yes] No
Well Diameter: 1" [✓ 2"] Other:

Purging Information

Purging Method: Bailer [✓ Peristaltic] Waterra Other:
Tubing/Bailer Material: Steel [✓ Polyethylene] Teflon Other:
Sampling Method: [✓ Bailer] Peristaltic Waterra Other:
Duration of Pumping: (min) 75
Average Pumping Rate: (ml/min) 200
Water-Quality Meter Type: Horiba U-22
Total Volume Removed: (gal) 15 L (~~4~~ 3.96 gal)
Did well go dry: Yes [✓ No]

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9	
Parameter:	1036	1041	1046	1051	1056	1101	1106	1111	1116	112
Volume Purged (gal)	—	2 L	2 L	3 L	4 L	5 L	6 L	7 L	8 L	9 L
Rate (mL/min)	201	200	200	200	200	200	200	200	200	200
Depth to Water (ft.)	7.75	8.00	8.13	8.13	8.13	8.13	8.13	8.13	8.13	8.1
pH	8.77	8.37	7.99	7.67	7.49	7.45	7.41	7.39	7.37	7.3
Temp. (C)	12.20	12.21	12.24	12.34	12.48	12.60	12.75	12.74	12.72	12.7
Conductivity (mS/cm)	2.79	0.003	2.85	2.92	2.92	2.93	2.93	2.92	2.92	2.9
Dissolved Oxygen (mg/L)	12.07	8.82	9.83	2.03	0.97	0.44	0.12	0.00	0.00	0.0
ORP (mV)	-186	-110	-159	-161	-162	-164	-166	-169	-172	-175
Turbidity (NTU)	93.4	45.0	31.3	20.7	18.8	20.0	31.2	32.4	33.0	30.1
Notes:	clear, slight light oil odor, no sheen				odor still present, but weaker					clea slig odor no shee

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
MNA Analysis	—	See COC for details.
NAPL Analysis	—	Queen's University, See COC for detail.

Sample ID: MW-12 Sample Time: 1125
MS/MSD: [✓ Yes] No
Duplicate: ~~Yes~~ [✓ No]
Duplicate ID ~~Dup-1~~ Dup. Time: ~~1135~~
Chain of Custody Signed By: KMG

Problems / Observations

CO_2 = 40mg/L
(8 drops at high range → 1 drop = 5mg/L)

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: AES

Client / Job Number: Niagara Mohawk / 36657.009

Weather: cloudy ≈ 52°F

Well ID: ~~MW-13P~~ MW-131

Date: 11/2/04

Time In: 14:12 **Time Out:**

Well Information

Depth to Water: (feet) 7.1 (from MP)
Total Depth: (feet) 66 (from MP)
Length of Water Column: (feet) 58.9
Volume of Water in Well: (gal) 9.6007
Three Well Volumes: (gal) 28.8021

Well Type: [✓ Flushmount] Stick-Up
Well Material: Stainless Steel [✓ PVC]
Well Locked: [✓ Yes] No
Measuring Point Marked: [✓ Yes] No
Well Diameter: 1" [✓ 2"] Other:

Purging Information

Purging Method: Bailer [✓ Peristaltic] Waterra Other:
Tubing/Bailer Material: Steel [✓ Polyethylene] Teflon Other:
Sampling Method: [✓ Bailer] Peristaltic Waterra Other:
Duration of Pumping: (min) 105
Average Pumping Rate: (ml/min) 225 Water-Quality Meter Type: Horiba U-22
Total Volume Removed: (gal) 8.72 Did well go dry: Yes [✓ No]

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	14:38	14:43	14:48	14:53	14:58	15:03	15:08	15:13	15:18
Volume Purged (gal)	—	6L	7L	8L	10L	11L	13L	14.5L	16L
Rate (mL/min)	500ml/min	200ml/min	250	250	250	250	250	250	250
Depth to Water (ft.)	7.1	9.2	9.32	9.5	9.65	9.71	9.85	9.95	9.97
pH	5.70	6.98	7.83	7.60	7.78	7.89	7.89	7.87	7.86
Temp. (C)	15.87	14.66	14.72	14.69	14.57	14.43	14.38	14.36	14.21
Conductivity (mS/cm)	.347	.298	.301	.297	.300	0.299	.300	.299	.298
Dissolved Oxygen (mg/L)	6.45	3.88	2.67	1.20	.84	0.42	0.26	0.16	2.91
ORP (mV)	216	186	179	160	147	136	129	128	132
Turbidity (NTU)	15.4	15.8	15.0	22.1	22.1	33.1	35.4	48.2	48.8
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
MNA Analysis	—	See COC for details.
NAPL Analysis	—	Queen's University. See COC for detail.

Sample ID: MW-13P Sample Time: 1635
MS/MSD: Yes [✓ No]
Duplicate: Yes [✓ No]
Duplicate ID — Dup. Time: —
Chain of Custody Signed By: KMC

Problems / Observations

28.8 gallons x 3.785L/gals = 109L

* Sample mislabeled MW-13P, should read MW-131 *

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: KMG
Client / Job Number: Niagara Mohawk / 36657.009
Weather: 40°s, light rain
Well ID: MW-13 P
Date: 11/2/04
Time In:
Time Out:

Well Information

Depth to Water:	(feet)	8.39	(from MP)
Total Depth:	(feet)	35.82	(from MP)
Length of Water Column:	(feet)	27.43	
Volume of Water in Well:	(gal)	4.47	
Three Well Volumes:	(gal)	13.41 gal	

Well Type: [✓ Flushmount] Stick-Up
Well Material: Stainless Steel [✓ PVC]
Well Locked: [✓ Yes] No
Measuring Point Marked: [✓ Yes] No
Well Diameter: 1" [✓ 2"] Other:

Purging Information

Purging Method: Bailer [✓ Peristaltic] Waterra Other:
Tubing/Bailer Material: Steel [✓ Polyethylene] Teflon Other:
Sampling Method: [✓ Bailer] Peristaltic Waterra Other:
Duration of Pumping: (min) 65
Average Pumping Rate: (ml/min) 200
Water-Quality Meter Type: Horiba U-22
Total Volume Removed: (gal) 3.17 gal
Did well go dry: Yes [✓ No]

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3875 ml = 0.1337 cubic feet

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	1430	1438	1445	1455 ~~1450~~	1500	1505	1510	1515	1520
Volume Purged (gal)	—	2L	3L	4L	5L	6L	7L	8L	9L
Rate (mL/min)	—	200	200	200	200	200	200	200	200
Depth to Water (ft.)	8.39	8.46	8.46	8.46	8.46	8.46	8.46	8.46	8.46
pH	8.15	7.63	7.53	7.38	7.37	7.35	7.35	7.34	7.34
Temp. (C)	14.82	14.20	14.24	14.34	14.27	14.21	14.21	14.17	14.16
Conductivity (mS/cm)	1.54	1.74	1.81	1.84	1.84	1.85	1.86	1.87	1.87
Dissolved Oxygen (mg/L)	13.86	5.67	10.32	2.25	1.61	0.91	0.52	0.32	0.05
ORP (mV)	-120	-112	-112	-113	-114	-116	-117	-119	-120
Turbidity (NTU)	86.6	14.6	10.6	16.5	18.3	22.0	23.0	22.8	23.7
Notes:	clear, mothball odor								

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
MNA Analysis	–	See COC for details.
NAPL Analysis	—	Queen's University, See COC for detail.

Sample ID: MW-131 Sample Time: 1540
MS/MSD: Yes [✓ No]
Duplicate: [✓ Yes] No
Duplicate ID DUP 1 Dup. Time: 1540
Chain of Custody Signed By: KMG

Problems / Observations

→ pump off 1445-1450.

CO_2 = 60mg/L.

* samples mislabeled MW-131, should read MW-13PA

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: ~~MW-13+~~ KMG

Client / Job Number: Niagara Mohawk / 36657.009

Weather: 40°s, cool, cloudy

Well ID: MW-13P

Date: 11/2/04

Time In:

Time Out:

Well Information

Depth to Water: (feet) (from MP)

Total Depth: (feet) (from MP)

Length of Water Column: (feet)

Volume of Water in Well: (gal)

Three Well Volumes: (gal)

Well Type: Flushmount Stick-Up

Well Material: Stainless Steel PVC

Well Locked: Yes No

Measuring Point Marked: Yes No

Well Diameter: 1" 2" Other:

Purging Information

see page 1

Purging Method: Bailer Peristaltic Waterra Other:

Tubing/Bailer Material: Steel Polyethylene Teflon Other:

Sampling Method: Bailer Peristaltic Waterra Other:

Duration of Pumping: (min)

Average Pumping Rate: (ml/min) Water-Quality Meter Type:

Total Volume Removed: (gal) Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3875 ml = 0.1337 cubic feet

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	1525	1530	1535						
Volume Purged (gal)	10L	11L	12L						
Rate (mL/min)	200	200	200						
Depth to Water (ft.)	8.46	8.46	8.46						
pH	7.34	7.33	7.33						
Temp. (C)	14.19	14.16	14.16						
Conductivity (mS/cm)	1.88	1.88	1.88						
Dissolved Oxygen (mg/L)	0.0	0.0	0.0						
ORP (mV)	-121	-122	-123						
Turbidity (NTU)	21.8	22.4	20.9						
Notes:			clear, mothball odor, slight sheen						

Sampling Information

Analyses	#	Laboratory
BTEX (8260)		CompuChem
PAHs (8270)		CompuChem
MNA Analysis		See COC for details.
NAPL Analysis		Queen's University, See COC for detail.

see page 1

Sample ID: Sample Time:

MS/MSD: Yes No

Duplicate: Yes No

Duplicate ID Dup. Time:

Chain of Custody Signed By:

Problems / Observations

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site: See Page 1

Event:

GROUND-WATER SAMPLING LOG

Sampling Personnel:

Client / Job Number: Niagara Mohawk / 36657.009

Weather:

Well ID: MW-13P

Date: 11/2/04

Time In: 14.12 **Time Out:**

Well Information

Depth to Water: (feet) 7.10 (from MP)

Total Depth: (feet) 66 (from MP)

Length of Water Column: (feet)

Volume of Water in Well: (gal)

Three Well Volumes: (gal)

Well Type: [✓ Flushmount] Stick-Up

Well Material: Stainless Steel [✓ PVC]

Well Locked: [✓ Yes] No

Measuring Point Marked: [✓ Yes] No

Well Diameter: 1" [✓ 2"] Other:

Purging Information

Purging Method: Bailer [✓ Peristaltic] Waterra Other:

Tubing/Bailer Material: Steel [✓ Polyethylene] Teflon Other:

Sampling Method: [✓ Bailer] Peristaltic Waterra Other:

Duration of Pumping: (min)

Average Pumping Rate: (ml/min) Water-Quality Meter Type:

Total Volume Removed: (gal) Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1 15:23	2 15:30	3 15:35	4 15:40	5 15:45	6 15:50	7 15:55	8 16:06 ~~[illegible]~~	9 16:05 ~~[illegible]~~
Volume Purged (gal)	18L	19L	20L	21L	22.5L	24L	27L	28L	29L
Rate (mL/min)	250	250	250	250E	250	250	250	200	200
Depth to Water (ft.)	9.97	9.97	9.97	9.97	9.97	9.97	9.97	9.97	9.97
pH	7.83	7.90	8.00	7.97	7.93	7.93	8.00	8.36	8.49
Temp. (C)	13.97	14.04	14.06	14.09	14.09	14.07	14.11	13.63	13.53
Conductivity (mS/cm)	.308	.305	.304	.303	.298	.304	.301	.391	.390
Dissolved Oxygen (mg/L)	5.84	2.47	1.89	1.44	0.87	0.36	1.31	0.00	0.00
ORP (mV)	183	141	135	136	126	117	122	-191	-177
Turbidity (NTU)	58.4	58.2	33.8	21.4	22.7	28.9	32.2	35.8	38.3
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX (8260)		CompuChem
PAHs (8270)		CompuChem
MNA Analysis		See COC for details.
NAPL Analysis		Queen's University, See COC for detail.

see purge 1

Sample ID: Sample Time:

MS/MSD: Yes No

Duplicate: Yes No

Duplicate ID Dup. Time:

Chain of Custody Signed By:

Problems / Observations

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site: See Pages 1 & 2

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel:

Client / Job Number: Niagara Mohawk / 36657.009

Weather:

Well ID: MW-13P

Date: 11/2/14

Time In:

Time Out:

Well Information

Depth to Water: (feet) 7.1 (from MP)

Total Depth: (feet) 66 (from MP)

Length of Water Column: (feet)

Volume of Water in Well: (gal)

Three Well Volumes: (gal)

Well Type: Flushmount Stick-Up

Well Material: Stainless Steel PVC

Well Locked: Yes No

Measuring Point Marked: Yes No

Well Diameter: 1" 2" Other:

Purging Information

Purging Method: Bailer Peristaltic Waterra Other:

Tubing/Bailer Material: Steel Polyethylene Teflon Other:

Sampling Method: Bailer Peristaltic Waterra Other:

Duration of Pumping: (min)

Average Pumping Rate: (ml/min) Water-Quality Meter Type:

Total Volume Removed: (gal) Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	16:10 1 ~~[illegible]~~	16:15 2 ~~[illegible]~~	16.18 3 ~~[illegible]~~	4 16:21	5	6	7	8	9
Volume Purged (gal)	30	31	32L	33L					
Rate (mL/min)	200	200	200	200					
Depth to Water (ft.)	9.97	9.97	9.97	9.97					
pH	8.58	8.67	8.69	8.70					
Temp. (C)	13.61	13.61	13.60	13.62					
Conductivity (mS/cm)	.385	.381	.380	.379					
Dissolved Oxygen (mg/L)	0.00	0.00	0.00	0.00					
ORP (mV)	-160	-149	-144	-141					
Turbidity (NTU)	40.2	44.1	42.8	43.2					
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX (8260)		CompuChem
PAHs (8270)		CompuChem
MNA Analysis		See COC for details.
NAPL Analysis		Queen's University, See COC for detail.

See page 1

Sample ID: Sample Time:

MS/MSD: Yes No

Duplicate: Yes No

Duplicate ID Dup. Time:

Chain of Custody Signed By:

Problems / Observations

5 drops CO_2 medium range.

CO_2 = 10 mg/L

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: AES

Client / Job Number: Niagara Mohawk / 36657.009

Weather: 40°s, blue sky

Well ID: MW-13S

Date: 11/4/04

Time In: 7:16

Time Out:

Well Information

Depth to Water:	(feet)	2.70	(from MP)
Total Depth:	(feet)	22.80	(from MP)
Length of Water Column:	(feet)	20.10	
Volume of Water in Well:	(gal)	3.28	
Three Well Volumes:	(gal)	9.83	

Well Type:	[✓ Flushmount]	Stick-Up
Well Material:	Stainless Steel	[✓ PVC]
Well Locked:	[✓ Yes]	No
Measuring Point Marked:	[✓ Yes]	No
Well Diameter:	1" [✓ 2"]	Other:

Purging Information

Purging Method:	Bailer	[✓ Peristaltic]	Waterra	Other:
Tubing/Bailer Material:	Steel	[✓ Polyethylene]	Teflon	Other:
Sampling Method:	[✓ Bailer]	Peristaltic	Waterra	Other:

Duration of Pumping: (min) 61

Average Pumping Rate: (ml/min) 200 Water-Quality Meter Type: Horiba U-22

Total Volume Removed: (gal) ~~3~~ 4 gal (3.96) Did well go dry: Yes [✓ No]

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3875 ml = 0.1337 cubic feet

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	730	735	740	745	750	755	800	805	810
Volume Purged (gal)	—	2L	3L	4L	5L	6L	7L	8L	9L
Rate (mL/min)	400	200	200	200	200	200	200	200	200
Depth to Water (ft.)	2.70	2.71	2.71	2.71	2.71	2.71	2.71	2.71	2.71
pH	5.48	6.26	6.49	6.59	6.66	6.69	6.70	6.71	6.74
Temp. (C)	10.72	12.91	13.38	13.13	12.45	12.88	12.57	12.71	12.99
Conductivity (mS/cm)	1.78	1.77	1.76	1.76	1.76	1.75	1.75	1.76	1.78
Dissolved Oxygen (mg/L)	11.84	6.06	2.73	2.15	1.86	1.40	0.81	0.48	0.49
ORP (mV)	159	-16	-50	-58	-63	-68	-76	-85	-93
Turbidity (NTU)	>999	981	963	853	432	265	198	105	121
Notes:	high turbidity, moderate MGP-type odor, no sheen								

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
MNA Analysis	—	See COC for details.
NAPL Analysis	—	Queen's University, See COC for detail.

Sample ID: MW-13S Sample Time: 8:34

MS/MSD: Yes [✓ No]

Duplicate: Yes [✓ No]

Duplicate ID — Dup. Time: —

Chain of Custody Signed By: KMG

Problems / Observations

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site: see page 1

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel:

Well ID: MW-13S

Client / Job Number: Niagara Mohawk / 36657.009

Date: 11/4/04

Weather:

Time In: 7:16

Time Out:

Well Information

Depth to Water: (feet) (from MP)

Total Depth: (feet) (from MP)

Length of Water Column: (feet)

Volume of Water in Well: (gal)

Three Well Volumes: (gal)

Well Type: [✓ Flushmount] Stick-Up

Well Material: Stainless Steel [✓ PVC]

Well Locked: [✓ Yes] No

Measuring Point Marked: [✓ Yes] No

Well Diameter: 1" [✓ 2"] Other:

Purging Information

Purging Method: Bailer [✓ Peristaltic] Waterra Other:

Tubing/Bailer Material: Steel [✓ Polyethylene] Teflon Other:

Sampling Method: [✓ Bailer] Peristaltic Waterra Other:

Duration of Pumping: (min)

Average Pumping Rate: (ml/min) Water-Quality Meter Type:

Total Volume Removed: (gal) Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1 815	2 820	3 825	828 4 ~~[illegible]~~	5 831	6	7	8	9
Volume Purged (gal)	10L	12	13L	14L	15L				
Rate (mL/min)	200	200	200	200	200				
Depth to Water (ft.)	~~[illegible]~~ 2.71	2.71	2.71	2.71	2.71				
pH	6.76	6.78	6.88	6.91	6.92				
Temp. (C)	13.24	13.45	13.76	13.82	13.71				
Conductivity (mS/cm)	1.80	1.87	1.72	1.71	1.72				
Dissolved Oxygen (mg/L)	0.72	0.38	0.29	0.28	0.25				
ORP (mV)	-99	-105	-98	-93	-96				
Turbidity (NTU)	113	125	107	110	115				
Notes:					clear, odor, no sheen				

Sampling Information

Analyses	#	Laboratory
BTEX (8260)		CompuChem
PAHs (8270)		CompuChem
MNA Analysis		See COC for details.
NAPL Analysis		Queen's University, See COC for detail.

Sample ID: Sample Time: 8:34

MS/MSD: Yes No

Duplicate: Yes No

Duplicate ID Dup. Time:

Chain of Custody Signed By:

Problems / Observations

10 drops CO_2 test - high range CO_2 = 50 mg/L

*moderate MGP odor

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: TES

Client / Job Number: Niagara Mohawk / 36657.009

Weather: 40°s, blue sky

Well ID: MW-14F

Date: 11/8/04

Time In: 12:41

Time Out:

Well Information

Depth to Water:	(feet)	9.97	(from MP)
Total Depth:	(feet)	56.3	(from MP)
Length of Water Column:	(feet)	46.33	
Volume of Water in Well:	(gal)	7.55	
Three Well Volumes:	(gal)	22.66	

Well Type:		[✓ Flushmount]	Stick-Up
Well Material:		Stainless Steel	[✓ PVC]
Well Locked:		[✓ Yes]	No
Measuring Point Marked:		[✓ Yes]	No
Well Diameter:	1"	[✓ 2"]	Other:

Purging Information

Purging Method:	Bailer	[✓ Peristaltic]	Waterra	Other:
Tubing/Bailer Material:	Steel	[✓ Polyethylene]	Teflon	Other:
Sampling Method:	Bailer	Peristaltic	Waterra	Other:

Duration of Pumping: (min) 41

Average Pumping Rate: (ml/min) 200

Water-Quality Meter Type: Horiba U-22

Total Volume Removed: (gal) 1.98 gal

Did well go dry: Yes [✓ No]

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3875 ml = 0.1337 cubic feet

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	1430	1435	1440	1445	1450	1455	1500	1505	1508
Volume Purged (gal)	—	1L	1.5L	2.5L	3.5	4.5	5L	6L	7L
Rate (mL/min)	200	200	200	200	200	200	200	200	200
Depth to Water (ft.)	9.97	10.42	10.42	10.42	10.42	10.42	10.42	10.92	10.92
pH	8.76	8.87	9.07	9.11	9.12	9.25	9.32	9.37	9.39
Temp. (C)	12.66	13.35	13.23	13.18	13.06	13.14	13.06	12.99	13.00
Conductivity (mS/cm)	0.500	.479	.484	.483	.481	.476	.475	.474	.473
Dissolved Oxygen (mg/L)	10.76	9.47	2.79	1.48	1.07	.33	.22	0.09	0.03
ORP (mV)	9	-33	-79	-111	-128	-155	-165	-174	-178
Turbidity (NTU)	52.4	10.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
MNA Analysis	—	See COC for details.
NAPL Analysis	—	Queen's University, See COC for detail.

Sample ID: MW-14 / Sample Time: 15:13

MS/MSD: Yes [✓ No]

Duplicate: Yes [✓ No]

Duplicate ID — Dup. Time: —

Chain of Custody Signed By: KMG

Problems / Observations

1 drop CO_2 test (high range) → CO_2 = 10mg/L

Site: see page 1

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel:

Client / Job Number: Niagara Mohawk / 36657.009

Weather:

Well ID: MW-14I

Date: 11/8/04

Time In:

Time Out:

Well Information

see page 1

Depth to Water:	(feet)	(from MP)
Total Depth:	(feet)	(from MP)
Length of Water Column:	(feet)	
Volume of Water in Well:	(gal)	
Three Well Volumes:	(gal)	

Well Type:	[✓ Flushmount]	Stick-Up	
Well Material:	Stainless Steel	[✓ PVC]	
Well Locked:	[✓ Yes]	No	
Measuring Point Marked:	[✓ Yes]	No	
Well Diameter:	1"	[✓ 2"]	Other:

Purging Information

Purging Method:	Bailer	[✓ Peristaltic]	Waterra	Other:
Tubing/Bailer Material:	Steel	[✓ Polyethylene]	Teflon	Other:
Sampling Method:	[✓ Bailer]	Peristaltic	Waterra	Other:

Duration of Pumping: (min)

Average Pumping Rate: (ml/min) Water-Quality Meter Type: Horiba U-22

Total Volume Removed: (gal) Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3875 ml = 0.1337 cubic feet

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
	1511								
Volume Purged (gal)	7L								
Rate (mL/min)	200								
Depth to Water (ft.)	10.42								
pH	9.41								
Temp. (C)	13.03								
Conductivity (mS/cm)	.473								
Dissolved Oxygen (mg/L)	0.08								
ORP (mV)	-182								
Turbidity (NTU)	0.00								
Notes:									

Sampling Information

see page 1

Analyses	#	Laboratory
BTEX (8260)		CompuChem
PAHs (8270)		CompuChem
MNA Analysis		See COC for details.
NAPL Analysis		Queen's University, See COC for detail.

Sample ID: Sample Time:

MS/MSD: Yes No

Duplicate: Yes No

Duplicate ID: Dup. Time:

Chain of Custody Signed By:

Problems / Observations

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: RES, TMG
Client / Job Number: Niagara Mohawk / 36657.009
Weather: 40's, blue sky
Well ID: MW-14P
Date: 11/3/04
Time In: /
Time Out:

Well Information

Depth to Water:	(feet)	9.95	(from MP)
Total Depth:	(feet)	36.30	(from MP)
Length of Water Column:	(feet)	26.35	
Volume of Water in Well:	(gal)	4.32	
Three Well Volumes:	(gal)	12.96	

Well Type:	[✓ Flushmount]	Stick-Up	
Well Material:	Stainless Steel	[✓ PVC]	
Well Locked:	[✓ Yes]	No	
Measuring Point Marked:	[✓ Yes]	No	
Well Diameter:	1"	[✓ 2"]	Other:

Purging Information

Purging Method:	Bailer	[✓ Peristaltic]	Waterra	Other:
Tubing/Bailer Material:	Steel	[✓ Polyethylene]	Teflon	Other:
Sampling Method:	[✓ Bailer]	Peristaltic	Waterra	Other:

Duration of Pumping: (min) 31
Average Pumping Rate: (ml/min) ~~2.77~~ 200 Water-Quality Meter Type: Horiba U-22
Total Volume Removed: (gal) 2.91 Did well go dry: Yes [✓ No]

Conversion Factors

gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3875 ml = 0.1337 cubic feet

Unit Stability

pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1 13:25	2 13:30	3 13:35	4 13:40	5 13:45	6 13:50	7 13:55	8 14:00	9 14:03 ~~14:05~~
Volume Purged (gal)	—	1L	2L	3L	5L	6L	7.5	9L	10L
Rate (mL/min)	200	200	200	200	200	200	200	200	200
Depth to Water (ft.)	9.95	11.1	11.2	11.3	11.32	11.35	11.35	11.36	11.42
pH	8.77	8.04	7.64	7.41	7.18	7.02	6.96	6.90	6.87
Temp. (C)	13.54	14.20	14.23	14.21	14.26	14.17	14.13	14.10	14.07
Conductivity (mS/cm)	0.95	0.784	.797	.810	.813	.806	.798	.791	.789
Dissolved Oxygen (mg/L)	7.91	7.59	3.94	2.62	1.34	0.36	0.15	.10	0.14
ORP (mV)	-98	-83	-80	-80	-89	-97	-102	-102	-102
Turbidity (NTU)	38.4	19.8	19.5	23.6	16.7	18.2	32.4	19.5	34.2
Notes:	low turbidity, trace to slight sheen, MGP-type odor								

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
MNA Analysis	–	See COC for details.
NAPL Analysis	–	Queen's University, See COC for detail.

Sample ID: MW-14P Sample Time: 1409
MS/MSD: Yes [✓ No]
Duplicate: Yes [✓ No]
Duplicate ID — Dup. Time: —
Chain of Custody Signed By: KMG

Problems / Observations

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site: See page 1

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: AES, TMG
Client / Job Number: Niagara Mohawk / 36657.009
Weather: 40°s, blue sky

Well ID: MW-14
Date: 11/8/04
Time In:
Time Out:

Well Information

Depth to Water:	(feet)	(from MP)
Total Depth:	(feet)	(from MP)
Length of Water Column:	(feet)	
Volume of Water in Well:	(gal)	
Three Well Volumes:	(gal)	

Well Type:	[✓ Flushmount]	Stick-Up
Well Material:	Stainless Steel	[✓ PVC]
Well Locked:	[✓ Yes]	No
Measuring Point Marked:	[✓ Yes]	No
Well Diameter:	1" [✓ 2"]	Other:

Purging Information

see page 1

Purging Method:	Bailer	Peristaltic	Waterra	Other:
Tubing/Bailer Material:	Steel	Polyethylene	Teflon	Other:
Sampling Method:	Bailer	Peristaltic	Waterra	Other:

Duration of Pumping: (min)
Average Pumping Rate: (ml/min) Water-Quality Meter Type:
Total Volume Removed: (gal) Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1 14:06	2	3	4	5	6	7	8	9
Volume Purged (gal)	11L								
Rate (mL/min)	200								
Depth to Water (ft.)	11.45								
pH	6.87								
Temp. (C)	13.99								
Conductivity (mS/cm)	.786								
Dissolved Oxygen (mg/L)	0.19								
ORP (mV)	-103								
Turbidity (NTU)	43.2								
Notes:	[illegible], sheen and order								

Sampling Information

see page 1

Analyses	#	Laboratory
BTEX (8260)		CompuChem
PAHs (8270)		CompuChem
MNA Analysis		See COC for details.
NAPL Analysis	1	Queen's University, See COC for detail.
Sample ID:	Sample Time:	
MS/MSD: Yes	No	
Duplicate: Yes	No	
Duplicate ID	Dup. Time:	
Chain of Custody Signed By:		

Problems / Observations

22 drops CO2 test (high ~~[illegible]~~ range).
CO2 = 110 mg/L

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: AES, TMG
Client / Job Number: Niagara Mohawk / 36657.009
Weather: 52°F, Sunny, breeze
Well ID: MW-14S
Date: 11/3/04
Time In: ~~[illegible]~~ 1520
Time Out:

Well Information

Depth to Water:	(feet)	5.58	(from MP)
Total Depth:	(feet)	21.50	(from MP)
Length of Water Column:	(feet)	15.92	
Volume of Water in Well:	(gal)	2.59	
Three Well Volumes:	(gal)	7.78	

Well Type: [✓ Flushmount] Stick-Up
Well Material: Stainless Steel [✓ PVC]
Well Locked: [✓ Yes] No
Measuring Point Marked: [✓ Yes] No
Well Diameter: 1" [✓ 2"] Other:

Purging Information

Purging Method: Bailer [✓ Peristaltic] Waterra Other:
Tubing/Bailer Material: Steel [✓ Polyethylene] Teflon Other:
Sampling Method: [✓ Bailer] Peristaltic Waterra Other:
Duration of Pumping: (min) 38
Average Pumping Rate: (ml/min) 200 Water-Quality Meter Type: HORIBA U-22
Total Volume Removed: (gal) 3.17 Did well go dry: Yes [✓ No]

Conversion Factors

gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3875 ml = 0.1337 cubic feet

Unit Stability

pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1 15:45	2 15:50	3 15:55	4 16:00	5 16:05	6 16:10	7 16:15	8 16:20	9 16:23
Volume Purged (gal)	—	1L	3L	4L	5L	7L	9L	11L	12L
Rate (mL/min)	120	200	200	200	200	200	200	200	200
Depth to Water (ft.)	5.58	6.14	6.25	6.25	6.31	6.35	6.35	6.35	6.35
pH	7.41	6.91	6.84	6.85	6.86	6.88	6.89	6.89	6.90
Temp. (C)	12.85	14.18	15.00	15.29	15.39	15.28	15.26	15.12	14.96
Conductivity (mS/cm)	2.53	3.39	3.82	3.86	3.84	3.90	3.86	3.80	3.79
Dissolved Oxygen (mg/L)	6.62	4.05	1.81	0.75	0.49	.20	0.08	.02	0.00
ORP (mV)	-86	-88	-105	-115	-119	-125	-128	-128	-128
Turbidity (NTU)	18.4	18.9	11.8	8.4	10.1	10.0	10.5	13.4	14.3
Notes:	clear, no odor or sheen				slight sheen & mothball odor				clear, slight sheen & mothball odor

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
MNA Analysis	—	See COC for details.
NAPL Analysis	—	Queen's University, See COC for detail.

Sample ID: MW-14S Sample Time: 1625
MS/MSD: Yes [✓ No]
Duplicate: Yes [✓ No]
Duplicate ID — Dup. Time: —
Chain of Custody Signed By: KMG

Problems / Observations

CO_2 test: 35 drops high range.
CO_2 = 175 mg/L

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: JDL/KMG

Client / Job Number: Niagara Mohawk / 36657.009

Weather: 30, / Sunny

Well ID: MW-15I

Date: 11/9/04

Time In:

Time Out:

Well Information

Depth to Water: (feet) 10.69 (from MP)

Total Depth: (feet) 48.50 (from MP)

Length of Water Column: (feet) 37.81

Volume of Water in Well: (gal) 6.16

Three Well Volumes: (gal) 18.49

Well Type: Flushmount [✓ Stick-Up]

Well Material: Stainless Steel [✓ PVC]

Well Locked: [✓ Yes] No

Measuring Point Marked: [✓ Yes] No

Well Diameter: 1" [✓ 2"] Other:

Purging Information

Pump start: 1324 Pump Stop: 1430

Purging Method: Bailer [✓ Peristaltic] Waterra Other:

Tubing/Bailer Material: Steel [✓ Polyethylene] Teflon Other:

Sampling Method: [✓ Bailer] BTEX [✓ Peristaltic] PAHs Waterra Other:

Duration of Pumping: (min) 35

Average Pumping Rate: (ml/min) 300

Water-Quality Meter Type: Horiba U-22

Total Volume Removed: (gal) 3.25 gal

Did well go dry: Yes [✓ No]

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1 1330	2 1335	3 1340	4 1350	5 1355	6 1400 ~~1355~~	7 1405	8	9
Volume Purged (~~gal~~ L)	—	3.0	4.5	8.0	9.5	11	12.5		
Rate (mL/min)	300	300	300	300	300	300	300		
Depth to Water (ft.)	10.70	10.70	10.70	10.70	10.70	10.70	10.70		
pH	7.66	7.53	7.52	7.51	7.51	7.51	7.52		
Temp. (C)	10.35	10.57	10.73	10.93	10.73	10.80	10.74		
Conductivity (mS/cm)	3.35	3.39	3.29	3.26	3.26	3.27	3.27		
Dissolved Oxygen (mg/L)	13.54	4.76	2.12	0.23	0.00	0.00	0.00		
ORP (mV)	-74	-91	-102	-113	-115	-119	-121		
Turbidity (NTU)	115	33.8	19.8	26.4	11.4	7.1	0.0		
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
~~MNA Analysis~~		~~See COC for details.~~
~~NAPL Analysis~~		~~Queen's University, See COC for detail.~~

Sample ID: MW-15I Sample Time: 1410

MS/MSD: Yes [✓ No]

Duplicate: Yes [✓ No]

Duplicate ID — Dup. Time: —

Chain of Custody Signed By: KMG

Problems / Observations

CO_2 = 130 mg/L

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: A/KMG

Client / Job Number: Niagara Mohawk / 36657.009

Weather: 30°s, sunny

Well ID: MW-155

Date: 11/9/04

Time In:

Time Out:

Well Information

Depth to Water:	(feet)	9.42	(from MP)
Total Depth:	(feet)	21.80'	(from MP)
Length of Water Column:	(feet)	12.38	
Volume of Water in Well:	(gal)	2.02	
Three Well Volumes:	(gal)	6.05 gal	

Well Type: Flushmount [✓ Stick-Up]

Well Material: Stainless Steel [✓ PVC]

Well Locked: [✓ Yes] No

Measuring Point Marked: [✓ Yes] No

Well Diameter: 1" [✓ 2"] Other:

Purging Information

Purging Method: Bailer [✓ Peristaltic] Waterra Other:

Tubing/Bailer Material: Steel [✓ Polyethylene] Teflon Other:

Sampling Method: [✓ Bailer] ~~Peristaltic~~ Waterra Other:

Duration of Pumping: (min) 40

Average Pumping Rate: (ml/min) 200

Water-Quality Meter Type: Horiba U-22

Total Volume Removed: (gal) 2.11

Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1 1326	2 1331	3 1346 ~~1336~~	4 1351 ~~1341~~	5 1356 ~~1346~~	6 1401	7 1406	8	9
Volume Purged (gal)	—	1L	4L	5L	6L	7L	8L		
Rate (mL/min)	200	200	200	200	200	200	200		
Depth to Water (ft.)	9.42	11.15	11.15	11.25	11.25	11.30	11.20		
pH	6.78	6.65	6.62	6.58	6.58	6.58	6.58		
Temp. (C)	11.15	11.37	11.15	11.65	11.57	11.65	11.55		
Conductivity (mS/cm)	2.19	2.19	2.21	2.22	2.22	2.19	2.17		
Dissolved Oxygen (mg/L)	4.93	2.02	1.36	0.79	0.92	0.70	0.68		
ORP (mV)	-116	-107	-89	-99	-99	-98	-98		
Turbidity (NTU)	14.4	8.08	11.9	1.3	0.6	4.4	9.2		
Notes:	clear, no odor or sheen						clear, no odor or sheen		

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
MNA Analysis	—	See COC for details.
NAPL Analysis	—	Queen's University, See COC for detail.

Sample ID: MW-155 Sample Time: 1410

MS/MSD: Yes [✓ No]

Duplicate: Yes [✓ No]

Duplicate ID — Dup. Time: —

Chain of Custody Signed By: KMG

Problems / Observations

CO_2 (1415) = 65 mg/L

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site *Event*

GROUND-WATER SAMPLING LOG

Sampling Personnel: AES/KMG
Client / Job Number: Niagara Mohawk / 36657.009
Weather: 30°s, Rain
Well ID: MW-17
Date: 11/01/04
Time In: 8:12
Time Out:

Well Information

Depth to Water:	(feet)	4.28	(from MP)
Total Depth:	(feet)	19.92	(from MP)
Length of Water Column:	(feet)	15.64	
Volume of Water in Well:	(gal)	2.56	
Three Well Volumes:	(gal)	7.69	

Well Type:	[✓ Flushmount]	Stick-Up	
Well Material:	Stainless Steel	[✓ PVC]	
Well Locked:	[✓ Yes]	No	
Measuring Point Marked:	[✓ Yes]	No	
Well Diameter:	1"	[✓ 2"]	Other:

Purging Information

Purging Method:	Bailer	[✓ Peristaltic]	Waterra	Other:
Tubing/Bailer Material:	Steel	[✓ Polyethylene]	Teflon	Other:
Sampling Method:	[✓ Bailer]	Peristaltic	Waterra	Other:

Duration of Pumping: (min) 47
Average Pumping Rate: (ml/min) 200 Water-Quality Meter Type: Horiba U-22
Total Volume Removed: (gal) 1.85 Did well go dry: Yes [✓ No]

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3875 ml = 0.1337 cubic feet

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1 8:25	2 8:30	3 8:35	4 8:40	5 8:45 ~~8:45~~	6 8:48 ~~8:50~~	7 8:51	8 8:54	9 8:57
Volume Purged (gal)	—	.5	1	2	3	4	4.5	5	5.5
Rate (mL/min)	200	200	200	200	200	200	200	200	200
Depth to Water (ft.)	4.28	4.75	4.75	4.76	4.90	4.90	4.90	4.9	4.9
pH	4.82	6.10	6.49	6.69	6.80	6.88	6.91	6.94	6.96
Temp. (C)	7.85	9.62	10.86	10.78	11.15	10.83	10.87	10.86	10.96
Conductivity (mS/cm)	.002	1.69	1.67	1.69	1.68	1.66	1.66	1.66	1.67
Dissolved Oxygen (mg/L)	9.97	9.91	7.40	5.19	10.63	5.03	3.80	3.12	2.91
ORP (mV)	111	1	-84	-89	-106	-109	-111	-114	-116
Turbidity (NTU)	484	355	254	285	71.0	48.4	36.4	29.9	0.4
Notes:	heavy odor								

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	9	CompuChem
PAHs (8270)	2	CompuChem
MNA Analysis	0	See COC for details.
NAPL Analysis	0	Queen's University. See COC for detail.

Sample ID: MW-17 Sample Time: 913
MS/MSD: Yes [✓ No]
Duplicate: Yes [✓ No]
Duplicate ID — Dup. Time: —
Chain of Custody Signed By:

Problems / Observations

6 drops CO_2 test (high range)
CO_2 ~ 35mg/L

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site: see page 1

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel:

Client / Job Number: Niagara Mohawk / 36657.009

Weather:

Well ID: MW-17

Date: 11/5/04

Time In: 8:12 **Time Out:**

Well Information

see page 1

Depth to Water: (feet) (from MP)

Total Depth: (feet) (from MP)

Length of Water Column: (feet)

Volume of Water in Well: (gal)

Three Well Volumes: (gal)

Well Type: Flushmount Stick-Up

Well Material: Stainless Steel PVC

Well Locked: Yes No

Measuring Point Marked: Yes No

Well Diameter: 1" 2" Other:

Purging Information

Purging Method: Bailer Peristaltic Waterra Other:

Tubing/Bailer Material: Steel Polyethylene Teflon Other:

Sampling Method: Bailer Peristaltic Waterra Other:

Duration of Pumping: (min)

Average Pumping Rate: (ml/min) Water-Quality Meter Type:

Total Volume Removed: (gal) Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	9:00	9:03	9:06	9:09	9:12				
Volume Purged (gal)	6.0	6.0	~~7~~6.5	7	7				
Rate (mL/min)	200	200	200	200	200				
Depth to Water (ft.)	4.9	4.9	4.9	4.9	4.9				
pH	6.98	6.99	7.00	7.00	7.01				
Temp. (C)	10.69	10.44	10.51	10.71	10.92				
Conductivity (mS/cm)	1.68	1.67	1.68	1.67	1.67				
Dissolved Oxygen (mg/L)	2.54	2.25	1.83	1.90	1.75				
ORP (mV)	-118	-119	-120	-121	-122				
Turbidity (NTU)	0.00	0.00	0.00	0.15	0.00				
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX (8260)		CompuChem
PAHs (8270)		CompuChem
MNA Analysis		See COC for details.
NAPL Analysis		Queen's University, See COC for detail.

Sample ID: MW 17 Sample Time: 913

MS/MSD: Yes [✓ No]

Duplicate: Yes [✓ No]

Duplicate ID — Dup. Time: —

Chain of Custody Signed By: —

Problems / Observations

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: AES
Client / Job Number: Niagara Mohawk / 36657.009
Weather: 40°s, blue sky
Well ID: MW-19S
Date: 11/3/04
Time In: 9:44
Time Out:

Well Information

Depth to Water:	(feet)	3.92	(from MP)
Total Depth:	(feet)	19.6	(from MP)
Length of Water Column:	(feet)	15.83	
Volume of Water in Well:	(gal)	2.56	
Three Well Volumes:	(gal)	7.67	

Well Type:	[✓ Flushmount]	Stick-Up	
Well Material:	Stainless Steel	[✓ PVC]	
Well Locked:	[✓ Yes]	No	
Measuring Point Marked:	[✓ Yes]	No	
Well Diameter:	1"	[✓ 2"]	Other:

Purging Information

Purging Method:	Bailer	[✓ Peristaltic]	Waterra	Other:
Tubing/Bailer Material:	Steel	[✓ Polyethylene]	Teflon	Other:
Sampling Method:	[✓ Bailer]	Peristaltic	Waterra	Other:

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3875 ml = 0.1337 cubic feet

Duration of Pumping: (min) 38
Average Pumping Rate: (ml/min) 150
Water-Quality Meter Type: Horiba U-22
Total Volume Removed: (gal) 2.9 gal
Did well go dry: Yes [✓ No]

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1 10:10 ~~9:57~~	2 10:15	3 10:20	4 10:25	5 10:30	6 10:35	7 10:38	8 10:41	9 10:44
Volume Purged (gal)	—	3L	4L	6L	7L	8L	8L	9L	10L
Rate (mL/min)	250	150	150	150	150	150	150	150	150
Depth to Water (ft.)	3.92	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25
pH	7.26	6.88	6.90	6.93	6.92	6.86	6.85	6.85	6.84
Temp. (C)	14.42	14.87	15.14	15.60	15.59	15.94	15.79	15.88	16.01
Conductivity (mS/cm)	1.66	1.72	1.66	1.65	1.70	1.72	1.74	1.74	1.74
Dissolved Oxygen (mg/L)	9.40	2.49	5.61	4.83	1.69	0.82	0.67	0.46	0.46
ORP (mV)	-92	-113	-110	-111	-120	-125	-129	-131	-135
Turbidity (NTU)	>999	640	422	321	281	143	109	110	58
Notes:	very turbid Slight Sheen								

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
MNA Analysis	–	See COC for details.
NAPL Analysis	–	Queen's University, See COC for detail.

Sample ID: MW-19S Sample Time: 1052
MS/MSD: Yes [✓ No]
Duplicate: Yes [✓ No]
Duplicate ID — Dup. Time: —
Chain of Custody Signed By: KMG

Problems / Observations

13 drops; CO2 test (~~[illegible]~~ high range).
CO2 = 65 mg/L

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site: see page 1

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel:
Client / Job Number: Niagara Mohawk / 36657.009
Weather:
Well ID: MW-19S
Date: 11/3/04
Time In: 9:44 **Time Out:**

Well Information

Depth to Water: (feet) (from MP)
Total Depth: (feet) (from MP)
Length of Water Column: (feet)
Volume of Water in Well: (gal)
Three Well Volumes: (gal)

Well Type: [✓ Flushmount] Stick-Up
Well Material: Stainless Steel [✓ PVC]
Well Locked: [✓ Yes] No
Measuring Point Marked: [✓ Yes] No
Well Diameter: 1" [✓ 2"] Other:

Purging Information

see page 1

Purging Method: Bailer Peristaltic Waterra Other:
Tubing/Bailer Material: Steel Polyethylene Teflon Other:
Sampling Method: Bailer Peristaltic Waterra Other:
Duration of Pumping: (min)
Average Pumping Rate: (ml/min) Water-Quality Meter Type:
Total Volume Removed: (gal) Did well go dry: Yes No

Conversion Factors

gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3875 ml = 0.1337 cubic feet

Unit Stability

pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	10:48								
Volume Purged (gal)	11L								
Rate (mL/min)	150								
Depth to Water (ft.)	4.25								
pH	6.85								
Temp. (C)	16.01								
Conductivity (mS/cm)	1.75								
Dissolved Oxygen (mg/L)	0.44								
ORP (mV)	-138								
Turbidity (NTU)	95								
Notes:	clear, slight sheen, MGP-type odor								

Sampling Information

see page 1

Analyses	#	Laboratory
BTEX (8260)		CompuChem
PAHs (8270)		CompuChem
MNA Analysis		See COC for details.
NAPL Analysis		Queen's University, See COC for detail.

Sample ID: Sample Time:
MS/MSD: Yes No
Duplicate: Yes No
Duplicate ID Dup. Time:
Chain of Custody Signed By:

Problems / Observations

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: TES
Client / Job Number: Niagara Mohawk / 36657.009
Weather: 40's, partly sunny
Well ID: ~~MW-19I~~ MW-19P
Date: 11/3/04
Time In: 7:25
Time Out:

Well Information

Depth to Water:	(feet)	7.45	(from MP)
Total Depth:	(feet)	50.12	(from MP)
Length of Water Column:	(feet)	42.67	
Volume of Water in Well:	(gal)	6.96	
Three Well Volumes:	(gal)	20.87	

Well Type:	[✓ Flushmount]	Stick-Up
Well Material:	Stainless Steel	[✓ PVC]
Well Locked:	[✓ Yes]	No
Measuring Point Marked:	[✓ Yes]	No
Well Diameter:	1" [✓ 2"]	Other:

Purging Information

Purging Method:	Bailer	[✓ Peristaltic]	Waterra	Other:
Tubing/Bailer Material:	Steel	[✓ Polyethylene]	Teflon	Other:
Sampling Method:	[✓ Bailer]	Peristaltic	Waterra	Other:

Duration of Pumping: (min) 40
Average Pumping Rate: (ml/min) 200
Water-Quality Meter Type: HORIBA U-22
Total Volume Removed: (gal) 3.96
Did well go dry: Yes [✓ No]

Conversion Factors

gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3875 ml = 0.1337 cubic feet

Unit Stability

pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9	
Parameter:	8:15	8:20	8:25	8:30	8:35	8:38	8:42	8:46	8:49	8:5
Volume Purged (gal)	—	4L	5L	6L	7.5L	9L	10.5	12	12L	14
Rate (mL/min)	200	200	200	200	200	200	200	200	200	20
Depth to Water (ft.)	7.45	7.46	7.46	7.46	7.46	7.46	7.46	7.46	7.96	7.4
pH	10.10	10.82	9.98	8.66	7.76	7.44	7.15	7.03	6.96	6.8
Temp. (C)	13.45	12.86	13.62	13.58	13.57	13.56	13.50	13.52	13.52	13.
Conductivity (mS/cm)	1.38	1.04	1.00	1.11	1.16	1.16	1.15	1.14	1.15	1.1
Dissolved Oxygen (mg/L)	6.55	10.34	5.17	0.90	0.00	0.00	0.00	0.00	0.00	0.0
ORP (mV)	-21	-67	-99	-292	-211	-197	-183	-177	-174	-17
Turbidity (NTU)	75.5	38.7	0.00	7.2	49.5	16.6	52.5	50.8	48.3	49.
Notes:										

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
MNA Analysis	—	See COC for details.
NAPL Analysis	—	Queen's University, See COC for detail.

Sample ID: MW-19P Sample Time: 0900
MS/MSD: Yes [✓ No]
Duplicate: Yes [✓ No]
Duplicate ID — Dup. Time: —
Chain of Custody Signed By: KMG

Problems / Observations

CO2 test - 20 drops : high range test.
CO2 = 100 mg/L

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

See Page 1

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel:

Client / Job Number: Niagara Mohawk / 36657.009

Weather:

Well ID: ~~MW-19I~~ MW-19P

Date: 11/3/04

Time In: **Time Out:**

Well Information

Depth to Water: (feet) (from MP)

Total Depth: (feet) (from MP)

Length of Water Column: (feet)

Volume of Water in Well: (gal)

Three Well Volumes: (gal)

Well Type: Flushmount Stick-Up

Well Material: Stainless Steel PVC

Well Locked: Yes No

Measuring Point Marked: Yes No

Well Diameter: 1" 2" Other:

Purging Information

see page 1

Purging Method: Bailer Peristaltic Waterra Other:

Tubing/Bailer Material: Steel Polyethylene Teflon Other:

Sampling Method: Bailer Peristaltic Waterra Other:

Duration of Pumping: (min)

Average Pumping Rate: (ml/min) Water-Quality Meter Type:

Total Volume Removed: (gal) Did well go dry: Yes No

Conversion Factors

	1" ID	2" ID	4" ID	6" ID
gal / ft. of water	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3875 ml = 0.1337 cubic feet

Unit Stability

pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	8:55								
Volume Purged (gal)	15L								
Rate (mL/min)	200								
Depth to Water (ft.)	7.46								
pH	6.87								
Temp. (C)	13.61								
Conductivity (mS/cm)	1.10								
Dissolved Oxygen (mg/L)	0.00								
ORP (mV)	-169								
Turbidity (NTU)	50.2								
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX (8260)		CompuChem
PAHs (8270)		CompuChem
MNA Analysis		See COC for details.
NAPL Analysis		Queen's University, See COC for detail.

see page 1

Sample ID: Sample Time:

MS/MSD: Yes No

Duplicate: Yes No

Duplicate ID Dup. Time:

Chain of Custody Signed By:

Problems / Observations

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: KMG

Client / Job Number: Niagara Mohawk / 36657.009

Weather: 50°s, some blue sky

Well ID: ~~MW-19p~~ MW-191 (MW-190)

Date: 11/3/04

Time In:

Time Out:

Well Information

Depth to Water:	(feet)	7.56	(from MP)
Total Depth:	(feet)	75.50	(from MP)
Length of Water Column:	(feet)	67.94	
Volume of Water in Well:	(gal)	11.07	
Three Well Volumes:	(gal)	33.22	

Well Type:	[✓ Flushmount]	Stick-Up	
Well Material:	Stainless Steel	[✓ PVC]	
Well Locked:	[✓ Yes]	No	
Measuring Point Marked:	[✓ Yes]	No	
Well Diameter:	1"	[✓ 2"]	Other:

Purging Information

Purging Method:	Bailer	[✓ Peristaltic]	Waterra	Other:
Tubing/Bailer Material:	Steel	[✓ Polyethylene]	Teflon	Other:
Sampling Method:	[✓ Bailer]	Peristaltic	Waterra	Other:

Duration of Pumping: (min) 94

Average Pumping Rate: (ml/min) 200 Water-Quality Meter Type: Horiba U-22

Total Volume Removed: (gal) 4.2 gal Did well go dry: Yes [✓ No]

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	0836	0845	0855	0905	0915	0920	0925	0930	0945
Volume Purged (gal)	—	2L	4L	6L	8L	9L	10L	11L	13L
Rate (mL/min)	200	200	200	201	200	200	200	200	200
Depth to Water (ft.)	7.56	9 ~~8~~.38	9.80	10.05	9.98	10.00	10.15	10.26	10.37
pH	5.96	6.41	6.82	7.02	7.21	7.27	7.32	7.36	7.45
Temp. (C)	14.31	13.98	14.75	14.76	14.85	14.69	14.30	13.67	13.50
Conductivity (mS/cm)	0.660	0.613	0.608	0.601	0.584	0.576	0.569	0.564	0.561
Dissolved Oxygen (mg/L)	7.53	3.01	1.20	1.08	0.00	0.55	0.43	0.23	0.00
ORP (mV)	138	33	-34	-68	-92	-100	-108	-114	-124
Turbidity (NTU)	11.4	11.5	12.3	19.7	24.5	47.3	31.3	40.0	40.0
Notes:	clear no sheen, no odor								

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
MNA Analysis	–	See COC for details.
NAPL Analysis	—	Queen's University, See COC for detail.

Sample ID: MW-190 Sample Time: 1005

MS/MSD: Yes [✓ No]

Duplicate: Yes [✓ No]

Duplicate ID — Dup. Time: –

Chain of Custody Signed By: KMG

Problems / Observations

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: KMG

Client / Job Number: Niagara Mohawk / 36657.009

Weather: 60°s, some clouds

Well ID: ~~MW-MD~~ MW-19 I

Date: 11/3/04

Time In:

Time Out:

Well Information

Depth to Water: (feet) (from MP)

Total Depth: (feet) (from MP)

Length of Water Column: (feet)

Volume of Water in Well: (gal)

Three Well Volumes: (gal)

Well Type: Flushmount Stick-Up

Well Material: Stainless Steel PVC

Well Locked: Yes No

Measuring Point Marked: Yes No

Well Diameter: 1" 2" Other:

see page 1

Purging Information

Purging Method: Bailer Peristaltic Waterra Other:

Tubing/Bailer Material: Steel Polyethylene Teflon Other:

Sampling Method: Bailer Peristaltic Waterra Other:

Duration of Pumping: (min)

Average Pumping Rate: (ml/min) Water-Quality Meter Type:

Total Volume Removed: (gal) Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	0950	0955	1000						
Volume Purged (gal)	14 L	15 L	16 L						
Rate (mL/min)	200	200	200						
Depth to Water (ft.)	10.55	10.60	10.65						
pH	7.47	7.50	7.57						
Temp. (C)	13.41	13.49	13.40						
Conductivity (mS/cm)	0.556	0.550	0.546						
Dissolved Oxygen (mg/L)	0.00	0.08	0.00						
ORP (mV)	-129	-131	-137						
Turbidity (NTU)	15.0	14.9	13.5						
Notes:			clear, no sheen or odor						

Sampling Information

Analyses	#	Laboratory
BTEX (8260)		CompuChem
PAHs (8270)		CompuChem
MNA Analysis		See COC for details.
NAPL Analysis		Queen's University, See COC for detail.

see page 1

Sample ID: Sample Time:

MS/MSD: Yes No

Duplicate: Yes No

Duplicate ID Dup. Time:

Chain of Custody Signed By:

Problems / Observations

CO_2 = 20mg/L

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: JDL/KMG
Client / Job Number: Niagara Mohawk / 36657.009
Weather: 30s, Clear
Well ID: MW-21
Date: 11/10/04
Time In: 1550
Time Out:

Well Information

Depth to Water:	(feet)	6.16	(from MP)
Total Depth:	(feet)	15.91'	(from MP)
Length of Water Column:	(feet)	9.75'	
Volume of Water in Well:	(gal)	1.59 gal	
Three Well Volumes:	(gal)	4.77 gal	

Well Type: [✓ Flushmount] Stick-Up
Well Material: Stainless Steel [✓ PVC]
Well Locked: [✓ Yes] No
Measuring Point Marked: [✓ Yes] No
Well Diameter: 1" [✓ 2"] Other:

Purging Information

Pump Start: 1558

Purging Method: Bailer [✓ Peristaltic] Waterra Other:
Tubing/Bailer Material: Steel [✓ Polyethylene] Teflon Other:
Sampling Method: [✓ Bailer] BTEX [✓ Peristaltic] PAHs Waterra Other:
Duration of Pumping: (min) 40
Average Pumping Rate: (ml/min) 300
Water-Quality Meter Type: Horiba U-22
Total Volume Removed: (gal) 3.17
Did well go dry: Yes [✓ No]

Conversion Factors

gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3875 ml = 0.1337 cubic feet

Unit Stability

pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1 1604	2 1609	3 1614	4 1619	5 1624	6 1629	7 1634	8 1639	9 1644
Volume Purged (~~gal~~) L	—	1.5	3.0	4.5	6.0	7.5	9.0	10.5	12
Rate (mL/min)	300	300	300	300	300	300	300	300	300
Depth to Water (ft.)	6.47	6.59	6.59	6.59	6.59	6.59	6.59	6.59	6.59
pH	7.25	7.15	7.07	7.03	7.00	6.99	6.98	6.99	6.99
Temp. (C)	13.70	13.85	13.89	13.98	14.02	13.95	13.95	13.96	13.95
Conductivity (mS/cm)	2.20	2.24	2.29	2.31	2.33	2.34	2.35	2.35	2.36
Dissolved Oxygen (mg/L)	6.03	1.95	1.05	0.72	0.41	0.25	0.06	0.00	0.00
ORP (mV)	-95	-121	-130	-134	-138	-141	-142	-144	-146
Turbidity (NTU)	6.8	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
~~MNA Analysis~~		~~See COC for details.~~
~~NAPL Analysis~~		~~Queen's~~ University, See COC for detail.

Sample ID: MW-21 Sample Time: 1650
MS/MSD: Yes [✓ No]
Duplicate: Yes [✓ No]
Duplicate ID — Dup. Time: —
Chain of Custody Signed By: KMG

Problems / Observations

Initial purge: Clear, LNAPL blebs present. Strong odor

CO2 = 140 mg/L

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: JDL/kmg
Client / Job Number: Niagara Mohawk / 36657.009
Weather: 30°, cloudy
Well ID: MW-21
Date: 11/12/04
Time In:
Time Out:

Well Information

Depth to Water:	(feet)	6.35	(from MP)
Total Depth:	(feet)	15.91	(from MP)
Length of Water Column:	(feet)	9.56	
Volume of Water in Well:	(gal)	1.56 gal	
Three Well Volumes:	(gal)	4.67 gal	

Well Type: [✓ Flushmount] ~~Stick-Up~~
Well Material: Stainless Steel [✓ PVC]
Well Locked: Yes [✓ No]
Measuring Point Marked: [✓ Yes] No
Well Diameter: 1" [✓ 2"] Other:

Purging Information

Purging Method: Bailer [✓ Peristaltic] Waterra Other:
Tubing/Bailer Material: Steel [✓ Polyethylene] Teflon Other:
Sampling Method: Bailer [✓ Peristaltic] Waterra Other:
Duration of Pumping: (min) 50
Average Pumping Rate: (ml/min) 200
Water-Quality Meter Type: Horiba U-22
Total Volume Removed: (gal) 2.64 gal
Did well go dry: Yes [✓ No]

Conversion Factors

gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3875 ml = 0.1337 cubic feet

Unit Stability

pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1 823	2 828	3 833	4 838	5 843	6 848	7 853	8 858	9 903
Volume Purged ~~(gal)~~ (liters)	—	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
Rate (mL/min)	200	200	200	200	200	200	200	200	200
Depth to Water (ft.)	6.57	6.61	6.63	6.65	6.65	6.65	6.65	6.65	6.65
pH	7.28	7.01	7.05	7.03	7.01	6.99	6.97	6.95	6.94
Temp. (C)	12.07	12.71	12.79	13.01	13.17	13.09	13.12	13.10	13.07
Conductivity (mS/cm)	1.99	2.05	2.08	2.10	2.13	2.16	2.18	2.19	2.19
Dissolved Oxygen (mg/L)	4.67	1.53	1.86	1.17	0.48	1.16	1.35	0.97	0.64
ORP (mV)	159	3	-49	-67	-83	-94	-100	-105	-107
Turbidity (NTU)	43.4	57.4	58.3	46.6	35.3	30.9	31.2	30.5	30.5
Notes:									

Sampling Information

Analyses	#	Laboratory
~~BTEX (8260)~~	(Done on 11/10)	CompuChem
~~PAHs (8270)~~		CompuChem
MNA Analysis	✓	See COC for details.
~~NAPL Analysis~~		Queen's University, See COC for detail.

Sample ID: MW-21 Sample Time: 915
MS/MSD: Yes [✓ No]
Duplicate: Yes [✓ No]
Duplicate ID — Dup. Time: —
Chain of Custody Signed By: KMG

Problems / Observations

Initial purge - sheen, NAPL blebs, clear, odor

CO_2 = 125 mg/L

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site *Event*

GROUND-WATER SAMPLING LOG

Sampling Personnel:
Well ID: MW-21
Client / Job Number: Niagara Mohawk / 36657.009
Date: 11/12/04
Weather:
Time In: **Time Out:**

Well Information

Depth to Water: (feet) (from MP)
Total Depth: (feet) (from MP)
Length of Water Column: (feet)
Volume of Water in Well: (gal)
Three Well Volumes: (gal)

Well Type: Flushmount Stick-Up
Well Material: Stainless Steel PVC
Well Locked: Yes No
Measuring Point Marked: Yes No
Well Diameter: 1" 2" Other:

See Pg 1

Purging Information

Purging Method: Bailer Peristaltic Waterra Other:
Tubing/Bailer Material: Steel Polyethylene Teflon Other:
Sampling Method: Bailer Peristaltic Waterra Other:
Duration of Pumping: (min)
Average Pumping Rate: (ml/min) Water-Quality Meter Type:
Total Volume Removed: (gal) Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3875 ml = 0.1337 cubic feet

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	908	913							
Volume Purged (~~gal~~) L	9.0	10							
Rate (mL/min)	200	200							
Depth to Water (ft.)	6.65	6.65							
pH	6.92	6.90							
Temp. (C)	13.11	13.25							
Conductivity (mS/cm)	2.20	2.21							
Dissolved Oxygen (mg/L)	0.00	0.00							
ORP (mV)	-110	-113							
Turbidity (NTU)	21.6	25.9							
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX (8260)		CompuChem
PAHs (8270)		CompuChem
MNA Analysis		See COC for details.
NAPL Analysis		Queen's University, See COC for detail.

See Pg 1

Sample ID: Sample Time:
MS/MSD: Yes No
Duplicate: Yes No
Duplicate ID Dup. Time:
Chain of Custody Signed By:

Problems / Observations

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site *Event*

GROUND-WATER SAMPLING LOG

Sampling Personnel:
Client / Job Number: Niagara Mohawk / 36657.009
Weather:

Well ID: MW-2-1
Date: 11/9/04
Time In: 1058 **Time Out:**

Well Information

Depth to Water: (feet) 7.31 (from MP)
Total Depth: (feet) 8.90 (from MP)
Length of Water Column: (feet)
Volume of Water in Well: (gal)
Three Well Volumes: (gal)

Well Type: [✓ Flushmount] Stick-Up
Well Material: Stainless Steel [✓ PVC]
Well Locked: [✓ Yes] No
Measuring Point Marked: [✓ Yes] No
Well Diameter: 1" [✓ 2"] Other:

Purging Information

Purging Method: Bailer [✓ Peristaltic] Waterra Other:
Tubing/Bailer Material: Steel [✓ Polyethylene] Teflon Other:
Sampling Method: [✓ Bailer] Peristaltic Waterra Other:
Duration of Pumping: (min)
Average Pumping Rate: (ml/min) Water-Quality Meter Type:
Total Volume Removed: (gal) Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
Volume Purged (gal)									
Rate (mL/min)									
Depth to Water (ft.)									
pH									
Temp. (C)									
Conductivity (mS/cm)									
Dissolved Oxygen (mg/L)									
ORP (mV)									
Turbidity (NTU)									
Notes:	NAPL extremely evident								

Sampling Information

Analyses	#	Laboratory
BTEX (8260)		CompuChem
PAHs (8270)		CompuChem
MNA Analysis		See COC for details.
NAPL Analysis		Queen's University, See COC for detail.

Sample ID: Sample Time:
MS/MSD: Yes No
Duplicate: Yes No
Duplicate ID Dup. Time:
Chain of Custody Signed By:

Problems / Observations

depth to LNAPL = 5.90
thin, burnt gold.

GROUND-WATER SAMPLING LOG

Sampling Personnel: JDL/kmG

Well ID: MW-22

Client / Job Number: Niagara Mohawk / 36657.009

Date: 11/10/09

Weather: 30°c, cloudy

Time In:

Time Out:

Well Information

Depth to Water:	(feet)	10.68'	(from MP)
Total Depth:	(feet)	14.46	(from MP)
Length of Water Column:	(feet)	3.78	
Volume of Water in Well:	(gal)	0.62 gal	
Three Well Volumes:	(gal)	1.85 gal	

Well Type:	Flushmount	[✓ Stick-Up]	
Well Material:	Stainless Steel	[✓ PVC]	
Well Locked:	[✓ Yes]	No	
Measuring Point Marked:	[✓ Yes]	No	
Well Diameter:	1"	[✓ 2"]	Other:

Purging Information

Purging Method:	Bailer	[✓ Peristaltic]	Waterra	Other:
Tubing/Bailer Material:	Steel	[✓ Polyethylene]	Teflon	Other:
Sampling Method:	[✓ Bailer] BTEX	[✓ Peristaltic] PAHs	Waterra	Other:

Duration of Pumping: (min) ~~4.23~~ 30

Average Pumping Rate: (ml/min) 200

Water-Quality Meter Type: Horiba U-22

Total Volume Removed: (gal) 4.23 gal

Did well go dry: Yes [✓ No]

Conversion Factors				
	1" ID	2" ID	4" ID	6" ID
gal / ft. of water	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	0838	0843	0848	0853	0908 ~~0858~~	0913	0918	0923	0928
Volume Purged (gal)	—	1L	2L	3L	6L	7L	8L	9L	10L
Rate (mL/min)	200	200	200	200	200	200	200	200	200
Depth to Water (ft.)	10.68	11.03	11.17	11.16	11.18	11.18	11.18	11.18	11.18
pH	6.77	6.59	6.40	6.33	6.33	6.34	6.35	6.37	6.38
Temp. (C)	8.90	9.70	10.96	11.32	11.66	11.76	11.62	11.39	11.51
Conductivity (mS/cm)	1.47	1.43	1.25	1.20	1.17	1.18	1.19	1.20	1.20
Dissolved Oxygen (mg/L)	6.51	3.75	2.80	2.02	0.84	0.67	0.58	0.48	0.36
ORP (mV)	-15	-14	-7	-6	-19	-22	-25	-27	-30
Turbidity (NTU)	>999	>999	72.4	13.2	0.0	13.0	14.1	17.9	14.1
Notes:	very turbid, moderate mothball odor, slight sheen								

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
MNA Analysis	–	See COC for details.
NAPL Analysis	—	Queen's University, See COC for detail.

Sample ID: MW-22 Sample Time: 1000

MS/MSD: Yes [✓ No]

Duplicate: Yes [✓ No]

Duplicate ID — Dup. Time: —

Chain of Custody Signed By: KMG

Problems / Observations

~~CO2 (1020)~~.

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: JDL / KMG
Client / Job Number: Niagara Mohawk / 36657.009
Weather: 30°S, cloudy
Well ID: MW-22
Date: 11/10/04
Time In:
Time Out:

Well Information

Depth to Water: (feet) (from MP)
Total Depth: (feet) (from MP)
Length of Water Column: (feet)
Volume of Water in Well: (gal)
Three Well Volumes: (gal)

Well Type: Flushmount Stick-Up
Well Material: Stainless Steel PVC
Well Locked: Yes No
Measuring Point Marked: Yes No
Well Diameter: 1" 2" Other:

see page 1

Purging Information

Purging Method: Bailer Peristaltic Waterra Other:
Tubing/Bailer Material: Steel Polyethylene Teflon Other:
Sampling Method: Bailer Peristaltic Waterra Other:
Duration of Pumping: (min)
Average Pumping Rate: (ml/min) Water-Quality Meter Type:
Total Volume Removed: (gal) Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	0933	0938	0943	0949	0953	0959			
Volume Purged (gal)	11L	12L	13L	14L	15L	16L			
Rate (mL/min)	200	200	200	200	200	200			
Depth to Water (ft.)	11.18	11.18	11.18	11.18	11.18	11.18			
pH	6.39	6.40	6.41	6.43	6.42	6.43			
Temp. (C)	11.45	11.45	11.02	11.39	11.50	11.51			
Conductivity (mS/cm)	1.21	1.21	1.21	1.28	1.26	1.25			
Dissolved Oxygen (mg/L)	0.28	0.18	0.08	0.00	0.00	0.0			
ORP (mV)	-32	-31	-34	-38	-35	-39			
Turbidity (NTU)	9.0	14.2	12.8	10.7	7.7	9.5			
Notes:						clear, slight to mod. mothball odor, slight sheen			

Sampling Information

Analyses	#	Laboratory
BTEX (8260)		CompuChem
PAHs (8270)		CompuChem
MNA Analysis		See COC for details.
NAPL Analysis		Queen's University, See COC for detail.

see page 1

Sample ID: Sample Time:
MS/MSD: Yes No
Duplicate: Yes No
Duplicate ID Dup. Time:
Chain of Custody Signed By:

Problems / Observations

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: KMG/WDL
Client / Job Number: Niagara Mohawk / 36657.009
Weather: 20°s, cloudy
Well ID: MW-23
Date: 11/8/04
Time In:
Time Out:

Well Information

Depth to Water:	(feet)	4.08	(from MP)
Total Depth:	(feet)	10.34	(from MP)
Length of Water Column:	(feet)	6.26	
Volume of Water in Well:	(gal)	1.02	
Three Well Volumes:	(gal)	3.06	

Well Type: [✓ Flushmount] Stick-Up
Well Material: Stainless Steel [✓ PVC]
Well Locked: [✓ Yes] No
Measuring Point Marked: [✓ Yes] No
Well Diameter: 1" [✓ 2"] Other:

Purging Information

Purging Method: Bailer [✓ Peristaltic] Waterra Other:
Tubing/Bailer Material: Steel [✓ Polyethylene] Teflon Other:
Sampling Method: Bailer [✓ Peristaltic] Waterra Other:
Duration of Pumping: (min) 40
Average Pumping Rate: (ml/min) 250 Water-Quality Meter Type: Horiba U-22
Total Volume Removed: (gal) 2.64 gal Did well go dry: Yes [✓ No]

Conversion Factors

gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L =3875 ml = 0.1337 cubic feet

Unit Stability

pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	1510	1515	1520	1525	1530	1535	1545	1550	
Volume Purged (gal)	—							106	
Rate (mL/min)	250	250	250	250	250	250	250	250	
Depth to Water (ft.)	4.08	4.35	4.50	4.55	4.60	4.60	4.60	4.60	
pH	8.12	8.07	7.60	7.50	7.52	7.52	7.50	7.51	
Temp. (C)	12.30	12.34	13.27	13.37	12.75	12.06	11.97	11.58	
Conductivity (mS/cm)	7.24	7.13	5.59	5.56	5.51	5.49	5.45	5.46	
Dissolved Oxygen (mg/L)	4.97	4.79	2.72	1.64	5.26	2.48	2.35	2.47	
ORP (mV)	-146	-141	-136	-137	-135	-133	-133	-130	
Turbidity (NTU)	>999	>999	144	42.9	24.4	11.5	11.2	9.3	
Notes:	turbid, strong MGP-type odor, slight sheen								

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
MNA Analysis	—	See COC for details.
NAPL Analysis	—	Queen's University, See COC for detail.

Sample ID: MW-23 Sample Time: 1555
MS/MSD: Yes [✓ No]
Duplicate: Yes [✓ No]
Duplicate ID — Dup. Time: —
Chain of Custody Signed By: KMG

Problems / Observations

~~DTNAPL = 4.33~~

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: AES, TMG
Client / Job Number: Niagara Mohawk / 36657.009
Weather: 42°F, partly cloudy
Well ID: MW-24
Date: 11/4/04
Time In: 8:58
Time Out: 10:55

Well Information

Depth to Water: (feet) 2.75 (from MP)
Total Depth: (feet) 13.50 (from MP)
Length of Water Column: (feet) 10.75
Volume of Water in Well: (gal) 1.75
Three Well Volumes: (gal) 5.26 gallons

Well Type: [✓ Flushmount] Stick-Up
Well Material: Stainless Steel [✓ PVC]
Well Locked: [✓ Yes] No
Measuring Point Marked: [✓ Yes] No
Well Diameter: 1" [✓ 2"] Other:

Purging Information

Purging Method: Bailer [✓ Peristaltic] Waterra Other:
Tubing/Bailer Material: Steel [✓ Polyethylene] Teflon Other:
Sampling Method: [✓ Bailer] Peristaltic Waterra Other:
Duration of Pumping: (min) 1 hr. 15 mins (75 minutes)
Average Pumping Rate: (ml/min) .16ml/min
Water-Quality Meter Type: Horiba U-22
Total Volume Removed: (gal) 12.25 L (3.24 Gal)
Did well go dry: Yes [✓ No]

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	9:05	9:10	9:15	9:20	9:25	9:30	9:35	9:40	9:45
Volume Purged (gal)	—	.5L	1L	1.5	2.5	3.5	4.5	5.5	6.5L
Rate (mL/min)	150	150	150	150	150	150	150	150	150
Depth to Water (ft.)	2.75	3.70	3.92	4.11	4.2	4.24	4.24	4.26	4.36
pH	6.97	6.64	6.55	6.52	6.51	6.51	6.51	6.50	6.51
Temp. (C)	5.78	10.65	11.66	11.76	11.96	12.13	12.43	12.52	12.36
Conductivity (mS/cm)	0.001	2.54	2.58	2.62	2.65	2.69	2.71	2.73	2.74
Dissolved Oxygen (mg/L)	11.02	3.95	2.62	2.26	2.02	1.75	1.55	1.44	1.30
ORP (mV)	-40	-88	-88	-88	-88	-89	-89	-90	-90
Turbidity (NTU)	>999	>999	>999	>999	>999	931	830	805	752
Notes:	-water is a black/brown color. -slight sheen -has odor								

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
MNA Analysis	0	See COC for details.
NAPL Analysis	0	Queen's University. See COC for detail.

Sample ID: MW-24 Sample Time: 10:23
MS/MSD: Yes [✓ No]
Duplicate: Yes [✓ No]
Duplicate ID — Dup. Time: —
Chain of Custody Signed By:

Problems / Observations

33 drops CO2 - high range
CO2 - 165 mg/L

Site: See page 1

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: MES, TMG

Well ID: MW-24

Client / Job Number: Niagara Mohawk / 36657.009

Date: 11/9/04

Weather:

Time In: 8:58

Time Out:

Well Information

Depth to Water: (feet) (from MP)

Total Depth: (feet) (from MP)

Length of Water Column: (feet)

Volume of Water in Well: (gal)

Three Well Volumes: (gal)

Well Type: [✓ Flushmount] Stick-Up

Well Material: Stainless Steel [✓ PVC]

Well Locked: [✓ Yes] No

Measuring Point Marked: [✓ Yes] No

Well Diameter: 1" [✓ 2"] Other:

Purging Information

Purging Method: Bailer [✓ Peristaltic] Waterra Other:

Tubing/Bailer Material: Steel [✓ Polyethylene] Teflon Other:

Sampling Method: [✓ Bailer] Peristaltic Waterra Other:

Duration of Pumping: (min)

Average Pumping Rate: (ml/min) Water-Quality Meter Type:

Total Volume Removed: (gal) Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1 9:50	2 9:53	3 9:56	9:59 4	5 10:02	6 10:05	7 10:08	8 10:11	9 10:14
Volume Purged (gal)	7.5	8.0	8.0	8.5	9L	9.5	10L	11	11.5
Rate (mL/min)	150	150	150	150	150	150	150	150	150
Depth to Water (ft.)	4.35	4.36	4.36	4.36	4.37	4.37	4.39	4.46	4.40
pH	~~6.56~~	6.55	6.53	6.52	6.51	6.50	6.50	6.52	6.52
Temp. (C)	12.10	12.09	12.45	12.30	12.55	12.76	12.91	12.56	12.84
Conductivity (mS/cm)	0.003	2.62	2.62	2.65	2.64	2.64	2.65	2.62	2.68
Dissolved Oxygen (mg/L)	7.43	3.03	1.94	1.31	0.73	.41	0.84	0.54	.61
ORP (mV)	-91	-90	-90	-90	-91	-92	-92	-92	-89
Turbidity (NTU)	236	163	121	133	114	128	118	80.5	52.2
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
MNA Analysis	0	See COC for details.
NAPL Analysis	0	Queen's University, See COC for detail.

Sample ID: MW-24 Sample Time: 10:23

MS/MSD: Yes [✓ No]

Duplicate: Yes [✓ No]

Duplicate ID — Dup. Time: —

Chain of Custody Signed By:

Problems / Observations

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site: See pages 1+2

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel:

Well ID: MW-24

Client / Job Number: Niagara Mohawk / 36657.009

Date: 11/4/04

Weather:

Time In: 8:58 **Time Out:**

Well Information

Depth to Water: (feet) (from MP)

Total Depth: (feet) (from MP)

Length of Water Column: (feet)

Volume of Water in Well: (gal)

Three Well Volumes: (gal)

Well Type: Flushmount Stick-Up

Well Material: Stainless Steel PVC

Well Locked: Yes No

Measuring Point Marked: Yes No

Well Diameter: 1" 2" Other:

Purging Information

Purging Method: Bailer Peristaltic Waterra Other:

Tubing/Bailer Material: Steel Polyethylene Teflon Other:

Sampling Method: Bailer Peristaltic Waterra Other:

Duration of Pumping: (min)

Average Pumping Rate: (ml/min) Water-Quality Meter Type:

Total Volume Removed: (gal) Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	1017	10:20							
Volume Purged (gal)	12	12.25							
Rate (mL/min)	150	150							
Depth to Water (ft.)	4.41	4.43							
pH	6.52	6.50							
Temp. (C)	12.47	12.69							
Conductivity (mS/cm)	2.73	2.72							
Dissolved Oxygen (mg/L)	.63	.68							
ORP (mV)	-89	-89							
Turbidity (NTU)	51.2	48.8							
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
MNA Analysis	0	See COC for details.
NAPL Analysis	0	Queen's University, See COC for detail.

Sample ID: MW-24 Sample Time: 10:23

MS/MSD: Yes [✓ No]

Duplicate: Yes [✓ No]

Duplicate ID — Dup. Time: —

Chain of Custody Signed By:

Problems / Observations

33 drops CO_2 test - high range

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: AES, KMG
Client / Job Number: Niagara Mohawk / 36657.009
Weather: 40°s, cloudy
Well ID: MW-25
Date: 11/2/04
Time In: 8:08 **Time Out:**

Well Information

Depth to Water: (feet) 5.41 (from MP)
Total Depth: (feet) 14.10 (from MP)
Length of Water Column: (feet) 8.69
Volume of Water in Well: (gal) 1.42
Three Well Volumes: (gal) 4.25

Well Type: [✓ Flushmount] Stick-Up
Well Material: Stainless Steel [✓ PVC]
Well Locked: [✓ Yes] No
Measuring Point Marked: [✓ Yes] No
Well Diameter: 1" [✓ 2"] Other:

Purging Information

Purging Method: Bailer [✓ Peristaltic] Waterra Other:
Tubing/Bailer Material: Steel [✓ Polyethylene] Teflon Other:
Sampling Method: [✓ Bailer] Peristaltic Waterra Other:
Duration of Pumping: (min) 92
Average Pumping Rate: (ml/min) 125 Water-Quality Meter Type: Horiba U-22
Total Volume Removed: (gal) 2.64 Did well go dry: [✓ Yes] No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	8:16	8:23	8:28	8:33	8:38	8:43	8:48	8:53	8:58
Volume Purged (gal)	—	1 Gallon	1 Gallon	1 Gallon	1.5 Gallons	5 liters	6 liters	6 liters	7 L
Rate (mL/min)	300 mL/min	160 mL/min	125 ml/min	125 ml/min	125 ml/min	125 ml/min	125	125	125
Depth to Water (ft.)	5.41	9.95	10.90	11.10	11.55	11.80	12.05	12.45	12.65
pH	12.35	12.33	12.24	12.31	12.34	12.40	12.48	12.43	12.46
Temp. (C)	13.47	14.50	12.89	12.72	12.40	12.05	12.32	12.32	12.29
Conductivity (mS/cm)	2.82	1.87	1.73	1.75	1.81	2.05	2.10	2.14	2.09
Dissolved Oxygen (mg/L)	8.15	8.84	8.63	7.20	2.70	3.02	2.05	2.79	1.34
ORP (mV)	-212	-192	-187	-197	-204	-193	-203	-205	-211
Turbidity (NTU)	1999	1999	1999	1999	1999	633	566	412	419
Notes:	odor very turbid slight sheen								

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
MNA Analysis	—	See COC for details.
NAPL Analysis	—	Queen's University, See COC for detail.

Sample ID: MW-25 Sample Time: 1645 (11/2)
MS/MSD: Yes [✓ No]
Duplicate: Yes [✓ No]
Duplicate ID — Dup. Time: —
Chain of Custody Signed By: KMG

Problems / Observations

[illegible] CO2 = 200 mg/L

DTW (1645) = 6.72'
Sample collected after well recovered for ~7 hours.

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

See page 1

Site *Event*

GROUND-WATER SAMPLING LOG

Sampling Personnel: AES, KMG

Client / Job Number: Niagara Mohawk / 36657.009

Weather:

Well ID: MW-25

Date: 11/2/07

Time In: **Time Out:**

Well Information

Depth to Water: (feet) (from MP)

Total Depth: (feet) (from MP)

Length of Water Column: (feet)

Volume of Water in Well: (gal)

Three Well Volumes: (gal)

Well Type: Flushmount Stick-Up

Well Material: Stainless Steel PVC

Well Locked: Yes No

Measuring Point Marked: Yes No

Well Diameter: 1" 2" Other:

Purging Information

see page 1

Purging Method: Bailer Peristaltic Waterra Other:

Tubing/Bailer Material: Steel Polyethylene Teflon Other:

Sampling Method: Bailer Peristaltic Waterra Other:

Duration of Pumping: (min)

Average Pumping Rate: (ml/min) Water-Quality Meter Type:

Total Volume Removed: (gal) Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

	1	2	3	4	5	6	7	8	9
Parameter:	9:03	9:08	9:13	9:18	9:23	9:28			
Volume Purged (gal)	7L	8L	8L	9L	9L	10L			
Rate (mL/min)	125 ml/min	125	125	125	125	125			
Depth to Water (ft.)	12.82	13.25	13.85	13.35	13.35	NA			
pH	12.47	12.50	12.55	12.61	12.67	12.71			
Temp. (C)	12.30	12.00	11.98	11.35	10.69	11.96			
Conductivity (mS/cm)	2.07	2.00	2.15	2.25	2.35	3.42			
Dissolved Oxygen (mg/L)	0.28	0.00	0.00	0.00	1.94	5.48			
ORP (mV)	-220	-226	-231	-219	-206	-188			
Turbidity (NTU)	366	315	297	198	148	153			
Notes:						well went dry.			

Sampling Information

see page 1

Analyses	#	Laboratory
BTEX (8260)		CompuChem
PAHs (8270)		CompuChem
MNA Analysis		See COC for details.
NAPL Analysis		Queen's University, See COC for detail.

Sample ID: Sample Time:

MS/MSD: Yes No

Duplicate: Yes No

Duplicate ID Dup. Time:

Chain of Custody Signed By:

Problems / Observations

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: JDL / KMB
Client / Job Number: Niagara Mohawk / 36657.009
Weather: 50°s, sunny
Well ID: MW-26
Date: 11/9/04
Time In:
Time Out:

Well Information

Depth to Water:	(feet)	6.04	(from MP)
Total Depth:	(feet)	12.20	(from MP)
Length of Water Column:	(feet)	6.16	
Volume of Water in Well:	(gal)	1.00	
Three Well Volumes:	(gal)	3.00	

Well Type:	[✓ Flushmount]	Stick-Up
Well Material:	Stainless Steel	[✓ PVC]
Well Locked:	[✓ Yes]	No
Measuring Point Marked:	[✓ Yes]	No
Well Diameter:	1" [✓ 2"]	Other:

Purging Information

Pump start 1200

Pumped 8!

Purging Method:	Bailer	[✓ Peristaltic]	Waterra	Other:
Tubing/Bailer Material:	Steel	[✓ Polyethylene]	Teflon	Other:
Sampling Method:	[✓ Bailer] BTEX	[✓ Peristaltic] PAHs	Waterra	Other:

Duration of Pumping: (min) 30
Average Pumping Rate: (ml/min) 225
Water-Quality Meter Type: Horiba U-22
Total Volume Removed: (gal) 1.76 gal
Did well go dry: Yes [✓ No]

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1 1202	2 1207	3 1212	4 1217	5 1222	6 1227	7 1232	8 1237	9 1242
Volume Purged (gal)	—	2.0	3.0	4.0	5.0	6.0	7.0	8.0	
Rate (mL/min)	200	200	200	200	200	200	200	200	250
Depth to Water (ft.)	6.13	6.15	6.16	6.16	6.16	6.16	6.16	6.16	6.19
pH	5.89	6.22	6.39	6.47	6.54	6.59	6.60	6.56	6.64
Temp. (C)	15.64	15.76	15.99	16.02	15.45	15.13	14.78	14.57	14.64
Conductivity (mS/cm)	1.20	1.20	1.21	1.20	1.20	1.20	1.19	1.18	1.14
Dissolved Oxygen (mg/L)	15.64	7.20	4.53	3.72	3.11	2.79	2.20	1.85	4.41
ORP (mV)	60	-21	-45	-51	-55	-57	-56	-55	-55
Turbidity (NTU)	>999	103	48.3	22.3	22.3	17.5	34.1	11.1	638
Notes:	turbidity decreased after first few mins. of pumping								Increase Sheen on water

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
~~MNA Analysis~~		~~See COC for details.~~
~~NAPL Analysis~~		Queen's ~~University, See~~ COC for detail.

Sample ID: MW-26 Sample Time: 1325
MS/MSD: Yes [✓ No]
Duplicate: Yes [✓ No]
Duplicate ID — Dup. Time: —
Chain of Custody Signed By: KMB

Problems / Observations

Initial purge - very turbid, strong odor, sheen

100 mg/L of CO_2

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Groundwater Sampling

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel:

Client / Job Number: Niagara Mohawk / 36657.009

Weather:

Well ID: mw-26

Date: 11/8/04

Time In:

Time Out:

Well Information

Depth to Water: (feet) (from MP)

Total Depth: (feet) (from MP)

Length of Water Column: (feet)

Volume of Water in Well: (gal)

Three Well Volumes: (gal)

Well Type: Flushmount Stick-Up

Well Material: Stainless Steel PVC

Well Locked: Yes No

Measuring Point Marked: Yes No

Well Diameter: 1" 2" Other:

See Page 1

Purging Information

Purging Method: Bailer Peristaltic Waterra Other:

Tubing/Bailer Material: Steel Polyethylene Teflon Other:

Sampling Method: Bailer Peristaltic Waterra Other:

Duration of Pumping: (min)

Average Pumping Rate: (ml/min) Water-Quality Meter Type:

Total Volume Removed: (gal) Did well go dry: Yes No

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1 1247	2 1252	3 1257	4 1302	5 1307	6 1312	7 1317	8 1322	9
Volume Purged (gal)								18 L	
Rate (mL/min)	250	250	250	250	250	250	250	250	
Depth to Water (ft.)	6.19	6.21	6.23	6.25	6.25	6.20	6.28	6.30	
pH	6.61	6.72	6.73	6.73	6.76	6.77	6.85	6.88	
Temp. (C)	15.51	15.36	15.30	15.04	14.78	14.33	13.83	14.12	
Conductivity (mS/cm)	1.15	1.21	1.22	1.23	1.23	1.21	1.24	1.24	
Dissolved Oxygen (mg/L)	1.91	3.47	1.13	0.65	0.38	0.16	0.20	0.19	
ORP (mV)	-57	-62	-69	-71	-73	-73	-74	-80	
Turbidity (NTU)	440	83.6	76.1	48.4	38.2	30.2	32.4	40.2	
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX (8260)		CompuChem
PAHs (8270)		CompuChem
MNA Analysis		See COC for details.
NAPL Analysis		Queen's University, See COC for detail.

See Pg 1

Sample ID: Sample Time:

MS/MSD: Yes No

Duplicate: Yes No

Duplicate ID Dup. Time:

Chain of Custody Signed By:

Problems / Observations

Niagara Mohawk, A National Grid Company
Schenectady (Broadway St.), New York

Site

Groundwater Sampling

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel: KMG
Client / Job Number: Niagara Mohawk / 36657.009
Weather: 40°s, sleet & rain
Well ID: MW-27D
Date: 11/4/04
Time In:
Time Out:

Well Information

Depth to Water: (feet) 10.02 (from MP)
Total Depth: (feet) 86.95 (from MP)
Length of Water Column: (feet) 76.93
Volume of Water in Well: (gal) 12.54
Three Well Volumes: (gal) 37.62

Well Type: Flushmount [✓ Stick-Up]
Well Material: Stainless Steel [✓ PVC]
Well Locked: [✓ Yes] No
Measuring Point Marked: [✓ Yes] No
Well Diameter: 1" [✓ 2"] Other:

Purging Information

Purging Method: Bailer [✓ Peristaltic] Waterra Other:
Tubing/Bailer Material: Steel [✓ Polyethylene] Teflon Other:
Sampling Method: [✓ Bailer] Peristaltic Waterra Other:
Duration of Pumping: (min) 30
Average Pumping Rate: (ml/min) 160
Total Volume Removed: (gal) 1.27 gal
Water-Quality Meter Type: Horiba U-22
Did well go dry: Yes [✓ No]

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1	2	3	4	5	6	7	8	9
	1459	1504	1509	1514	1519	1524	1529	TK	
Volume Purged (gal)	—	<1L	1L	<2L	2L	<3L	4L		
Rate (mL/min)	160	160	160	160	160	160	160		
Depth to Water (ft.)	10.02	12.40	12.60	12.80	13.20	13.78	14.13		
pH	9.27	9.72	9.74	9.87	10.01	9.98	10.07		
Temp. (C)	6.98	7.56	7.55	7.32	7.35	8.30	8.67		
Conductivity (mS/cm)	0.558	0.553	0.556	0.550	0.550	0.540	0.544		
Dissolved Oxygen (mg/L)	7.04	7.00	5.77	4.50	4.19	4.15	4.07		
ORP (mV)	151	149	143	135	124	123	124		
Turbidity (NTU)	216.0	168.0	130.0	119.0	58.0	14.0	7.2		
Notes:	slightly turbid, no odor/sheen								

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
MNA Analysis	—	See COC for details.
NAPL Analysis	—	Queen's University, See COC for detail.

Sample ID: MW-27D Sample Time: 1530
MS/MSD: Yes [✓ No]
Duplicate: Yes [✓ No]
Duplicate ID — Dup. Time: —
Chain of Custody Signed By: KMG

Problems / Observations

CO2 (1529) = 0mg/L

J:\kmg\SampleForms\GroundWaterSamp.doc

BBL, Inc.

Site

Event

GROUND-WATER SAMPLING LOG

Sampling Personnel:

Client / Job Number: Niagara Mohawk / 36657.009

Weather: gray skies, rain/hail, low 40's/upper 30s

Well ID: MW-27S

Date: 11/4/04

Time In: 1414

Time Out:

Well Information

Depth to Water: (feet) 8.11 (from MP)

Total Depth: (feet) 10.41 (from MP)

Length of Water Column: (feet)

Volume of Water in Well: (gal)

Three Well Volumes: (gal)

Well Type: Flushmount [✓ Stick Up]

Well Material: Stainless Steel [✓ PVC]

Well Locked: [✓ Yes] No

Measuring Point Marked: [✓ Yes] No

Well Diameter: 1" [✓ 2"] Other:

Purging Information

Purging Method: Bailer [✓ Peristaltic] Waterra Other:

Tubing/Bailer Material: Steel [✓ Polyethylene] Teflon Other:

Sampling Method: [✓ Bailer] Peristaltic Waterra Other:

Duration of Pumping: (min) 42

Average Pumping Rate: (ml/min) 200

Water-Quality Meter Type: Horiba U-22

Total Volume Removed: (gal) 1.72

Did well go dry: Yes [✓ No]

Conversion Factors				
gal / ft. of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L =3875 ml = 0.1337 cubic feet				

Unit Stability			
pH	DO	Cond.	ORP
± 0.1	± 10%	± 3.0%	± 10 mV

Parameter:	1 1436	2 1441	3 1446	4 1451	5 1456	6 1501	7 1506	8 1509	9 1512
Volume Purged (gal)	—	3L	3.5L	3.5	4L	5L	5.5L	6L	6.5L
Rate (mL/min)	200	200	200	200	200	200	200	200	200
Depth to Water (ft.)	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
pH	7.49	7.06	6.81	6.62	6.55	6.52	6.5	6.51	6.50
Temp. (C)	10.25	10.45	10.02	9.70	9.62	9.30	9.17	9.21	9.28
Conductivity (mS/cm)	1.14	.009	1.15	1.16	1.18	1.19	1.21	1.21	1.22
Dissolved Oxygen (mg/L)	13.34	10.90	4.52	2.20	0.89	.33	0.06	0.00	0.00
ORP (mV)	5.4	35	-3	-27	-91	-32	-33	-34	-33
Turbidity (NTU)	>999	302	232	138	68.8	45.5	35.4	20.0	17.1
Notes:									

Sampling Information

Analyses	#	Laboratory
BTEX (8260)	3	CompuChem
PAHs (8270)	2	CompuChem
MNA Analysis	—	See COC for details.
NAPL Analysis	—	Queen's University, See COC for detail.

Sample ID: MW-27S Sample Time: 1513

MS/MSD: Yes [✓ No]

Duplicate: Yes [✓ No]

Duplicate ID — Dup. Time: —

Chain of Custody Signed By: KMG

Problems / Observations

13 drops CO2 test - high range

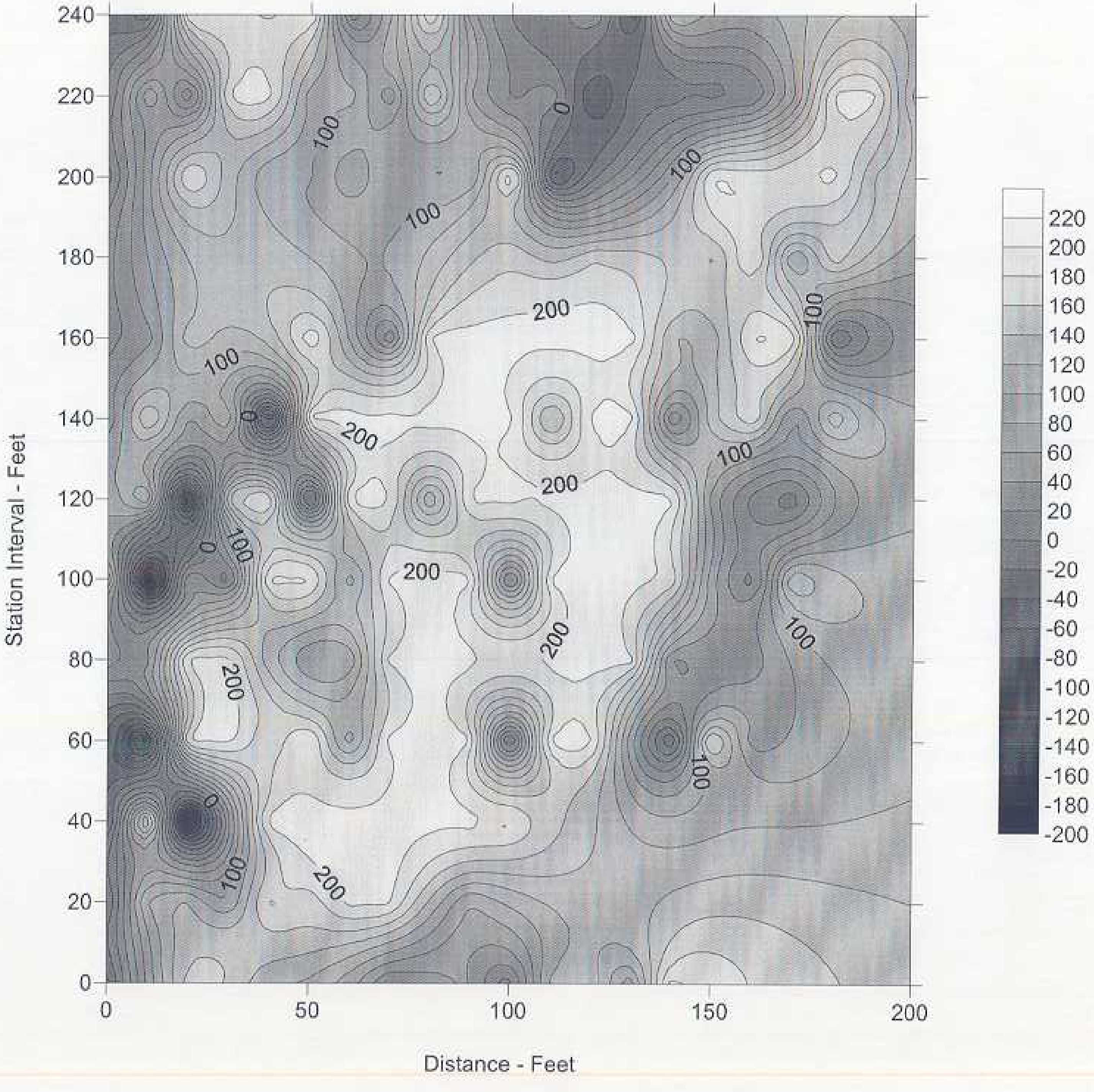
Appendix D

Ground-Penetrating Radar and Electromagnetic Survey Results

BBL®
BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

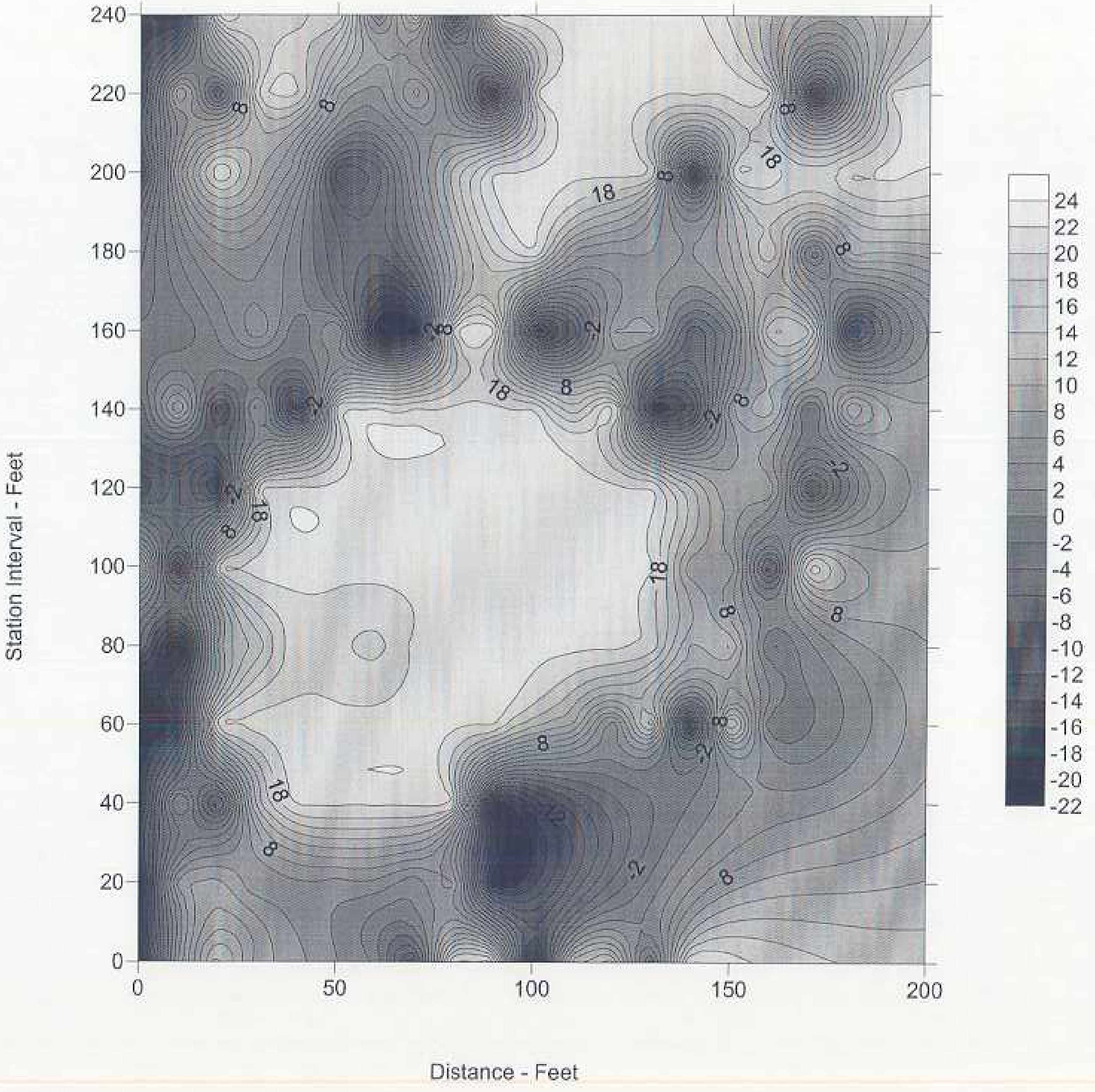
Niagara Mohawk - Schenectady, New York

Area 1 - EM Apparent Conductivity Contour Map



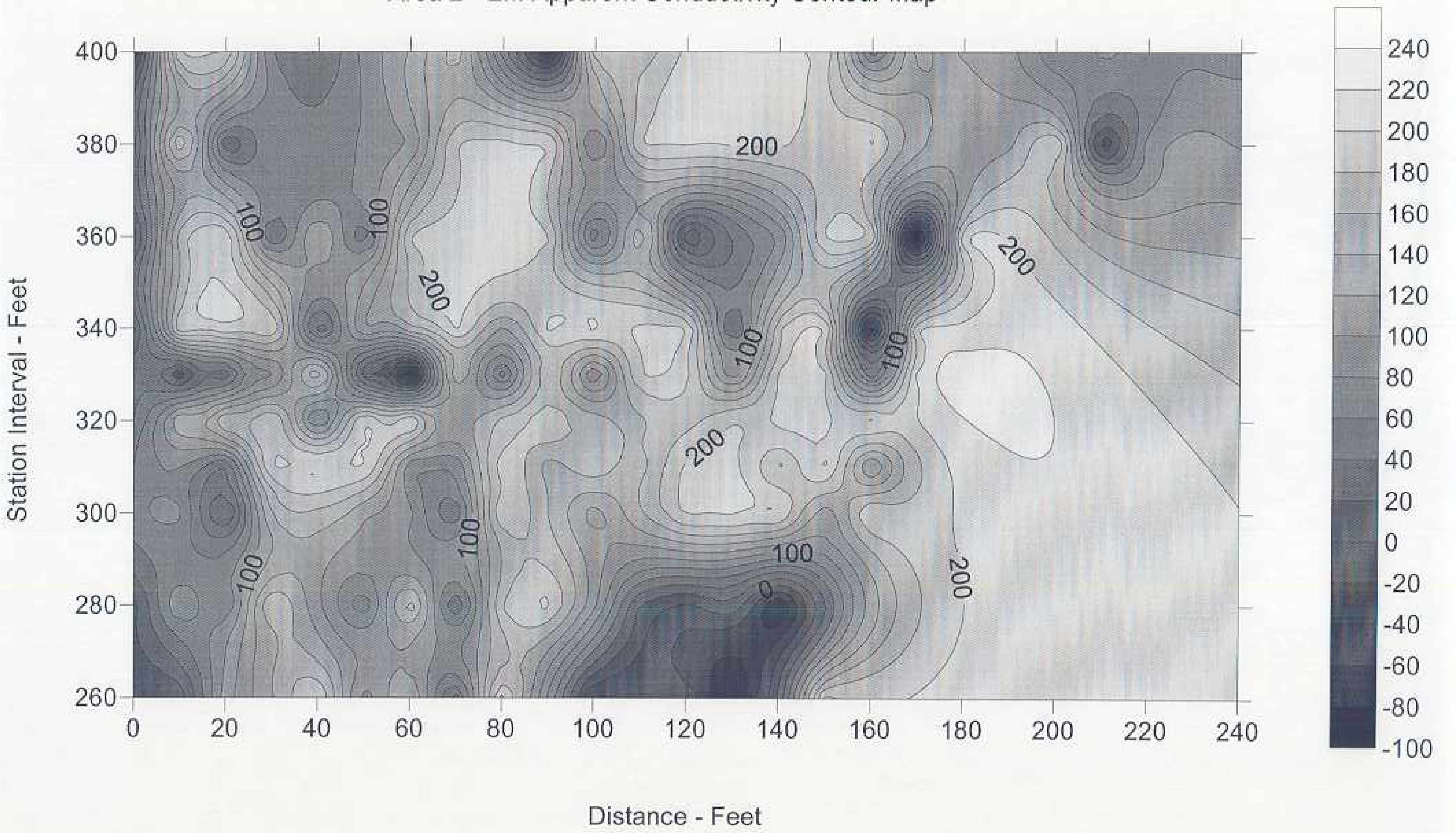
Niagara Mohawk - Schenectady, New York

Area 1 - EM Inphase Contour Map



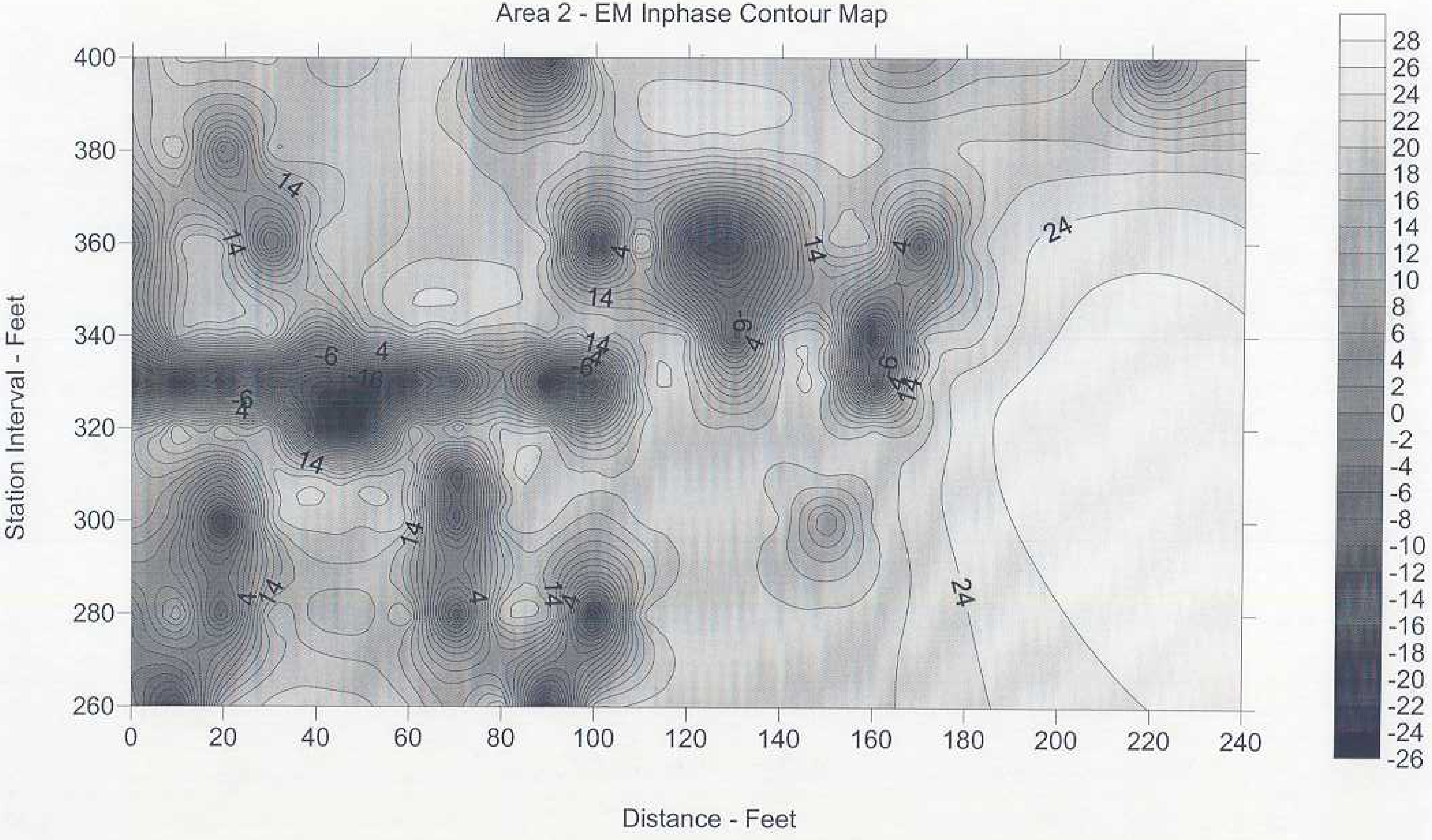
Niagara Mohawk - Schenectady, New York

Area 2 - EM Apparent Conductivity Contour Map



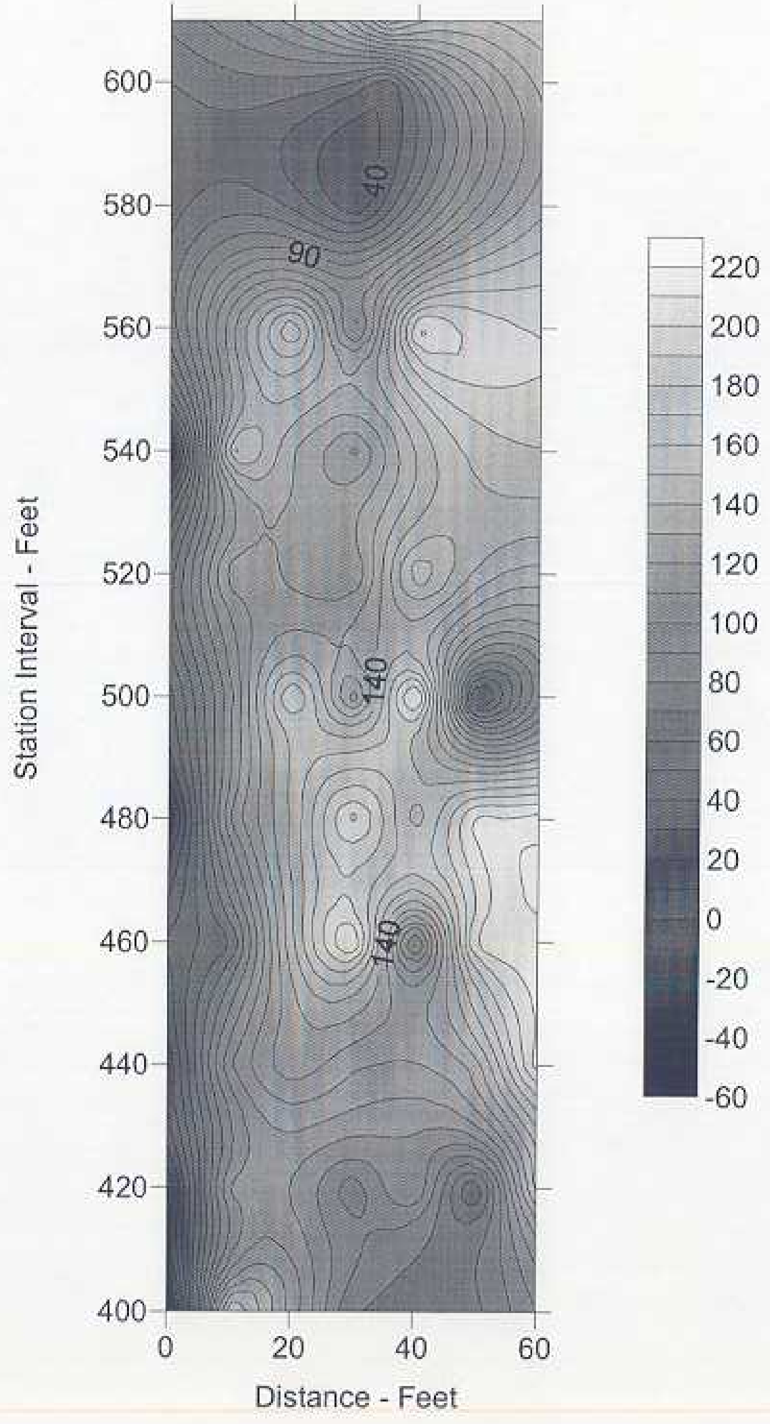
Niagara Mohawk - Schenectady, New York

Area 2 - EM Inphase Contour Map



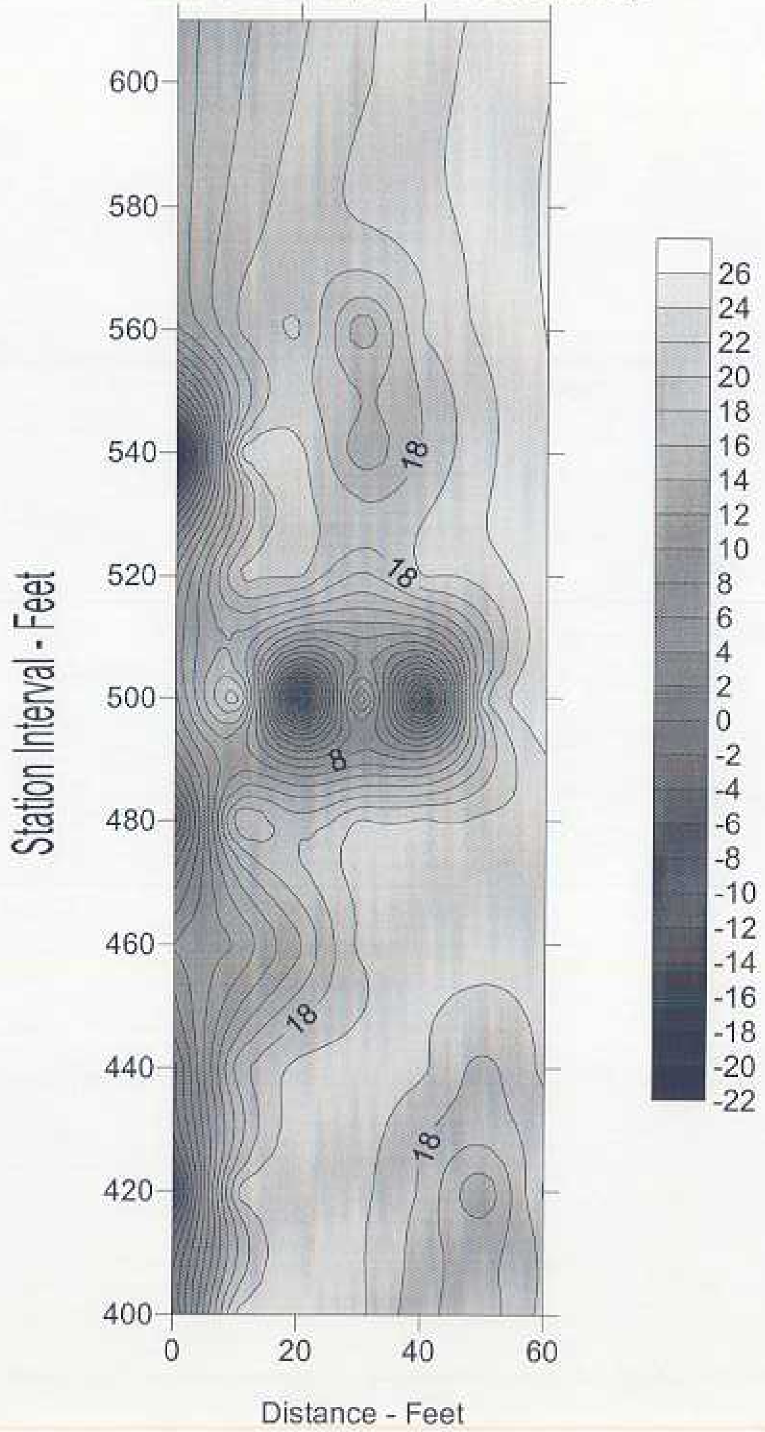
Niagara Mohawk - Schenectady, New York

Area 3 - EM Apparent Conductivity Contour Map



Niagara Mohawk - Schenectady, New York

Area 3 - EM Inphase Contour Map



Appendix E

Offsite Groundwater Memorandum

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

BROWN AND CALDWELL

MEMORANDUM

TO: File **PROJECT NO**: 127466.002

FROM: Bob O'Neill

DATE: November 11, 2005

SUBJECT: Review of Groundwater Quality Data From Downgradient Wells
National Grid Schenectady (Broadway) Service Center

During the Supplemental Remedial Investigation (SRI) of the former manufactured gas plant (MGP) located at the National Grid Schenectady (Broadway) Service Center (referred to herein as the "site"), National Grid obtained existing groundwater quality data for two off-site well clusters located downgradient of the site and the downgradient railroad properties (CSX and Delaware & Hudson) located adjacent to the site. These well clusters were installed and sampled as part of the Remedial Investigation (RI) activities at the General Electric (GE) Main Plant site located west-northwest of the National Grid site. This information was acquired by the following two means:

- First, on October 7, 2003, on behalf of National Grid, I met with the New York State Department of Environmental Conservation's (NYSDEC's) project manager for the RI at the GE Main Plant site and reviewed the investigation data.

- Second, I obtained the NYSDEC's November 2004 Proposed Remedial Action Plan (PRAP) for the GE Main Plant site from NYSDEC's website and reviewed it for information that might pertain to the National Grid site.

Information for these wells obtained from these sources, including location maps, well construction details and groundwater quality data, is provided in the attachment to this memorandum.

The two well clusters are designated GE-210 and DM-422, and contain two and three monitoring wells, respectively. The well locations are shown on the attached map. The hydrostratigraphic intervals monitored by these wells are similar to those monitored on the National Grid site. The following provides a description of these wells based on information provided in Table 5-2 of the *Revised Remedial Investigation Report, GE Main Plant Site, Schenectady, New York* (URS, May 2003) (see Attachment):

GE-210 Cluster

- GE-210S
  Screened interval: Depth10-20 ft bgs; Elevation: 216.11-206.11 ft amsl.
  Well screen positioned within flood plain and channel fill deposits.

- GE-210D
  Screened interval: Depth 45-55 ft bgs; Elevation 181.30-171.30 ft amsl.
  Well screen positioned within channel fill deposits.

DM-422 Cluster

- DM-422F
  Screened interval: Depth 7-12 ft bgs; Elevation 222.37-217.37 ft amsl.
  Well screen positioned within fill deposits.

- DM-422FP
  Screened interval: Depth 14-24 ft bgs; Elevation 215.48-205.48 ft amsl.
  Well screen positioned within floodplain deposits.

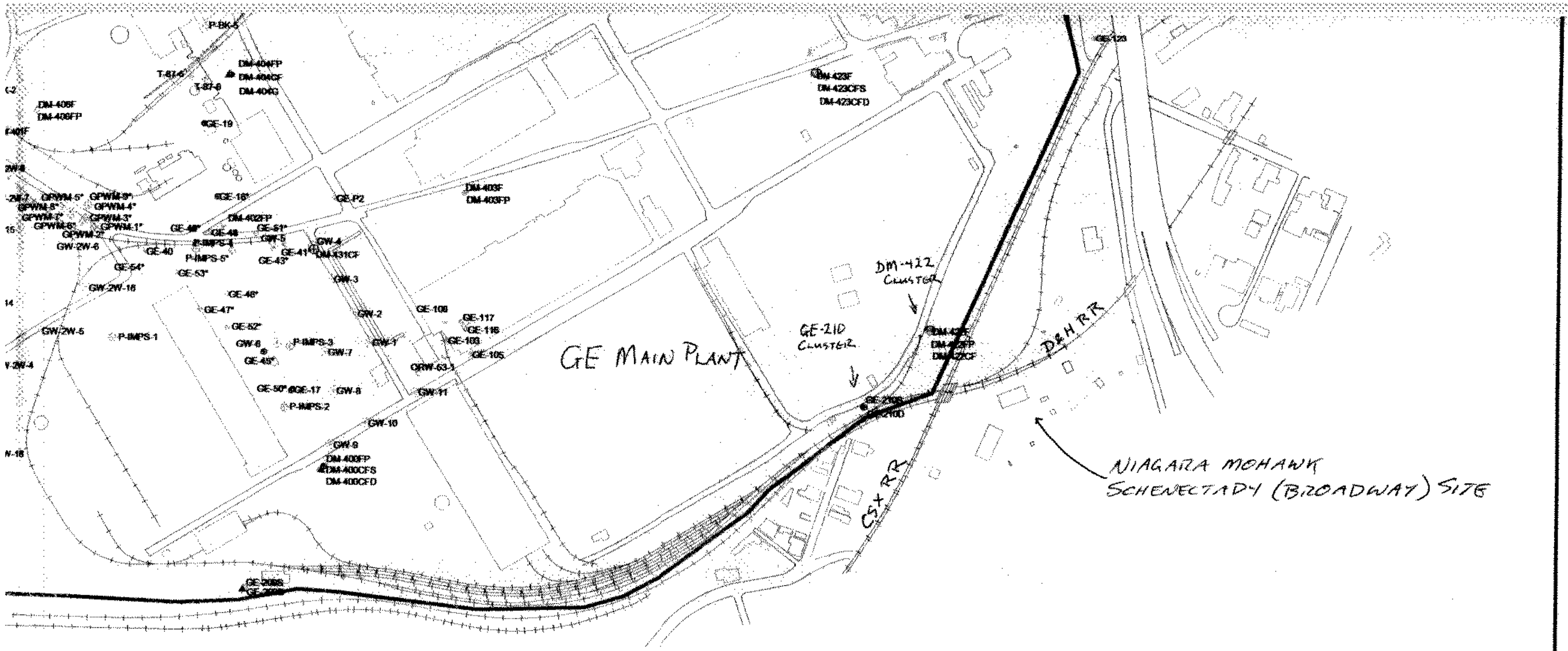
- DM-422CF
  Screened interval: Depth 45-55 ft bgs; Elevation: 184.20-174.20 ft amsl.
  Well screen positioned within channel fill deposits.

The reviewed data indicates that volatile organic compounds (VOCs) were either not detected, or reported at low concentrations (i.e., below Class GA standards and guidance values) in each of these wells. Similarly, semivolatile organic compounds (SVOCs) were typically not detected, or reported at concentrations below Class GA criteria. During one sampling event in 1988, phenol was detected at GE-210S and GE-210D at concentrations slightly above the Class GA criteria, but during subsequent sampling events, the phenol was not detected or was at a concentration below Class GA criteria in these wells. Phenol can be derived from several common sources, and although phenol can be associated with MGP sites, groundwater data from the National Grid site do not indicate that substantial concentrations of phenol are migrating from the site in groundwater. Thus, the phenol detected in GE-210S and GE-210D was likely derived from a local source.

The data from the RI at the GE Main Plant site indicate that groundwater with concentrations of MGP-related constituents above the Class GA criteria is limited to the area upgradient of GE property. Further, a review of the soil descriptions in the soil boring logs for these wells, and for other nearby soil borings drilled on the GE property, did not indicate the presence of MGP-related contamination.

ATTACHMENTS

SELECTED TABLES AND FIGURE FROM: *REVISED REMEDIAL INVESTIGATION REPORT, GE MAIN PLANT SITE, SCHENECTADY, NEW YORK* (URS, May 2003)



GRAPHIC SCALE

0 200 400 600 Feet

LEGEND:

- ◇ 2000-2002 GROUNDWATER SAMPLING LOCATION - FILL AND FLOODPLAIN MATERIAL
- ◦ PRE-JULY 2000 GROUNDWATER SAMPLING LOCATION - FILL AND FLOODPLAIN MATERIAL
- ⊕ 2000-2002 GROUNDWATER SAMPLING LOCATION - CHANNEL FILL DEPOSITS
- ⊕ PRE-JULY 2000 GROUNDWATER SAMPLING LOCATION - CHANNEL FILL DEPOSITS
- ▲ 2000-2002 GROUNDWATER SAMPLING LOCATION - GLACIOLACUSTRINE DEPOSITS AND BEDROCK
- ▲ PRE-JULY 2000 GROUNDWATER SAMPLING LOCATION - GLACIOLACUSTRINE DEPOSITS AND BEDROCK
- ☆ 2000-2002 GROUNDWATER SCREENING SAMPLE LOCATIONS

NOTES:

*: INDICATES WELL HAS BEEN ABANDONED OR DESTROYED.

FIGURE 5-3

GROUNDWATER MONITORING WELL AND SAMPLING LOCATIONS

GENERAL ELECTRIC COMPANY
MAIN PLANT
SCHENECTADY, NEW YORK

URS
646 PLANK ROAD SUITE 202
CLIFTON PARK, NEW YORK 12065

TABLE 5-2

MONITORING WELL LIST
2000-2002

GENERAL ELECTRIC
SCHENECTADY, NEW YORK

Well Name	Date Installed	Date Abandoned	Screened Formation	Coordinates		Grade Elevation (feet msl)	Measuring Point Elevation (feet msl)	Screened Interval		Elevation of Screened Interval		Well Diameter (inches)	Total Depth of Boring (feet bgs)
				Northing (feet)	Easting (feet)			Top (feet bgs)	Bottom (feet bgs)	Top (feet msl)	Bottom (feet msl)		
Fill and Floodplain													
DM-305S	9/92	-	fi,fp	1025498.55	598863.00	235.66	238.61	19	39	216.66	196.66	4	41
DM-306S	9/92	-	fp	1025880.22	599897.28	223.67	226.43	9	29	214.67	194.67	4	29
DM-407FP	1999	-	fp	1024132.20	598945.25	227.28	226.90	19	24	208.28	203.28	2	24
DM-408F	4/99	-	fi	1024390.07	598356.34	226.167	228.28	2	7	224.167	219.167	8.5	15
DM-408FP	1999	-	fp	1024394.90	598353.41	226.16	228.24	10	15	216.16	211.16	2	15
DM-418FP	10/00	-	fp	1024970.04	598047.16	225.49	227.28	10	15	215.49	210.49	2	15
DM-419FP	10/00	-	fp	1024108.28	598475.47	225.92	227.70	10	20	215.92	205.92	2	20
DM-421FP	10/00	-	fp	1022087.06	597360.08	226.85	228.79	5	10	221.85	216.85	2	10
DM-422F	10/00	-	fi	1022537.48	601941.04	229.37	231.18	7	12	222.37	217.37	2	12
DM-422FP	10/00	-	fp	1022533.63	601938.94	229.48	231.34	14	24	215.48	205.48	2	24
DM-423F	10/00	-	fi	1023657.61	601427.93	227.45	229.35	5	15	222.45	212.45	2	15
DM-424FP	1/01	-	fp	1024379.02	601021.33	223.62	225.63	4	14	219.62	209.62	2	14
GE-28	10/82	-	fp	1024139.94	596480.37	219.66	222.83	11	16	208.66	203.66	2	27
GE-31	10/82	-	fp	1023474.66	593439.47	225.50	227.56	9.5	14.5	216.00	211.00	2	14.5
GE-34	10/82	-	fp	1023419.09	594005.69	222.45	224.63	10	15	212.45	207.45	2	15
GE-103	3/86	-	fi,fp	1022483.03	599820.81	225.14	224.52	1	11	224.14	214.14	2	12
GE-105	3/86	-	fi,fp	1022421.57	599924.84	225.30	225.07	0	10	225.30	215.30	2	10
GE-108	3/86	-	fi,fp	1022560.88	599813.70	225.55	225.40	0	10	225.55	215.55	2	10
GE-116	8/86	-	fi	1022530.00	599904.05	225.46	225.05	1	9	224.46	216.46	2	14.7
GE-117	8/86	-	fi	1022555.76	599884.24	225.70	225.37	-1	9	226.70	216.70	2	14
GE-118	9/86	-	fi,fp	1024250.00	602460.00	225.89	227.58	4	14	221.89	211.89	2	14
GE-120	9/86	-	fi,fp	1024355.00	602748.00	227.25	228.88	5	15	222.25	212.25	2	16
GE-121	12/85	-	fi,fp	1024226.00	602640.00	227.69	230.63	5	20	222.69	207.69	2	20
GE-122	12/85	-	fi,fp	1024176.00	602566.00	226.27	229.27	5	20	221.27	206.27	2	20
GE-123	12/85	-	fi,fp	1023818.00	602650.00	232.59	235.59	5	20	227.59	212.59	2	20
GE-202	12/87	-	fp	1024367.63	602339.04	232.18	234.31	10	20	222.18	212.18	2	22
GE-204S	11/87	-	fp	1025224.15	600193.84	231.71	233.31	10	20	221.71	211.71	2	21
GE-205S	11/87	-	fi	1025223.98	600398.70	221.49	222.65	7	12	214.49	209.49	2	12.4
GE-206S	11/87	-	fi	1025129.13	600978.33	221.26	228.46	10	20	211.26	201.26	2	20
GE-214M	11/87	-	fp	1024922.36	597705.66	225.41	227.35	10	20	215.41	205.41	2	21
GE-215M	11/87	-	fp	1024998.93	598387.07	229.11	232.31	12	17	217.11	212.11	2	17.2
GE-216M	11/87	-	fp	1025133.42	598974.78	226.63	228.59	10	20	216.63	206.63	2	20

TABLE 5-2

MONITORING WELL LIST
2000-2002

GENERAL ELECTRIC
SCHENECTADY, NEW YORK

Well Name	Date Installed	Date Abandoned	Screened Formation	Coordinates		Grade Elevation (feet msl)	Measuring Point Elevation (feet msl)	Screened Interval		Elevation of Screened Interval		Well Diameter (inches)	Total Depth of Boring (feet bgs)
				Northing (feet)	Easting (feet)			Top (feet bgs)	Bottom (feet bgs)	Top (feet msl)	Bottom (feet msl)		
R-10	3/91	-	fi,fp	1024025	602588	228.83	231.79	4	12	224.83	219.79	6	14
						Channel Fill							
DM-301S	10/91	-	cf	1025409.31	596190.99	220.22	222.84	18	23	202.22	197.22	4	37
DM-301I	11/91	-	fp,cf	1025414.27	596179.56	220.17	223.20	30	40	190.17	180.17	4	44
DM-302S	11/91	-	cf	1025196.31	597335.70	236.08	238.56	14	34	222.08	202.08	4	35.2
DM-302D	11/91	-	cf	1025187.44	597316.83	235.26	238.01	51.3	71.3	183.96	163.96	4	75.3
DM-303S	11/91	-	cf	1025242.80	597909.92	235.76	237.69	20	30	215.76	205.76	4	40
DM-303I	11/91	-	cf	1025241.89	597899.05	235.75	238.52	48.5	58.5	187.25	177.25	4	61
DM-303D	11/91	-	cf	1025244.46	597923.12	235.79	238.37	70	90	165.79	145.79	4	102
DM-304S	9/92	-	cf	1025340.02	598393.55	235.75	238.72	20	40	215.75	195.75	4	40
DM-304I	9/92	-	cf	1025343.62	598404.52	235.59	238.21	49	59	186.59	176.59	4	60
DM-304D	9/92	-	cf	1025346.29	598416.23	235.60	238.15	69	79	166.60	156.60	4	83.7
DM-305I	9/92	-	cf,gl	1025505.27	598871.62	235.81	238.49	55	75	180.81	160.81	4	76
DM-400CFS	1999	-	cf	1021930.69	599292.29	225.25	227.13	35	50	190.25	175.25	2	50
DM-404CF	1999	-	cf	1023635.91	598882.96	228.65	230.45	35	50	193.65	178.65	2	50
DM-405CF	4/00	-	cf	1024309.90	597883.59	227.17	227.02	25	35	202.17	192.17	2	35
DM-407CF	1999	-	cf	1024128.88	598939.85	227.28	227.05	32	47	195.28	180.28	2	47
DM-408CF	1999	-	cf	1024399.69	598350.33	226.11	228.12	53	68	173.11	158.11	2	68
DM-409CF	1999	-	cf	1024579.42	596906.79	219.07	221.18	16	26	203.07	193.07	2	26
DM-410CF	1999	-	cf	1024573.16	597001.38	231.14	233.70	28	38	203.14	193.14	2	38
DM-411CF	1999	-	cf	1023713.17	596206.78	229.15	231.45	28	38	201.15	191.15	2	38
DM-412CF	1999	-	cf	1023647.44	596226.57	220.24	222.18	21	26	199.24	194.24	2	26
DM-413CF	1999	-	cf	1023541.49	596969.03	235.22	236.61	31	41	204.22	194.22	2	41
DM-415CF	1999	-	cf	1022168.00	596284.00	241.77	243.48	69	84	172.77	157.77	2	84
DM-416CF	1999	-	cf	1022103.26	595526.08	233.81	235.29	33	41	200.81	192.81	2	41
DM-418CF	10/00	-	cf	1024971.10	598051.98	225.44	227.33	20	30	205.44	195.44	4	30
DM-419CF	10/00	-	cf	1024114.37	598472.70	225.92	227.77	25	35	200.92	190.92	4	35
DM-422CF	10/00	-	cf	1022540.67	601942.51	229.20	231.20	45	55	184.20	174.20	2	55
DM-423CFD	10/00	-	cf	1023657.28	601423.33	227.47	229.23	52	62	175.47	165.47	2	62
DM-423CFS	10/00	-	cf	1023657.94	601432.18	227.45	229.25	19	24	208.45	203.45	2	24
DM-424CF	1/01	-	cf	1024375.91	601017.10	223.68	226.03	22	32	201.68	191.68	2	32
DM-425CF	1999	-	cf	1023123.44	595148.99	243.90	243.73	43	48	200.90	195.90	2	52
DM-431CF	1/01	-	cf	1022875.53	599242.19	225.58	227.88	32	42	193.58	183.58	2	42

TABLE 5-2

MONITORING WELL LIST
2000-2002

GENERAL ELECTRIC
SCHENECTADY, NEW YORK

Well Name	Date Installed	Date Abandoned	Screened Formation	Coordinates		Grade Elevation (feet msl)	Measuring Point Elevation (feet msl)	Screened Interval		Elevation of Screened Interval		Well Diameter (inches)	Total Depth of Boring (feet bgs)
				Northing (feet)	Easting (feet)			Top (feet bgs)	Bottom (feet bgs)	Top (feet msl)	Bottom (feet msl)		
DM-432CF	1/01	-	cf	1022648.89	597677.32	225.32	227.50	24	34	201.32	191.32	2	34
DM-435	11/02	-	fp,cf	1024265	598111	227.29	226.83	12	22	215.29	187.29	8	22
GE-1	6/80	-	cf	1021964.72	595679.49	232.66	237.56	30	40	202.66	192.66	1.5	42
GE-8	6/80	-	cf	1023048.23	597011.48	234.71	238.04	40	50	194.71	184.71	1.5	61.5
GE-12	7/80	-	cf	1023166.24	595710.16	228.40	230.78	38	48	190.40	180.40	1.5	57
GE-15	7/80	-	cf	1023662.71	594746.23	223.44	226.44	20	30	203.44	193.44	1.5	42
GE-16	7/80	-	fp,cf	1022382.65	595746.58	242.03	245.79	36.5	46.5	205.53	195.53	1.5	47
GE-17	7/80	-	cf	1022265.35	599154.39	225.66	225.38	30	40	195.66	185.66	1.5	42
GE-19	7/80	-	fp,cf	1023417.33	598764.86	226.67	229.39	22	32	204.67	194.67	1.5	42
GE-29	10/82	-	cf	1024143.89	596478.33	219.47	222.88	24.5	29.5	194.97	189.97	2	67
GE-30	10/82	-	cf	1023477.52	593443.20	225.27	227.35	21	26	204.27	199.27	2	52
GE-33	10/82	-	cf	1023414.81	594003.96	222.37	224.79	35	40	187.37	182.37	2	42
GE-203D	11/87	-	cf	1024902.56	597113.79	233.50	235.01	25	35	208.50	198.50	2	42
GE-204D	11/87	-	cf	1025225.65	600201.47	232.00	233.07	25	35	207.00	197.00	2	37
GE-205D	11/87	-	cf	1025222.29	600395.95	221.47	223.86	24	34	197.47	187.47	2	35
GE-206D	11/87	-	cf	1025127.16	600982.85	221.32	223.67	24	34	197.32	187.32	2	36.5
GE-210S	11/87	-	fp,cf	1022204.19	601656.95	226.11	228.00	10	20	216.11	206.11	2	21
GE-210D	11/87	-	cf	1022204.16	601652.23	226.30	227.61	45	55	181.30	171.30	2	57
GE-213M	12/87	-	fp,cf	1025019.31	596047.58	219.23	223.65	5	10	214.23	209.23	2	11
GE-213D	12/87	-	cf	1025016.76	596062.16	219.21	224.00	15	25	204.21	194.21	2	32.4

TABLE 5-2

MONITORING WELL LIST
2000-2002

GENERAL ELECTRIC
SCHENECTADY, NEW YORK

Well Name	Date Installed	Date Abandoned	Screened Formation	Coordinates		Grade Elevation (feet msl)	Measuring Point Elevation (feet msl)	Screened Interval		Elevation of Screened Interval		Well Diameter (inches)	Total Depth of Boring (feet bgs)
				Northing (feet)	Easting (feet)			Top (feet bgs)	Bottom (feet bgs)	Top (feet msl)	Bottom (feet msl)		
GE-214D	11/87	-	cf,gl	1024916.91	597705.84	225.02	227.10	22	32	203.02	193.02	2	37
GE-215D	11/87	-	cf	1025003.58	598394.77	229.28	232.29	20	30	209.28	199.28	2	32
GE-216D	11/87	-	cf	1025137.17	598985.79	226.29	228.76	25	35	201.29	191.29	2	37
GE-217D	11/87	-	cf	1025184.92	599526.40	225.61	227.54	25	35	200.61	190.61	2	37
GE-218D	11/87	-	cf	1024948.38	601423.40	221.17	223.59	27	32	194.17	189.17	2	37
GE-219M	11/87	-	cf	1024700.06	601851.79	230.00	231.83	15	25	215.00	205.00	2	26
GE-219D	11/87	-	cf	1024681.47	601841.93	229.78	231.41	30	40	199.78	189.78	2	42
GE-220	12/87	-	fp,cf	1023652.09	594754.22	223.43	225.42	10	15	213.43	208.43	2	17
GE-221	12/87	-	fp,cf	1024338.64	595397.29	221.76	223.65	10	20	211.76	201.76	2	22
T-6	10/91	-	cf	1025725.58	595298.15	233.83	236.20	25	30	208.83	203.83	4	30
Glaciolacustrine													
DM-305D	9/92	-	gl	1025514.02	598881.93	235.79	238.52	100	110	135.79	125.79	4	119.7
DM-306D	9/92	-	gl	1025893.92	599919.16	223.22	225.86	90	110	133.22	113.22	4	112
DM-306I	9/92	-	gl	1025885.64	599906.48	223.41	226.27	50	72	173.41	151.41	4	74
DM-311D	11/91	-	gl	1025032.10	598685.41	234.80	238.00	52	72	182.80	162.80	2	114
DM-400CFD	4/99	-	gl	1021916.86	599279.46	225.27	227.35	57	72	168.27	153.27	4	72
DM-420G	10/00	-	gl	1021468.31	597523.11	237.51	246.01	20	30	217.51	207.51	2	30
DM-421G	10/00	-	gl	1022084.42	597355.10	226.81	229.05	14	24	212.81	202.81	2	24
DM-433G	1/01	-	gl	1021956.38	596977.63	228.19	230.69	25	35	203.19	193.19	2	35
DM-434G	8/01	-	gl	1022350	597317	227.01	229.53	22	27	205.01	200.01	2	27
GE-10	7/80	-	gl	1024366.00	595394.59	221.31	224.18	35	45	186.31	176.31	1.5	62
P-421G-1	3/02	-	gl	NS	NS	NS	NS	13.5	17.5	NS	NS	1	19.6
P-421G-2	3/02	-	gl	NS	NS	NS	NS	13.5	17.5	NS	NS	1	18
P-421G-3	3/02	-	gl	NS	NS	NS	NS	13.5	17.5	NS	NS	1	19.4

Notes:
fi: Fill
fp: Floodplain Deposits
cf: Channel Fill Deposits
gl: Glaciolacustrine Deposits
NA: Well destroyed, details not available.
NS: not surveyed, details not available
Coordinates are relative to New York State Plane East NAD27.

TABLE 7-8

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS
FILL AND FLOODPLAIN DEPOSITS
JULY 2000 - OCTOBER 2002

GENERAL ELECTRIC
SCHENECTADY, NEW YORK

Parameter (µg/L)	GW Standard[1] (µg/L)	DM-418FP 12/6/2000	DM-418FP 9/6/2002	DM-419FP 12/1/2000	DM-421FP 12/1/2000	DM-422F 12/5/2000	DM-422FP 12/5/2000	DM-423F 12/6/2000	DM-424FP 2/9/2001	GE-28 8/11/2000	GE-28 8/23/2001	GE-31 8/10/2000	GE-31 8/22/2001
Acetone	[50]	<10.0	NA	2.70JB	<10	<10	<10	<10	<10	NA	NA	NA	NA
Benzene	1	<10.0	NA	<10.0	<10	<10	<10	<10	<10	NA	NA	NA	NA
Bromobenzene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	5*	NA	NA	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA
Bromodichloromethane	[50]	<10.0	<1	<10.0	<10	<10	<10	<10	<10	NA	NA	NA	NA
Bromoform	[50]	<10.0	<1	<10.0	<10	<10	<10	<10	<10	<1	<1	<1	<1
Bromomethane	5*	<10.0	<1	<10.0	<10	<10	<10	<10	<10	<1	NA	<1	NA
2-Butanone	[50]	<10.0	NA	<10.0	<10	<10	<10	<10	<10	<1	NA	<1	NA
n-Butylbenzene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Disulfide	-	<10.0	NA	<10.0	<10	<10	<10	<10	<10	NA	NA	NA	NA
Carbon Tetrachloride	5	<10.0	<1	<10.0	<10	<10	<10	<10	<10	<1	<1	<1	<1
Chlorobenzene	5*	<10.0	<1	<10.0	<10	<10	<10	<10	<10	<1	<1	<1	<1
Chloroethane	5*	<10.0	<1	<10.0	<10	<10	<10	<10	<10	**1.11**	**1.66**	<1	<1
Chloroform		<10.0	<1	<10.0	<10	<10	<10	<10	<10	<1	<1	<1	<1
Chloromethane	-	<10.0	<1	<10.0	<10	<10	<10	<10	<10	<1	<1	<1	<1
2-Chlorotoluene	5*	NA	NA	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1
4-Chlorotoluene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	[50]	<10.0	<1	<10.0	<10	<10	<10	<10	<10	NA	NA	NA	NA
1,2-Dibromo-3-Chloropropane	0.04	NA	NA	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1
1,2-Dibromoethane	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	3	NA	<1	NA	<9.62	<9.52	<9.62	<9.26	NA	<1	NA	<1	NA
1,3-Dichlorobenzene	3	NA	<1	NA	<9.62	<9.52	<9.62	<9.26	NA	<1	<1	<1	<1
1,4-Dichlorobenzene	3	NA	<1	NA	<9.62	<9.52	<9.62	<9.26	NA	<1	<1	<1	<1
Dichlorodifluoromethane	5*	NA	**2**	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1
1,1-Dichloroethane	5*	<10.0	<1	<10.0	<10	<10	<10	<10	<10	<1	<1	<1	<1
1,2-Dichloroethane	0.6	<10.0	<1	<10.0	<10	<10	<10	<10	<10	<1	<1	<1	<1
1,1-Dichloroethene	5*	<10.0	<1	<10.0	<10	<10	<10	<10	<10	<1	<1	<1	<1
cis-1,2-Dichloroethene	5*	**3.00J**	NA	<10.0	**100**	<10	<10	<10	<10	<1	<1	<1	<1
trans-1,2-Dichloroethene	5*	**1.10J**	NA	<10.0	**1.1J**	<10	<10	**5.8J**	<10	<1	<1	<1	<1
1,2-Dichloropropane	1	<10.0	<1	<10.0	<10	<10	<10	<10	<10	<1	<1	<1	<1
1,3-Dichloropropane	5*	NA	NA	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1
2,2-Dichloropropane	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloropropene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7-8

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS
FILL AND FLOODPLAIN DEPOSITS
JULY 2000 - OCTOBER 2002

GENERAL ELECTRIC
SCHENECTADY, NEW YORK

Parameter (µg/L)	GW Standard[1] (µg/L)	DM-418FP 12/6/2000	DM-418FP 9/6/2002	DM-419FP 12/1/2000	DM-421FP 12/1/2000	DM-422F 12/5/2000	DM-422FP 12/5/2000	DM-423F 12/6/2000	DM-424FP 2/9/2001	GE-28 8/11/2000	GE-28 8/23/2001	GE-31 8/10/2000	GE-31 8/22/2001
cis-1,3-Dichloropropene	0.4**	<10.0	<1	<10.0	<10	<10	<10	<10	<10	<1	<1	<1	<1
trans-1,3-Dichloropropene	0.4**	<10.0	<1	<10.0	<10	<10	<10	<10	<10	<1	<1	<1	<1
Ethylbenzene	5*	<10.0	NA	<10.0	<10	<10	<10	<10	<10	NA	NA	NA	NA
Hexachlorobutadiene	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	[50]	<10.0	NA	<10.0	<10	<10	<10	<10	<10	NA	NA	NA	NA
Isopropylbenzene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Isopropyltoluene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	5*	<10.0	<1	<10.0	<10	<10	<10	<10	<10	<1	<1	<1	<1
4-Methyl-2-Pentanone	-	<10.0	NA	<10.0	<10	<10	<10	<10	<10	NA	NA	NA	NA
MTBE	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	[10]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	5*	<10.0	NA	<10.0	<10	<10	<10	<10	<10	NA	NA	NA	NA
Tetrachloroethene	5*	<10.0	<1	<10.0	<10	<10	<10	<10	<10	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane	5*	NA	NA	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	5*	<10.0	<1	<10.0	<10	<10	<10	<10	<10	<1	<1	<1	<1
Toluene	5*	<10.0	NA	<10.0	<10	<10	<10	<10	<10	NA	NA	NA	NA
1,2,3-Trichlorobenzene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	5*	<10.0	<1	<10.0	<10	<10	<10	**4J**	<10	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<10.0	<1	<10.0	<10	<10	<10	<10	<10	<1	<1	<1	<1
Trichloroethene	5*	**21.0**	**13**	<10.0	**39**	<10	<10	**57**	<10	<1	<1	<1	<1
Trichlorofluoromethane	5*	NA	<1	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1
1,2,3-Trichloropropane	0.04	NA	NA	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1
1,2,4-Trimethylbenzene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl Chloride	2	<10.0	<1	<10.0	**2.3J**	<10	<10	<10	<10	<1	<1	<1	<1
m&p-Xylene	5*	<10.0	NA	<10.0	<10	<10	<10	<10	<10	NA	NA	NA	NA
o-Xylene	5*	<10.0	NA	<10.0	<10	<10	<10	<10	<10	NA	NA	NA	NA
Xylene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total VOCs	-	**25.1**	**15.0**	**ND**	**142**	**ND**	**ND**	**66.8**	**ND**	**1.11**	**1.66**	**ND**	**ND**
Total CVOCs	-	**25.1**	**15.0**	**ND**	**142**	**ND**	**ND**	**66.8**	**ND**	**1.11**	**1.66**	**ND**	**ND**
Total BTEX	-	**ND**	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**NA**	**NA**	**NA**
Total Chlorobenzenes	-	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
Total Chloroethenes	-	**25.1**	**13.0**	**ND**	**142**	**ND**	**ND**	**62.8**	**ND**	**ND**	**ND**	**ND**	**ND**

TABLE 7-8

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS
FILL AND FLOODPLAIN DEPOSITS
JULY 2000 - OCTOBER 2002

GENERAL ELECTRIC
SCHENECTADY, NEW YORK

Notes:
NA: Indicates parameter was not analyzed for.
ND: Indicates parameter was not detected.
<: Indicates parameter was not detected at the quantitation limit shown.
J: Indicates an estimated concentration.
B: Indicates the parameter was detected in the laboratory blank.
*: Indicates that the principal organic contaminant for groundwater of 5 μg/L applies to this substance.
**: Indicates that the standard applies to the sum of these substances.
[ ]: Indicates a Guidance Value.
1. New York State Groundwater Quality Standard from Division of Water Technical and Operational Guidance Series (NYSDEC, TOGS 1.1.1)
Bold values indicate a concentration detected above the quantitation limit.
Shaded cells indicate a concentration that exceeds the NYSDEC GW Standard.
See Table 5-4 for method of analysis.
VOCs: Volatile Organic Compounds
CVOCs: Chlorinated Volatile Organic Compounds
BTEX: Benzene, Ethylbenzene, Toluene, & Xylene

TABLE 7-9

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS
CHANNEL FILL AND GLACIOLACUSTRINE DEPOSITS
JULY 2000 - NOVEMBER 2002

GENERAL ELECTRIC
SCHENECTADY, NEW YORK

PARAMETER (µg/L)	GW Standard[1] (µg/L)	DM-421G 6/4/2002	DM-422CF 12/5/2000	DM-423CFS 12/6/2000	DM-423CFD 12/6/2000	DM-424CF 2/9/2001	DM-425CF 8/15/2000	DM-431CF 2/9/2001	DM-432CF 2/7/2001	DM-432CF Duplicate 2/7/2001	DM-432CF 9/18/2001
Acetone	[50]	NA	1.2JB	<10	<10	<10	NA	<10.0	1.8JB	NA	NA
Benzene	1	NA	<10	<10	<10	<10	<0.7	<10.0	<10	NA	NA
Bromobenzene	5*	NA	NA	NA	NA	NA	<1	NA	NA	NA	<1
Bromochloromethane	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	[50]	<1	<10	<10	<10	<10	<1	<10.0	<10	NA	<1
Bromoform	[50]	NA	<10	<10	<10	<10	<1	<10.0	<10	NA	<1
Bromomethane	5*	NA	<10	<10	<10	<10	<1	<10.0	<10	NA	<1
2-Butanone	[50]	NA	<10	<10	<10	<10	NA	<10.0	<10	NA	NA
n-Butylbenzene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Disulfide	-	NA	<10	<10	<10	<10	NA	<10.0	<10	NA	NA
Carbon Tetrachloride	5	<1	<10	<10	<10	<10	<1	<10.0	<10	NA	<1
Chlorobenzene	5*	<1	<10	<10	<10	<10	<1	<10.0	<10	NA	<1
Chloroethane	5*	<1	<10	<10	<10	<10	**36.6**	<10.0	<10	NA	<1
2-Chloroethylvinylether	-	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	7	<1	<10	<10	<10	<10	<1	<10.0	<10	NA	<1
Chloromethane	-	<1	<10	<10	<10	<10	<1	<10.0	<10	NA	<1
2-Chlorotoluene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	[50]	<1	<10	<10	<10	<10	<1	<10.0	<10	NA	<1
1,2-Dibromo-3-Chloropropane	0.04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	5*	NA	NA	NA	NA	NA	<1	NA	NA	NA	<1
1,2-Dichlorobenzene	3	<1	<9.26	<9.35	<9.43	NA	<1	NA	<9.26	<9.26	<1
1,3-Dichlorobenzene	3	<1	<9.26	<9.35	<9.43	NA	<1	NA	<9.26	<9.26	<1
1,4-Dichlorobenzene	3	<1	<9.26	<9.35	<9.43	NA	<1	NA	14.5B	17B	<1
Dichlorodifluoromethane	5*	<1	NA	NA	NA	NA	<1	NA	NA	NA	<1
1,1-Dichloroethane	5*	<1	<10	<10	<10	<10	<1	<10.0	<10	NA	**1.92**
1,2-Dichloroethane	0.6	<1	<10	<10	<10	<10	<1	<10.0	<10	NA	<1
1,1-Dichloroethene	5*	**2**	<10	<10	<10	<10	<1	<10.0	<10	NA	<1
cis-1,2-Dichloroethene	5*	NA	<10	<10	**1J**	**11**	<1	<10.0	**46**	NA	**95.8**
trans-1,2-Dichloroethene	5*	NA	<10	<10	<10	**2.9J**	<1	<10.0	<10	NA	<1
1,2-Dichloroethene, total	5*	**1500**	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	1	<1	<10	<10	<10	<10	<1	<10.0	<10	NA	<1

TABLE 7-9

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS
CHANNEL FILL AND GLACIOLACUSTRINE DEPOSITS
JULY 2000 - NOVEMBER 2002

GENERAL ELECTRIC
SCHENECTADY, NEW YORK

PARAMETER (µg/L)	GW Standard[1] (µg/L)	DM-421G 6/4/2002	DM-422CF 12/5/2000	DM-423CFS 12/6/2000	DM-423CFD 12/6/2000	DM-424CF 2/9/2001	DM-425CF 8/15/2000	DM-431CF 2/9/2001	DM-432CF 2/7/2001	DM-432CF Duplicate 2/7/2001	DM-432CF 9/18/2001
1,3-Dichloropropane	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2-Dichloropropane	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloropropene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	0.4**	<1	<10	<10	<10	<10	<1	<10.0	<10	NA	NA
trans-1,3-Dichloropropene	0.4**	<1	<10	<10	<10	<10	<1	<10.0	<10	NA	<1
Ethylbenzene	5*	NA	<10	<10	<10	<10	<1	<10.0	<10	NA	<1
2-Hexanone	[50]	NA	<10	<10	<10	<10	<1	<10.0	<10	NA	NA
Isopropylbenzene	5*	NA	<10	<10	<10	<10	NA	<10.0	<10	NA	NA
4-Isopropyltoluene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	5*	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	-	NA	<10	<10	<10	<10	<1	<10.0	<10	NA	<1
MTBE	-	NA	<10	<10	<10	<10	NA	<10.0	<10	NA	NA
n-Propylbenzene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	5*	NA	<10	<10	<10	<10	NA	<10.0	<10	NA	NA
1,1,1,2-Tetrachloroethane	5*	<1	<10	<10	<10	<10	<1	<10.0	<10	NA	<1
1,1,2,2-Tetrachloroethane	5*	NA	NA	NA	NA	NA	<1	NA	NA	NA	<1
Toluene	5*	<1	<10	<10	<10	<10	<1	<10.0	<10	NA	<1
1,1,1-Trichloroethane	5*	NA	<10	<10	<10	<10	<1	<10.0	<10	NA	<1
1,1,2-Trichloroethane	1	**1300**	<10	<10	<10	<10	<1	<10.0	<10	NA	NA
Trichloroethene	5*	<1	<10	<10	<10	<10	<1	<10.0	<10	NA	<1
Trichlorofluoromethane	5*	<1	<10	<10	<10	<10	<1	<10.0	<10	NA	<1
1,2,3-Trichloropropane	0.04	<1	NA	NA	NA	NA	<1	NA	NA	NA	<1
1,2,4-Trimethylbenzene	5*	NA	NA	NA	NA	NA	<1	NA	NA	NA	<1
1,3,5-Trimethylbenzene	5*	NA	NA	NA	NA	NA	<1	NA	NA	NA	<1
Vinyl Chloride	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m&p-Xylene	5*	**4**	<10	**13**	<10	<10	<1	<10.0	**11**	NA	NA
o-Xylene	5*	NA	<10	<10	<10	<10	<1	<10.0	<10	NA	**37.9**
Xylene	5*	NA	<10	<10	<10	<10	<1	<10.0	<10	NA	NA
Total VOCs	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total CVOCs	-	**2,810**	**ND**	**13.0**	**1.00**	**13.9**	**36.6**	**ND**	**57.0**	**ND**	**136**
Total BTEX	-	**2,810**	**ND**	**13.0**	**1.00**	**13.9**	**36.6**	**ND**	**57.0**	**ND**	**136**
Total Chlorobenzenes	-	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**NA**	**NA**
Total Chloroethenes	-	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
		1,510	**ND**	**13.0**	**1.00**	**13.9**	**ND**	**ND**	**57.0**	**NA**	**134**

TABLE 7-9

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS
CHANNEL FILL AND GLACIOLACUSTRINE DEPOSITS
JULY 2000 - NOVEMBER 2002

GENERAL ELECTRIC
SCHENECTADY, NEW YORK

PARAMETER (μg/L)	GW Standard[1] (μg/L)	GE-210S 8/4/2000	GE-210D 8/4/2000	GE-210D 8/21/2001	GE-213M 8/4/2000	GE-213M 8/27/2001	GE-213M 9/23/2002	GE-213D 8/4/2000	GE-213D 8/27/2001	GE-213D 9/23/2002	GE-214D 7/31/2000	GE-214D 8/28/2001	GE-214D 9/10/2002
Acetone	[50]	**2.25J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	1	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	5*	NA	<1	NA	<1	NA	NA	<1	NA	NA	<1	NA	NA
Bromochloromethane	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	[50]	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	[50]	<10	<1	NA	<1	NA	<1	<1	NA	<1	<1	NA	<1
Bromomethane	5*	<10	<1	NA	<1	NA	<1	<1	NA	<1	<1	NA	<1
2-Butanone	[50]	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Disulfide	-	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Tetrachloride	5	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	5*	<10	<1	<1	<1	<1	<1	<1	<1	<1	**49.5**	**45.3**	**56**
Chloroethane	5*	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Chloroethylvinylether	-	NA	NA	NA	NA	NA	<1	NA	NA	<1	NA	NA	<1
Chloroform	7	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	-	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	[50]	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-Chloropropane	0.04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	5*	NA	<1	NA	<1	NA	NA	<1	NA	NA	<1	NA	NA
1,2-Dichlorobenzene	3	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	3	NA	<1	<1	<1	<1	<1	<1	<1	<1	**2.55**	**2.5**	**2**
1,4-Dichlorobenzene	3	NA	<1	<1	<1	<1	<1	<1	<1	<1	**9.51**	**9.23**	**9**
Dichlorodifluoromethane	5*	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	5*	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	0.6	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	5*	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	5*	<10	<1	<1	<1	<1	<1	<1	**1.11**	**1**	**13.2**	**7.65**	**7**
trans-1,2-Dichloroethene	5*	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethene, total	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

TABLE 7-9

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS
CHANNEL FILL AND GLACIOLACUSTRINE DEPOSITS
JULY 2000 - NOVEMBER 2002

GENERAL ELECTRIC
SCHENECTADY, NEW YORK

PARAMETER (µg/L)	GW Standard[1] (µg/L)	GE-210S 8/4/2000	GE-210D 8/4/2000	GE-210D 8/21/2001	GE-213M 8/4/2000	GE-213M 8/27/2001	GE-213M 9/23/2002	GE-213D 8/4/2000	GE-213D 8/27/2001	GE-213D 9/23/2002	GE-214D 7/31/2000	GE-214D 8/28/2001	GE-214D 9/10/2002
1,3-Dichloropropane	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2-Dichloropropane	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloropropene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	0.4**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	0.4**	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	5*	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	[50]	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Isopropyltoluene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	5*	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
4-Methyl-2-Pentanone	-	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MTBE	-	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	5*	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	5*	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane	5*	NA	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA
1,1,2,2-Tetrachloroethane	5*	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	5*	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	5*	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	1	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5*	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	5*	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	0.04	NA	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA
1,2,4-Trimethylbenzene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl Chloride	2	<10	<1	<1	<1	<1	<1	<1	<1	<1	**14.4**	**18.4**	**10**
m&p-Xylene	5*	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	5*	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total VOCs	-	**2.25**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**1.11**	**1.00**	**89.2**	**83.1**	**84.0**
Total CVOCs	-	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**1.11**	**1.00**	**89.2**	**83.1**	**84.0**
Total BTEX	-	**ND**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Total Chlorobenzenes	-	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**61.6**	**57.0**	**67.0**
Total Chloroethenes	-	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**1.11**	**1.00**	**27.6**	**26.1**	**17.0**

TABLE 7-9

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS
CHANNEL FILL AND GLACIOLACUSTRINE DEPOSITS
JULY 2000-NOVEMBER 2002

GENERAL ELECTRIC
SCHENECTADY, NEW YORK

Notes:
NA: Indicates parameter was not analyzed for.
ND: Indicates parameter was not detected.
<: Indicates parameter was not detected at the quantitation limit shown.
J: Indicates an estimated concentration.
B: Indicates the parameter was detected in the laboratory blank.
*: Indicates that the principal organic contaminant for groundwater of 5 μg/L applies to this substance.
**: Indicates that the standard applies to the sum of these substances.
[ ]: Indicates a Guidance Value.
1. New York State Groundwater Quality Standard from Division of Water Technical and Operational Guidance Series (NYSDEC, TOGS 1.1.1)
Bold values indicate a concentration detected above the quantitation limit.
Shaded cells indicate a concentration that exceeds the NYSDEC GW Standard.
See Table 5-4 for method of analysis.
VOCs: Volatile Organic Compounds
CVOCs: Chlorinated Volatile Organic Compounds
BTEX: Benzene, Ethylbenzene, Toluene, & Xylene

TABLE 7-10

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
SEMI VOLATILE ORGANIC COMPOUNDS
FILL AND FLOODPLAIN DEPOSITS
SEPTEMBER 2000 - SEPTEMBER 2001

GENERAL ELECTRIC
SCHENECTADY, NEW YORK

PARAMETER (µg/L)	NYSDEC Groundwater Standard[1] (µg/L)	DM-421FP 12/1/2000	DM-422F 12/5/2000	DM-422FP 12/5/2000	DM-423F 12/6/2000	GE-103 11/1/2000	GE-105 11/1/2000	GE-108 11/2/2000	GE-116 11/1/2000	GE-116 Duplicate 11/1/2000
Acenaphthene	[20]	<9.62	<9.52	<9.62	<9.26	**5.77J**	<10.8	<10.4	**2.27J**	**1.67J**
Acenaphthylene	-	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
Anthracene	[50]	<9.62	<9.52	<9.62	<9.26	**9.41J**	<10.8	<10.4	<9.80	<11.5
Benzo(a)anthracene	[0.002]	<9.62	<9.52	<9.62	<9.26	**8.11J**	<10.8	<10.4	**1.17J**	<11.5
Benzo(a)pyrene	[0.002]	<9.62	<9.52	<9.62	<9.26	**9.95J**	<10.8	<10.4	**1.14J**	<11.5
Benzo(b)fluoranthene	[0.002]	<9.62	<9.52	<9.62	<9.26	**11.4**	<10.8	<10.4	**1.37J**	<11.5
Benzo(g,h,i)perylene	-	<9.62	<9.52	<9.62	<9.26	**6.02J**	<10.8	<10.4	<9.80	<11.5
Benzo(k)fluoranthene	[0.002]	<9.62	<9.52	<9.62	<9.26	**3.60J**	<10.8	<10.4	<9.80	<11.5
4-Bromophenyl-phenylether	-	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
Butylbenzylphthalate	[50]	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
Carbazole	-	<9.62	<9.52	<9.62	<9.26	**1.44J**	<10.8	<10.4	<9.80	<11.5
4-Chloroaniline	5*	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
bis(2-Chloroethoxy)methane	5*	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
bis(2-Chloroethyl)ether	1.0	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
bis(2-Chloroisopropyl)ether	-	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
4-Chloro-3-methylphenol	-	<9.62	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	[10]	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
2-Chlorophenol	-	<9.62	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl-phenylether	-	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
Chrysene	[0.002]	<9.62	<9.52	<9.62	<9.26	**7.56J**	<10.8	<10.4	**1.17J**	<11.5
Dibenzo(a,h)anthracene	-	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
Dibenzofuran	-	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
Di-n-butylphthalate	50	<9.62	<9.52	<9.62	<9.26	**3.27J**	<10.8	<10.4	**1.10J**	<11.5
3,3'-Dichlorobenzidine	5*	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
2,4-Dichlorophenol	5*	<9.62	NA	NA	NA	NA	NA	NA	NA	NA
Diethylphthalate	[50]	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
2,4-Dimethylphenol	[50]	<9.62	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 7-10

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
SEMI VOLATILE ORGANIC COMPOUNDS
FILL AND FLOODPLAIN DEPOSITS
SEPTEMBER 2000 - SEPTEMBER 2001

GENERAL ELECTRIC
SCHENECTADY, NEW YORK

PARAMETER (µg/L)	NYSDEC Groundwater Standard[1] (µg/L)	DM-421FP 12/1/2000	DM-422F 12/5/2000	DM-422FP 12/5/2000	DM-423F 12/6/2000	GE-103 11/1/2000	GE-105 11/1/2000	GE-108 11/2/2000	GE-116 11/1/2000	GE-116 Duplicate 11/1/2000
Dimethylphthalate	[50]	<9.62	<9.52	**1.55J**	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
4,6-Dinitro-2-Methylphenol	-	<9.62	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	[10]	<9.62	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	5*	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
2,6-Dinitrotoluene	5*	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
Di-n-octylphthalate	[50]	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
bis(2-Ethylhexyl)phthalate	5	**2.39J**	**4.47J**	**14.3**	**14**	**16.9**	<10.8	<10.4	**4.14J**	<11.5
Fluoranthene	[50]	<9.62	<9.52	<9.62	<9.26	**14.0**	<10.8	<10.4	**2.61J**	<11.5
Fluorene	[50]	<9.62	<9.52	<9.62	<9.26	**12.4**	<10.8	<10.4	<9.80	<11.5
Hexachlorobenzene	0.04	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
Hexachlorobutadiene	0.5	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
Hexachlorocyclopentadiene	5*	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
Hexachloroethane	5*	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
Indeno(1,2,3-cd)pyrene	[0.002]	<9.62	<9.52	<9.62	<9.26	**4.60J**	<10.8	<10.4	<9.80	<11.5
Isophorone	[50]	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
2-Methylnaphthalene	-	<9.62	<9.52	<9.62	<9.26	**5.49J**	<10.8	<10.4	**47.9**	<11.5
2-Methylphenol	-	<9.62	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	-	<9.62	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	[10]	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
2-Nitroaniline	5*	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
3-Nitroaniline	5*	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
4-Nitroaniline	5*	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
Nitrobenzene	0.4	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
2-Nitrophenol	-	<9.62	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	-	<9.62	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	[50]	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
n-Nitrosodi-n-propylamine	-	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5

TABLE 7-10

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
SEMI VOLATILE ORGANIC COMPOUNDS
FILL AND FLOODPLAIN DEPOSITS
SEPTEMBER 2000 - SEPTEMBER 2001

GENERAL ELECTRIC
SCHENECTADY, NEW YORK

PARAMETER (μg/L)	NYSDEC Groundwater Standard^1 (μg/L)	DM-421FP 12/1/2000	DM-422F 12/5/2000	DM-422FP 12/5/2000	DM-423F 12/6/2000	GE-103 11/1/2000	GE-105 11/1/2000	GE-108 11/2/2000	GE-116 11/1/2000	GE-116 Duplicate 11/1/2000
Pentachlorophenol	1**	<9.62	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	[50]	<9.62	<9.52	<9.62	<9.26	**14.0**	<10.8	<10.4	**2.12J**	<11.5
Phenol	1**	<9.62	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	[50]	<9.62	<9.52	<9.62	<9.26	**19.5**	<10.8	<10.4	**1.90J**	<11.5
1,2,3-Trichlorobenzene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	5*	<9.62	<9.52	<9.62	<9.26	<10.2	<10.8	<10.4	<9.80	<11.5
2,4,5-Trichlorophenol	-	<9.62	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	-	<9.62	NA	NA	NA	NA	NA	NA	NA	NA
Total SVOCs	-	**2.39**	**4.47**	**15.9**	**14.0**	**153**	**ND**	**ND**	**66.9**	**1.67**
Total PAHs	-	**ND**	**ND**	**ND**	**ND**	**132**	**ND**	**ND**	**61.7**	**1.67**

Notes:
NA: Indicates parameter was not analyzed for.
ND: Indicates parameter was not detected.
<: Indicates parameter was not detected at the quantitation limit shown.
J: Indicates an estimated concentration.
*: Indicates that the principal organic contaminant for groundwater of 5 μg/L applies to this substance.
**: Indicates that the standard applies to the sum of these substances.
[ ]: Indicates a Guidance Value.
1. New York State Groundwater Quality Standard from Division of Water Technical and Operational Guidance Series (NYSDEC, TOGS 1.1.1)
Bold values indicate a concentration detected above the quantitation limit.
Shaded cells indicate a concentration that exceeds the NYSDEC GW Standard.
See Table 5-4 for method of analysis.
SVOCs: Semivolatile Organic Compounds
PAHs: Polycyclic Aromatic Hydrocarbons

TABLE 7-11

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS
CHANNEL FILL AND GLACIOLACUSTRINE DEPOSITS
NOVEMBER 2000 - FEBRUARY 2001

GENERAL ELECTRIC
SCHENECTADY, NEW YORK

PARAMETER (µg/L)	NYSDEC GW Standard[1] (µg/L)	DM-420G 11/30/2000	DM-421G 12/1/2000	DM-421G Duplicate 12/1/2000	DM-422CF 12/5/2000	DM-423CFS 12/6/2000	DM-423CFD 12/6/2000	DM-432CF 2/7/2001	DM-432CF Duplicate 2/7/2001	DM-433G 2/8/2001
Acenaphthene	[20]	<9.8	<9.8	<10	<9.26	<9.35	<9.43	38B	39.5B	42.7B
Acenaphthylene	-	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
Anthracene	[50]	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
Benzo(a)anthracene	[0.002]	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
Benzo(a)pyrene	[0.002]	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
Benzo(b)fluoranthene	[0.002]	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
Benzo(g,h,i)perylene	-	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
Benzo(k)fluoranthene	[0.002]	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
4-Bromophenyl-phenylether	-	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
Butylbenzylphthalate	[50]	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
Carbazole	-	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
4-Chloroaniline	5*	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
bis(2-Chloroethoxy)methane	5*	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
bis(2-Chloroethyl)ether	1.0	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
bis(2-Chloroisopropyl)ether	-	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
4-Chloro-3-methylphenol	-	<9.8	<9.8	<10	NA	NA	NA	<9.26	<9.26	<9.8
2-Chloronaphthalene	[10]	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
2-Chlorophenol	-	<9.8	<9.8	<10	NA	NA	NA	<9.26	<9.26	<9.8
4-Chlorophenyl-phenylether	-	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
Chrysene	[0.002]	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
Dibenzo(a,h)anthracene	-	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
Dibenzofuran	-	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
Di-n-butylphthalate	50	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
3,3'-Dichlorobenzidine	5*	<9.8	<9.8	<10	<9.26	<9.35	**1.15J**	<9.26	<9.26	<9.8
2,4-Dichlorophenol	5*	<9.8	<9.8	<10	NA	NA	NA	<9.26	<9.26	<9.8
Diethylphthalate	[50]	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
2,4-Dimethylphenol	[50]	<9.8	<9.8	<10	NA	NA	NA	<9.26	<9.26	<9.8

TABLE 7-11

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS
CHANNEL FILL AND GLACIOLACUSTRINE DEPOSITS
NOVEMBER 2000 - FEBRUARY 2001

GENERAL ELECTRIC
SCHENECTADY, NEW YORK

PARAMETER (µg/L)	NYSDEC GW Standard^1 (µg/L)	DM-420G 11/30/2000	DM-421G 12/1/2000	DM-421G Duplicate 12/1/2000	DM-422CF 12/5/2000	DM-423CFS 12/6/2000	DM-423CFD 12/6/2000	DM-432CF 2/7/2001	DM-432CF Duplicate 2/7/2001	DM-433G 2/8/2001
Dimethylphthalate	[50]	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
4,6-Dinitro-2-Methylphenol	-	<9.8	<9.8	<10	NA	NA	NA	<9.26	<9.26	<9.8
2,4-Dinitrophenol	[10]	<9.8	<9.8	<10	NA	NA	NA	<9.26	<9.26	<9.8
2,4-Dinitrotoluene	5*	<9.8	<9.8	<10	<9.26	<9.35	<9.43	39.5B	37.6B	42.1B
2,6-Dinitrotoluene	5*	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
Di-n-octylphthalate	[50]	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
bis(2-Ethylhexyl)phthalate	5	**2.19J**	**5.45J**	**4.55J**	**1.67J**	**1.11J**	**4.82J**	**6.13J**	**7.81J**	**5.13J**
Fluoranthene	[50]	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
Fluorene	[50]	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
Hexachlorobenzene	0.04	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
Hexachlorobutadiene	0.5	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
Hexachlorocyclopentadiene	5*	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
Hexachloroethane	5*	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
Indeno(1,2,3-cd)pyrene	[0.002]	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
Isophorone	[50]	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
2-Methylnaphthalene	-	<9.8	<9.8	<10	<9.26	<9.35	<9.43	**16.9**	**15.4**	<9.8
2-Methylphenol	-	<9.8	<9.8	<10	NA	NA	NA	<9.26	<9.26	<9.8
4-Methylphenol	-	<9.8	<9.8	<10	NA	NA	NA	<9.26	<9.26	<9.8
Naphthalene	[10]	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
2-Nitroaniline	5*	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
3-Nitroaniline	5*	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
4-Nitroaniline	5*	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
Nitrobenzene	0.4	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
2-Nitrophenol	-	<9.8	<9.8	<10	NA	NA	NA	<9.26	<9.26	<9.8
4-Nitrophenol	-	<9.8	<9.8	<10	NA	NA	NA	<9.26	<9.26	<9.8
n-Nitrosodiphenylamine	[50]	<9.8	<9.8	<10	<9.26	<9.35	<9.43	<9.26	<9.26	<9.8
n-Nitrosodi-n-propylamine	-	<9.8	<9.8	<10	<9.26	<9.35	<9.43	41.4B	36.1B	41B

TABLE 7-11

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
SEMIVOLATILE ORGANIC COMPOUNDS
CHANNEL FILL AND GLACIOLACUSTRINE DEPOSITS
NOVEMBER 2000 - FEBRUARY 2001

GENERAL ELECTRIC
SCHENECTADY, NEW YORK

PARAMETER (µg/L)	NYSDEC GW Standard[1] (µg/L)	DM-420G 11/30/2000	DM-421G 12/1/2000	DM-421G Duplicate 12/1/2000	DM-422CF 12/5/2000	DM-423CFS 12/6/2000	DM-423CFD 12/6/2000	DM-432CF 2/7/2001	DM-432CF Duplicate 2/7/2001	DM-433G 2/8/2001
Pentachlorophenol	1**	<9.8	<9.8	<10	NA	NA	NA	<9.26	<9.26	<9.8
Phenanthrene	[50]	<9.8	<9.8	<10	<9.26	<9.35	<9.43	**1.2J**	**0.952J**	<9.8
Phenol	1**	<9.8	<9.8	<10	NA	NA	NA	<9.26	<9.26	<9.8
Pyrene	[50]	<9.8	<9.8	<10	<9.26	<9.35	<9.43	43.2B	38.9B	49.5B
1,2,3-Trichlorobenzene	5*	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	5*	<9.8	<9.8	<10	<9.26	<9.35	<9.43	23.1B	23.9B	34.9B
2,4,5-Trichlorophenol	-	<9.8	<9.8	<10	NA	NA	NA	<9.26	<9.26	<9.8
2,4,6-Trichlorophenol	-	<9.8	<9.8	<10	NA	NA	NA	<9.26	<9.26	<9.8
Total SVOCs	-	**2.19**	**5.45**	**4.55**	**1.67**	**1.11**	**5.97**	**24.2**	**24.2**	**5.13**
Total PAHs	-	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**	**18.1**	**16.4**	**ND**

Notes:
NA: Indicates parameter was not analyzed for.
ND: Indicates parameter was not detected.
<: Indicates parameter was not detected at the quantitation limit shown.
J: Indicates an estimated concentration.
B: Indicates the parameter was detected in the laboratory blank.
*: Indicates that the principal organic contaminant for groundwater of 5 µg/L applies to this substance.
**: Indicates that the standard applies to the sum of these substances.
[ ]: Indicates a Guidance Value.
1. New York State Groundwater Quality Standard from Division of Water Technical and Operational Guidance Series (NYSDEC, TOGS 1.1.1)
Bold values indicate a concentration detected above the quantitation limit.
Shaded cells indicate a concentration that exceeds the NYSDEC GW Standard.
See Table 5-4 for method of analysis.
SVOCs: Semivolatile Organic Compounds
PAHs: Polycyclic Aromatic Hydrocarbons

APPENDIX F-3B
SUMMARY OF HISTORICAL GROUNDWATER ANALYTICAL RESULTS
CHANNEL FILL DEPOSITS
VOLATILE ORGANIC COMPOUNDS

GENERAL ELECTRIC
SCHENECTADY, NEW YORK

PARAMETER (ug/L)	GE-206D 8/3/00	GE-207 4/12/88	GE-207 7/11/89	GE-207 4/12/99	GE-208 4/12/88	GE-208 7/11/89	GE-208 4/9/99	GE-209D 4/14/88	GE-209D 6/28/89	GE-210D 4/13/88	GE-210D 6/28/89	GE-210D 12/16/97
Acetone	NA	NA	NA	<2	NA	NA	20	NA	NA	NA	NA	<10
Acrolein	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acrylonitrile	NA	<35	NA	NA	<35	NA	NA	<35	NA	<35	NA	NA
Benzene	NA	<5	<0.5	<5	<5	<0.5	<5	<5	<0.5	<5	<0.5	<5
bis(Chloromethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	<1	NA	<0.5	NA	NA	<0.5	NA	NA	<0.5	NA	<0.5	NA
Bromochloromethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	<1	NA	NA	<5	NA	NA	<5	NA	NA	NA	NA	<5
Bromoform	<1	<5	NA	<5	<5	NA	<5	<5	NA	<5	NA	<5
Bromomethane	<1	NA	NA	<10	NA	NA	<10	NA	NA	NA	NA	<10
2-Butanone	NA	NA	NA	<10	NA	NA	5J	NA	NA	NA	NA	<10
n-Butylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon Disulfide	NA	NA	NA	<5	NA	NA	<5	NA	NA	NA	NA	<5
Carbon Tetrachloride	<1	NA	NA	<5	NA	NA	<5	NA	NA	NA	NA	<5
Chlorobenzene	<1	<5	<0.5	<5	<5	<0.5	<5	<5	<0.5	<5	<0.5	<5
Chloroethane	<1	<10	<0.5	<10	<5	<0.5	<10	<10	<0.5	<10	<0.5	<10
2-Chloroethylvinylether	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	<1	NA	NA	<5	NA	NA	0.3J	NA	NA	NA	NA	<5
Chloromethane	<1	NA	NA	<10	NA	NA	<10	NA	NA	NA	NA	<10
2-Chlorotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
p-Cymene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	<1	NA	NA	<5	NA	NA	<5	NA	NA	NA	NA	<5
1,2-Dibromo-3-Chloropropane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX F-3B
SUMMARY OF HISTORICAL GROUNDWATER ANALYTICAL RESULTS
CHANNEL FILL DEPOSITS
VOLATILE ORGANIC COMPOUNDS

GENERAL ELECTRIC
SCHENECTADY, NEW YORK

PARAMETER (ug/L)	GE-206D 8/3/00	GE-207 4/12/88	GE-207 7/11/89	GE-207 4/12/99	GE-208 4/12/88	GE-208 7/11/89	GE-208 4/9/99	GE-209D 4/14/88	GE-209D 6/28/89	GE-210D 4/13/88	GE-210D 6/28/89	GE-210D 12/16/97
1,2-Dichlorobenzene	<1	<35	<0.5	<10	<35	<0.5	<10	<35	<0.5	<35	<0.5	<10
1,3-Dichlorobenzene	<1	<10	<0.5	<10	<10	<0.5	<10	<10	<0.5	<10	<0.5	<10
1,4-Dichlorobenzene	<1	<10	<0.5	<10	<10	<0.5	<10	<10	<0.5	<10	<0.5	<10
Dichlorodifluoromethane	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	<1	<5	<0.5	<5	<5	<0.5	<5	<5	<0.5	<5	<0.5	<5
1,2-Dichloroethane	<1	<5	<0.5	<5	<5	<0.5	<5	<5	<0.5	<5	<0.5	<5
1,1-Dichloroethene	<1	NA	NA	<5	NA	NA	<5	NA	NA	NA	NA	<5
cis-1,2-Dichloroethene	5.31	NA	<0.5	NA	NA	<0.5	NA	NA	<0.5	NA	<0.5	NA
trans-1,2-Dichloroethene	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethene, total	NA	<5	NA	<5	<5	NA	<5	<5	NA	<5	NA	<5
1,2-Dichloropropane	<1	NA	NA	<5	NA	NA	<5	NA	NA	NA	NA	<5
1,3-Dichloropropane	NA	NA	<0.5	NA	NA	<0.5	NA	NA	<0.5	NA	<0.5	NA
2,2-Dichloropropane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	<1	NA	NA	<5	NA	NA	<5	NA	NA	NA	NA	<5
trans-1,3-Dichloropropene	<1	NA	NA	<5	NA	NA	<5	NA	NA	NA	NA	<5
1,1-Dichloropropene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	NA	<5	<0.5	<5	<5	<0.5	<5	<5	<0.5	<5	<0.5	<5
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	NA	NA	NA	<10	NA	NA	<10	NA	NA	NA	NA	<10
Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Isopropyltoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	<1	<1	<0.5	<1	<5	<0.5	<5	<5	<0.5	<5	<0.5	<5
4-Methyl-2-Pentanone	NA	NA	NA	<10	NA	NA	<10	NA	NA	NA	NA	<10
MTBE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	NA	NA	NA	<5	NA	NA	<5	NA	NA	NA	NA	<5

APPENDIX F-3B
SUMMARY OF HISTORICAL GROUNDWATER ANALYTICAL RESULTS
CHANNEL FILL DEPOSITS
VOLATILE ORGANIC COMPOUNDS

GENERAL ELECTRIC
SCHENECTADY, NEW YORK

PARAMETER (ug/L)	GE-206D 8/3/00	GE-207 4/12/88	GE-207 7/11/89	GE-207 4/12/99	GE-208 4/12/88	GE-208 7/11/89	GE-208 4/9/99	GE-209D 4/14/88	GE-209D 6/28/89	GE-210D 4/13/88	GE-210D 6/28/89	GE-210D 12/16/97
Tetrachloroethene	<1	<5	<0.5	<5	<5	<0.5	<5	<5	<0.5	<5	<0.5	<5
1,1,1,2-Tetrachloroethane	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	<1	<5	<0.5	<5	<5	<0.5	<5	<5	<0.5	<5	<0.5	<5
Toluene	NA	<5	<0.5	<5	0.8J	<0.5	<5	<5	<0.5	<5	<0.5	<5
1,2,3-Trichlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	<1	<5	<0.5	<5	<5	<0.5	<5	<5	<0.5	<5	<0.5	<5
1,1,2-Trichloroethane	<1	NA	NA	<5	NA	NA	<5	NA	NA	NA	NA	<5
Trichloroethene	<1	<5	<0.5	<5	<5	<0.5	<5	<5	<0.5	<5	<0.5	<5
Trichlorofluoromethane	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl Acetate	NA	NA	NA	<10	NA	NA	<10	NA	NA	NA	NA	<10
Vinyl Chloride	<1	<10	<0.5	<10	<10	<0.5	<10	<10	<0.5	<10	<0.5	<10
m-Xylene	NA	NA	<0.5	NA	NA	<0.5	NA	NA	<0.5	NA	<0.5	NA
m&p-Xylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	NA	NA	<0.5	NA	NA	<0.5	NA	NA	<0.5	NA	<0.5	NA
Xylene	NA	NA	NA	<5	NA	NA	<5	NA	NA	NA	NA	<5

APPENDIX F-3B
SUMMARY OF HISTORICAL GROUNDWATER ANALYTICAL RESULTS
CHANNEL FILL DEPOSITS
VOLATILE ORGANIC COMPOUNDS

GENERAL ELECTRIC
SCHENECTADY, NEW YORK

PARAMETER (ug/L)	GE-210D 10/9/98	GE-210D 6/10/99	GE-210D 8/4/00	GE-210D 8/21/01	GE-210S 4/13/88	GE-210S 6/28/89	GE-210S 8/4/00	GE-213D 4/20/88	GE-213D 7/6/89	GE-213D 8/1/91	GE-213D 11/12/91
Acetone	8J	<2	NA	NA	NA	NA	2.25J	NA	NA	NA	NA
Acrolein	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acrylonitrile	NA	NA	NA	NA	<35	NA	NA	<35	NA	NA	NA
Benzene	1J	<5	NA	NA	<5	<0.5	<10	<5	<0.5	<1	<1
bis(Chloromethyl)ether	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromobenzene	NA	NA	<1	<1	NA	<0.5	NA	NA	<0.5	<1	<1
Bromochloromethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1	<1
Bromodichloromethane	<5	<5	<1	<1	NA	NA	<10	NA	NA	<1	<1
Bromoform	<5	<5	<1	<1	<5	NA	<10	<5	NA	<1	<1
Bromomethane	<10	<10	<1	<1	NA	NA	<10	NA	NA	NA	<1
2-Butanone	<10	1J	NA	NA	NA	NA	<10	NA	NA	NA	NA
n-Butylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1	<1
sec-Butylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1	<0.5
tert-Butylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1	<1
Carbon Disulfide	<5	<5	NA	NA	NA	NA	<10	NA	NA	NA	NA
Carbon Tetrachloride	<5	<5	<1	<1	NA	NA	<10	NA	NA	<1	<1
Chlorobenzene	0.7J	<5	<1	<1	<5	<0.5	<10	<5	<0.5	<1	<1
Chloroethane	<10	<10	<1	<1	<10	<0.5	<10	<10	<0.5	NA	<1
2-Chloroethylvinylether	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	<5	<5	<1	<1	NA	NA	<10	NA	NA	<1	<1
Chloromethane	<10	<10	<1	<1	NA	NA	<10	NA	NA	NA	<1
2-Chlorotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1	<1
4-Chlorotoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1	0.5J
p-Cymene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	<5	<5	<1	<1	NA	NA	<10	NA	NA	<1	<1
1,2-Dibromo-3-Chloropropane	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1	<1
1,2-Dibromoethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1	<1
Dibromomethane	NA	NA	<1	<1	NA	NA	NA	NA	NA	<1	<1

APPENDIX F-3B
SUMMARY OF HISTORICAL GROUNDWATER ANALYTICAL RESULTS
CHANNEL FILL DEPOSITS
VOLATILE ORGANIC COMPOUNDS

GENERAL ELECTRIC
SCHENECTADY, NEW YORK

PARAMETER (ug/L)	GE-210D 10/9/98	GE-210D 6/10/99	GE-210D 8/4/00	GE-210D 8/21/01	GE-210S 4/13/88	GE-210S 6/28/89	GE-210S 8/4/00	GE-213D 4/20/88	GE-213D 7/6/89	GE-213D 8/1/91	GE-213D 11/12/91
1,2-Dichlorobenzene	<10	<10	<1	<1	<35	<0.5	NA	<10	<0.5	<1	<1
1,3-Dichlorobenzene	<10	<10	<1	<1	<10	<0.5	NA	<10	<0.5	<1	<1
1,4-Dichlorobenzene	<10	<10	<1	<1	<10	<0.5	NA	<10	<0.5	<1	<1
Dichlorodifluoromethane	NA	NA	<1	<1	NA	NA	NA	NA	NA	NA	<1
1,1-Dichloroethane	<5	<5	<1	<1	<5	<0.5	<10	<5	<0.5	<1	<1
1,2-Dichloroethane	<5	<5	<1	<1	<5	<0.5	<10	<5	<0.5	<1	<1
1,1-Dichloroethene	<5	<5	<1	<1	NA	NA	<10	NA	NA	<1	<1
cis-1,2-Dichloroethene	NA	<5	<1	<1	NA	<0.5	<10	NA	<0.5	<1	<1
trans-1,2-Dichloroethene	NA	<5	<1	<1	NA	NA	<10	NA	NA	<1	<1
1,2-Dichloroethene, total	<5	NA	NA	NA	<5	NA	NA	<5	NA	NA	NA
1,2-Dichloropropane	<5	<5	<1	<1	NA	NA	<10	NA	NA	<1	<1
1,3-Dichloropropane	NA	NA	NA	NA	NA	<0.5	NA	NA	<0.5	<1	<1
2,2-Dichloropropane	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1	<1
cis-1,3-Dichloropropene	<5	<5	<1	<1	NA	NA	<10	NA	NA	<1	<1
trans-1,3-Dichloropropene	<5	<5	<1	<1	NA	NA	<10	NA	NA	<1	<1
1,1-Dichloropropene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1	<1
1,2-Dichloropropylene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	<5	<5	NA	NA	<5	<0.5	<10	<5	<0.5	<1	<1
Hexachlorobutadiene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	<10	<10	NA	NA	NA	NA	<10	NA	NA	NA	NA
Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1	<1
4-Isopropyltoluene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1	<1
Methylene Chloride	<5	<5	<1	<1	<5	<0.5	<10	<5	<0.5	NA	<1
4-Methyl-2-Pentanone	<10	<10	NA	NA	NA	NA	<10	NA	NA	NA	NA
MTBE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Propylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1	<1
Styrene	<5	<5	NA	NA	NA	NA	<10	NA	NA	<1	<1

APPENDIX F-3B
SUMMARY OF HISTORICAL GROUNDWATER ANALYTICAL RESULTS
CHANNEL FILL DEPOSITS
VOLATILE ORGANIC COMPOUNDS

GENERAL ELECTRIC
SCHENECTADY, NEW YORK

PARAMETER (ug/L)	GE-210D 10/9/98	GE-210D 6/10/99	GE-210D 8/4/00	GE-210D 8/21/01	GE-210S 4/13/88	GE-210S 6/28/89	GE-210S 8/4/00	GE-213D 4/20/88	GE-213D 7/6/89	GE-213D 8/1/91	GE-213D 11/12/91
Tetrachloroethene	<5	<5	<1	<1	<5	<0.5	<10	<5	<0.5	<1	<1
1,1,1,2-Tetrachloroethane	NA	NA	<1	<1	NA	NA	NA	NA	NA	<1	<1
1,1,2,2-Tetrachloroethane	<5	<5	<1	<1	<5	<0.5	<10	6	<0.5	<1	<1
Toluene	<5	<5	NA	NA	<5	<0.5	<10	1J	<0.5	<1	0.3J
1,2,3-Trichlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	<5	<5	<1	<1	<5	<0.5	<10	<5	<0.5	<1	<1
1,1,2-Trichloroethane	<5	<5	<1	<1	NA	NA	<10	NA	NA	<1	<1
Trichloroethene	<5	<5	<1	<1	<5	<0.5	<10	<5	<0.5	<1	<1
Trichlorofluoromethane	NA	NA	<1	<1	NA	NA	NA	NA	NA	NA	<1
1,2,3-Trichloropropane	NA	NA	<1	<1	NA	NA	NA	NA	NA	<1	<1
1,2,4-Trimethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1	<0.6
1,3,5-Trimethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1	<1
Vinyl Acetate	<10	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl Chloride	<10	<10	<1	<1	<10	<0.5	<10	<10	<0.5	NA	<1
m-Xylene	NA	NA	NA	NA	NA	<0.5	NA	NA	<0.5	NA	NA
m&p-Xylene	NA	NA	NA	NA	NA	NA	<10	NA	NA	<1	0.2J
o-Xylene	NA	NA	NA	NA	NA	<0.5	<10	NA	<0.5	<1	0.2J
Xylene	<5	<5	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX F-3C
SUMMARY OF HISTORICAL GROUNDWATER ANALYTICAL RESULTS
CHANNEL FILL DEPOSITS
SEMIVOLATILE ORGANIC COMPOUNDS

GENERAL ELECTRIC
SCHENECTADY, NEW YORK

PARAMETER (ug/L)	GE-208 4/12/88	GE-208 7/11/89	GE-208 4/9/99	GE-209D 4/14/88	GE-209D 6/28/89	GE-210D 4/13/88	GE-210D 6/28/89	GE-210D 12/16/97	GE-210D 10/9/98	GE-210D 6/10/99	GE-210S 4/13/88	GE-210S 6/28/89
Acenaphthene	<10	NA	<10	<10	NA	<10	NA	<10	<10	<10	<10	NA
Acenaphthylene	<10	NA	<10	<10	NA	<10	NA	<10	<10	<10	<10	NA
Anthracene	<10	NA	<10	<10	NA	<10	NA	<10	<10	<10	<10	NA
Benzidine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	NA	NA	<10	NA	NA	NA	NA	<10	<10	<10	NA	NA
Benzo(a)pyrene	NA	NA	<10	NA	NA	NA	NA	<10	<10	<10	NA	NA
Benzo(b)fluoranthene	NA	NA	<10	NA	NA	NA	NA	<10	<10	<10	NA	NA
Benzo(g,h,i)perylene	NA	NA	<10	NA	NA	NA	NA	<10	<10	<10	NA	NA
Benzo(k)fluoranthene	NA	NA	<10	NA	NA	NA	NA	<10	<10	<10	NA	NA
Benzoic acid	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	NA
Benzyl alcohol	NA	NA	<10	NA	NA	NA	NA	<50	<52	NA	NA	NA
4-Bromophenyl-phenylether	NA	NA	<10	NA	NA	NA	NA	<10	<10	<10	NA	NA
Butylbenzylphthalate	<10	NA	<10	<10	NA	<10	NA	<10	<10	<10	NA	NA
Carbazole	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	<10	NA
4-Chloroaniline	NA	NA	<10	NA	NA	NA	NA	<10	<10	NA	NA	NA
bis(2-Chloroethoxy)methane	NA	NA	<10	NA	NA	NA	NA	<10	<10	<10	NA	NA
bis(2-Chloroethyl)ether	NA	NA	<10	NA	NA	NA	NA	<10	<10	<10	NA	NA
bis(2-Chloroisopropyl)ether	NA	NA	<10	NA	NA	NA	NA	<10	<10	<10	NA	NA
4-Chloro-3-methylphenol	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	NA
2-Chloronaphthalene	NA	NA	<10	NA	NA	NA	NA	<10	<10	NA	NA	NA
2-Chlorophenol	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	NA
4-Chlorophenyl-phenylether	NA	NA	<10	NA	NA	NA	NA	<10	<10	NA	NA	NA
Chrysene	NA	NA	<10	NA	NA	NA	NA	<10	<10	<10	NA	NA
o-Cresol	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	NA	NA
Dibenzo(a,h)anthracene	NA	NA	<10	NA	NA	NA	NA	<10	<10	NA	NA	NA
Dibenzofuran	NA	NA	<10	NA	NA	NA	NA	<10	<10	<10	NA	NA
Di-n-butylphthalate	<10	NA	<0.8	<10	NA	<10	NA	<10	<10	<10	NA	NA
3,3'-Dichlorobenzidine	NA	NA	<20	NA	NA	NA	NA	<10	<0.9	<0.6	<10	NA
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	NA	<20	<21	<21	NA	NA
								<10	<10	NA	NA	NA

APPENDIX F-3C
SUMMARY OF HISTORICAL GROUNDWATER ANALYTICAL RESULTS
CHANNEL FILL DEPOSITS
SEMIVOLATILE ORGANIC COMPOUNDS

GENERAL ELECTRIC
SCHENECTADY, NEW YORK

PARAMETER (ug/L)	GE-208 4/12/88	GE-208 7/11/89	GE-208 4/9/99	GE-209D 4/14/88	GE-209D 6/28/89	GE-210D 4/13/88	GE-210D 6/28/89	GE-210D 12/16/97	GE-210D 10/9/98	GE-210D 6/10/99	GE-210S 4/13/88	GE-210S 6/28/89
Diethylphthalate	<10	NA	<0.3	<10	NA	<10	NA	<10	<10	<10	<10	NA
2,4-Dimethylphenol	NA	NA	NA	NA	NA	NA	NA	<10	<10	NA	NA	NA
Dimethylphthalate	NA	NA	<10	NA	NA	NA	NA	<10	<10	<10	NA	NA
4,6-Dinitro-2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	<50	<52	NA	NA	NA
2,4-Dinitrophenol	NA	NA	NA	NA	NA	NA	NA	<50	<52	NA	NA	NA
2,4-Dinitrotoluene	NA	NA	<10	NA	NA	NA	NA	<10	<10	<10	NA	NA
2,6-Dinitrotoluene	NA	NA	<10	NA	NA	NA	NA	<10	<10	<10	NA	NA
Di-n-octylphthalate	NA	NA	<0.3	NA	NA	NA	NA	<10	<10	<10	NA	NA
1,2-Diphenylhydrazine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	2J	NA	<1	<10	NA	1J	NA	1J	<1	<4	<10	NA
Fluoranthene	<10	NA	<10	<10	NA	<10	NA	<10	<10	<10	<10	NA
Fluorene	<10	NA	<10	<10	NA	<10	NA	<10	<10	<10	<10	NA
Hexachlorobenzene	NA	NA	<10	NA	NA	NA	NA	<10	<10	<10	NA	NA
Hexachlorobutadiene	NA	NA	<10	NA	NA	NA	NA	<10	<10	<10	NA	NA
Hexachlorocyclopentadiene	NA	NA	<10	NA	NA	NA	NA	<10	<10	<10	NA	NA
Hexachloroethane	NA	NA	<10	NA	NA	NA	NA	<10	<10	<10	NA	NA
Indeno(1,2,3-cd)pyrene	NA	NA	<10	NA	NA	NA	NA	<10	<10	<10	NA	NA
Isophorone	NA	NA	<10	NA	NA	NA	NA	<10	<10	<10	NA	NA
2-Methylnaphthalene	NA	NA	<10	NA	NA	NA	NA	<10	<10	<10	NA	NA
2-Methylphenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	NA	NA	NA	NA	NA	NA	NA	<10	<10	NA	NA	NA
Naphthalene	<10	NA	<10	<10	NA	<10	NA	<10	<10	<10	<10	NA
2-Nitroaniline	NA	NA	<50	NA	NA	NA	NA	<50	<52	<53	NA	NA
3-Nitroaniline	NA	NA	<50	NA	NA	NA	NA	<50	<52	<53	NA	NA
4-Nitroaniline	NA	NA	<20	NA	NA	NA	NA	<20	<21	<21	NA	NA
Nitrobenzene	NA	NA	<10	NA	NA	NA	NA	<10	<10	<10	NA	NA
2-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	<10	<10	NA	NA	NA
4-Nitrophenol	NA	NA	NA	NA	NA	NA	NA	<50	<52	NA	NA	NA
n-Nitrosodimethylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

APPENDIX F-3C
SUMMARY OF HISTORICAL GROUNDWATER ANALYTICAL RESULTS
CHANNEL FILL DEPOSITS
SEMIVOLATILE ORGANIC COMPOUNDS

GENERAL ELECTRIC
SCHENECTADY, NEW YORK

PARAMETER (ug/L)	GE-208 4/12/88	GE-208 7/11/89	GE-208 4/9/99	GE-209D 4/14/88	GE-209D 6/28/89	GE-210D 4/13/88	GE-210D 6/28/89	GE-210D 12/16/97	GE-210D 10/9/98	GE-210D 6/10/99	GE-210S 4/13/88	GE-210S 6/28/89
n-Nitrosodi-n-propylamine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
n-Nitrosodiphenylamine	NA	NA	<10	NA	NA	NA	NA	<10	<10	<10	NA	NA
Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	<50	<52	NA	NA	NA
Phenanthrene	<10	NA	<10	<10	NA	<10	NA	<10	<10	<10	<10	NA
Phenol	NA	NA	NA	9	<5	14	<5	<10	1J	NA	11	<5
Phenyl xylyl ethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	<10	NA	<10	<10	NA	<10	NA	<10	<10	<10	<10	NA
1,2,3-Trichlorobenzene	NA	<0.5	NA	NA	<0.5	NA	<0.5	NA	NA	NA	NA	<0.5
1,2,4-Trichlorobenzene	<5	<0.5	<10	<5	<0.5	<5	<0.5	<10	<10	<10	<5	<0.5
2,4,5-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	<50	<52	NA	NA	NA
2,4,6-Trichlorophenol	NA	NA	NA	NA	NA	NA	NA	<10	<10	NA	NA	NA
n-Nitrosodi-n-propylamine	NA	NA	<10	NA	NA	NA	NA	<10	<10	<10	NA	NA

Appendix F

MVS Model Animation

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

[CD included with hardcopy]

Appendix G

UST Removal Memorandum to File

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

BROWN AND CALDWELL

MEMORANDUM

TO: File **JOB NO:** 127466.001

FROM: Bob O'Neill

DATE: August 12, 2005

SUBJECT: 6/1/04 UST Removal, Niagara Mohawk Schenectady (Broadway) Service Center

On June 1, 2004, S&W Services, Inc. under contract to Niagara Mohawk, A National Grid Company (Niagara Mohawk) removed an 8,000 gallon underground storage tank (UST) at Niagara Mohawk's Schenectady (Broadway) Service Center. The UST had been used to store gasoline. The Service Center is the site of a former manufactured gas plant (MGP) that is the subject of remediation activities under an Order on Consent with the New York State Department of Environmental Conservation (NYSDEC). As requested by Niagara Mohawk, I made observations relative to potential subsurface contamination during the excavation to remove the UST. These observations are documented herein.

Attached to this memorandum are the following:

- Map indicating the approximate location of former UST relative to historic MGP structures and samples collected during the Preliminary Site Assessment (PSA), Remedial Investigation (RI), and Feasibility Study (FS)
- Sketch depicting observations in excavation during removal of the UST.
- Photographs of excavation during and following removal of the UST.
- Document entitled *Tank Closure Report, Niagara Mohawk, Broadway, Schenectady, New York* (S&W Services, Inc., June 2004).

Visual indications of coal tar-related contamination were observed in the soil in the north-northwest corner of the excavation (see attached sketch and Photographs 2 and 3). Stained soil was observed beginning at about 1 foot below grade. Beginning at about 3 or 4 feet below grade, the soil was coated with an iridescent sheen. These soils had a tar-like odor. Groundwater was observed in the excavation at a depth of approximately 6 feet below grade. An iridescent sheen was observed on the groundwater.

The north-northwest corner of the excavation was the corner closest to the former 150,000 cubic foot holder. The observations in the excavation are generally consistent with those from borings and test pits in the vicinity of the former holder.

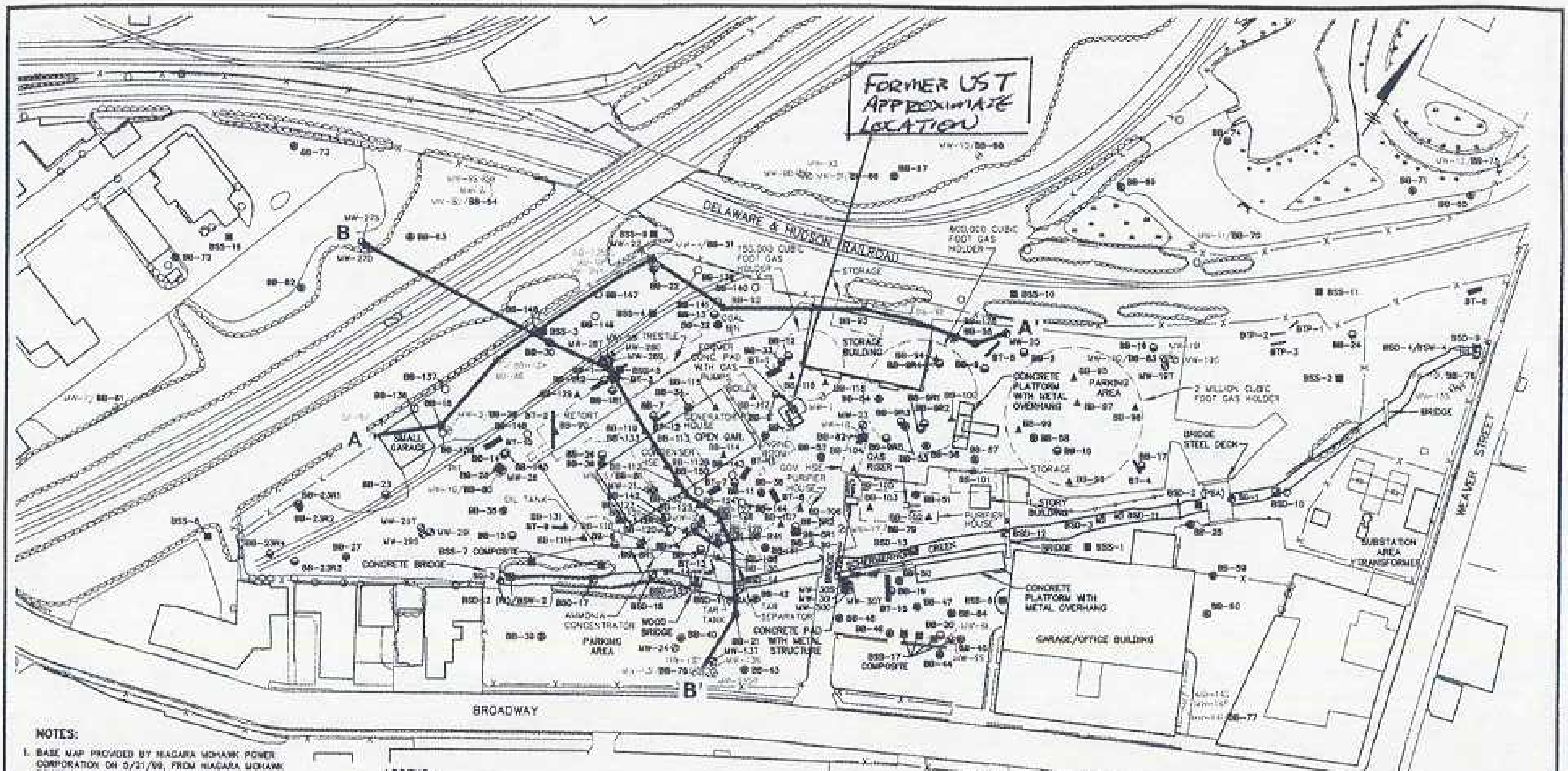
Visual inspection of the UST and the vent piping by S&W Services, Inc. after removal indicated that they were in good condition and there were no indications of a gasoline release.

Results of the analyses of soil and water samples collected during the UST removal prompted Niagara Mohawk to contact the NYSDEC, and a spill number was assigned under NYSDEC's oil and hazardous materials spill reporting program (see attached Tank Closure Report). However, based on the field observations, it is likely that the constituents detected in the samples are related primarily to the former MGP operations.

Abandoned cast iron pipes were observed in the excavation (see sketch and Photographs 1 and 4). These pipes are likely associated with former MGP operations.

Niagara Mohawk is addressing the contamination identified in the excavation for the UST as part of the site remediation activities.

MAP FROM: FIGURE 9 OF "DRAFT SITE REMEDIAL INVESTIGATION REPORT" (BBL, JULY 2005)



NOTES:

1. BASE MAP PROVIDED BY NIAGARA MOHAWK POWER CORPORATION ON 5/21/98, FROM NIAGARA MOHAWK POWER CORPORATION SURVEY REFERENCE FILE DRAWING 3277.DGN, DATED 10/26/84 AT A SCALE OF 1"=100'.
2. HISTORICAL STRUCTURE LOCATIONS ARE BASED ON RESULTS OBTAINED FROM THE GEOPHYSICAL INVESTIGATION CONDUCTED BY BBL DURING MAY 2004.
3. SAMPLING LOCATIONS WERE SURVEYED BY NIAGARA MOHAWK AND BLASLAND, BOUCK & LEE, INC. LOCATIONS OF OTHER SITE FEATURES ARE APPROXIMATE.
4. HORIZONTAL DATUM IS NEW YORK STATE PLANE OF 1983, EAST ZONE.
5. MONITORING WELL MW-20 WAS ABANDONED AND REPLACED WITH MONITORING WELL MW-20R IN JANUARY 2005.

LEGEND:

BB-X	SOIL BORING LOCATION ID: - BB-1 THROUGH BB-26 COMPLETED DURING PSA/IRM - BB-27 THROUGH BB-84 AND BB-841 COMPLETED DURING RI - BB-85 THROUGH BB-89 AND BB-88A COMPLETED DURING NAPL INVESTIGATION - BB-92 THROUGH BB-133 COMPLETED DURING HISTORICAL SUBSURFACE STRUCTURE INVESTIGATION - BB-134 THROUGH BB-146 COMPLETED DURING ADDITIONAL SUBSURFACE INVESTIGATION
	MONITORING WELL
	DECOMMISSIONED MONITORING WELL
MW-23	BBL ADDITIONAL SUBSURFACE INVESTIGATION MONITORING WELL LOCATION
BB-102 ▲	BBL HISTORICAL SUBSURFACE STRUCTURE INVESTIGATION SOIL BORING LOCATION
BB-136 ○	ADDITIONAL NAPL DELINEATION SOIL BORING LOCATION
	NAPL DELINEATION SOIL BORING LOCATION
BB-6	PSA/IRM SOIL BORING LOCATION
BT-14 ▬	PSA/IRM TEST PIT LOCATION
BSD-1 ■	PSA/IRM SEDIMENT SAMPLE LOCATION
BB-35	RI SOIL BORING LOCATION
BSS-8 ■	RI SURFACE SOIL SAMPLE LOCATION
BTP-1 ▬	RI TEST PIT LOCATION
BSD-2	RI SEDIMENT SAMPLE LOCATION
BSD-2/BSW-2	RI SEDIMENT SURFACE WATER SAMPLE LOCATION
SG-1	STAFF GAUGE
—— X ——	FENCE LINE
- - - -	APPROXIMATE LOCATION OF HISTORICAL SITE FEATURE
———	APPROXIMATE LOCATION OF EXISTING SITE FEATURE
A —— A'	LINE OF CROSS SECTION

0 100' 200'
GRAPHIC SCALE

NIAGARA MOHAWK, A NATIONAL GRID COMPANY
SCHENECTADY (BROADWAY) SERVICE CENTER
SCHENECTADY, NEW YORK
SITE REMEDIAL INVESTIGATION REPORT

CROSS SECTION LOCATION MAP

BBL
BLASLAND, BOUCK & LEE, INC.

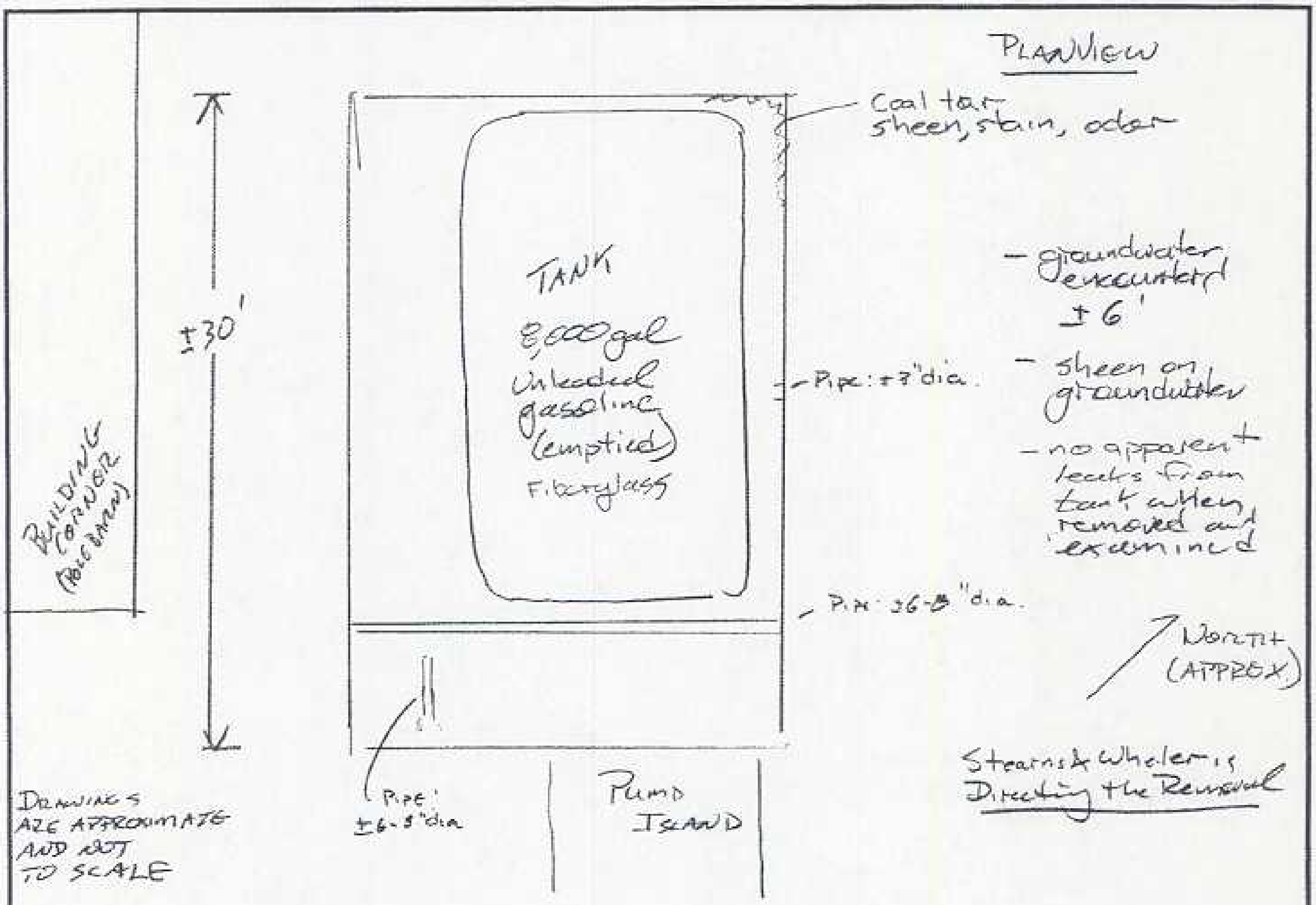
FIGURE
9

BROWN AND
CALDWELL

PROJECT Niagara Mohawk : Schenectady (Broadway)
SUBJECT Observations During UST Removal

BY Bob EKBILL DATE 6/1/04 PAGE 1 OF 1

PLAN VIEW

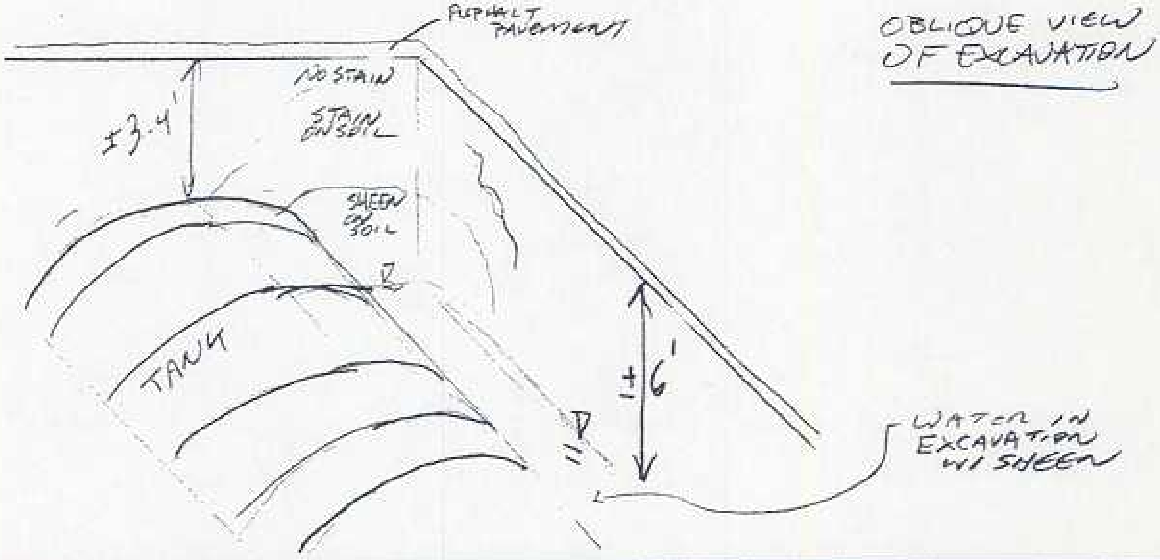


- groundwater encountered ±6'
- sheen on groundwater
- no apparent leaks from tank when removed and examined

Stearns & Wheler is Directing the Removal

DRAWINGS ARE APPROXIMATE AND NOT TO SCALE

OBLIQUE VIEW OF EXCAVATION



PHOTOGRAPHIC DOCUMENTATION LOG
UST REMOVAL – JUNE 1, 2004
NIAGARA MOHAWK SCHENECTADY (BROADWAY) SERVICE CENTER
SCHENECTADY, NEW YORK

Photograph 1: View to Northwest. UST in place with vertical pipes visible. Abandoned cast iron pipes, possibly related to the former MGP, are visible in foreground (marked with orange paint).

Photograph 2: View to North-Northwest. UST in place with vertical pipes visible. Encountered stained soils and soils with iridescent sheen in north-northwest corner of excavation. Groundwater visible to right of UST.

PHOTOGRAPHIC DOCUMENTATION LOG
UST REMOVAL – JUNE 1, 2004
NIAGARA MOHAWK SCHENECTADY (BROADWAY) SERVICE CENTER
SCHENECTADY, NEW YORK

Photograph 3: View to North-Northwest. UST removed (removed tank is visible on upper portion of photograph). Tanks straps are visible within excavation. Stained soil and soil with iridescent sheen visible in north-northwest corner of excavation. Iridescent sheen in water.

Photograph 4: View to Northeast along Southeast Side of Excavation. Note abandoned cast iron pipe, in right side of photograph, oriented northeast to southwest. Pipe in possibly related to former MGP operation.

Niagara Mohawk
A **National Grid** Company

Helen A. Baird
Sr. Engineering Clerk

July 13, 2004

JUL 16 2004

Mr. Thomas Sperbeck
New York State Department of
Environmental Conservation
1150 North Westcott Rd. – Region 4
Schenectady, NY 12306

Dear Mr. Sperbeck:

SUBJECT: Niagara Mohawk, a National Grid Company
Schenectady Service Center
PBS #4-42981

Enclosed, please find, the Tank Closure Report for the removal of Tank #2, an 8000 gallon underground unleaded gasoline tank at Niagara Mohawk's Schenectady-Broadway Service Center. Although no petroleum impacted soil was observed during excavation, analytical results showed semi-volatiles exceeding TAGM 4046 criteria.

Mr. Robert Cazzolli, Niagara Mohawk's Environmental Engineer, contacted you on June 28 to report that these elevated results are most likely part of an MGP cleanup being performed on-site at this time. However, due to the possibility of a fuel-related spill, you directed Mr. Cazzolli to call the analytical results in as a spill, for which Spill #0403347 was assigned. Mr. Robert O'Neill, Schenectady Service Center's MGP Project Manager, will be including a copy of this closure report to Mr. William Ottaway, NYSDEC Remediation Engineer. We plan to address cleanup as part of the site's MGP remediation project.

Please feel free to contact Mr. Robert Cazzolli at (315) 428-3490 with any technical questions or myself at (315) 428-6611 with any administrative issues.

Sincerely,

Helen Baird

Helen A. Baird
Sr. Engineering Clerk

HAB:jw
Enclosure

pc: J. Talbot (w/enc.)	W. Balestra (w/o enc.)
B. Scheurer (w/enc.)	R. Cazzolli (w/o enc.)
R. Javarone (w/enc.)	W. Holzhauer, Esq. (w/enc.)
✓R. O'Neill (w/enc.)	

300 Erie Boulevard West
Environmental Department, C-1
Syracuse, NY 13202
315.428.6611 Fax: 315.428.3549
helen.baird@us.ngrid.com

Tank Closure Report

Niagara Mohawk
Broadway
Schenectady, New York

PBS # 4-42981
TANK #2

June 2004

Stearns & Wheler
Companies

TANK CLOSURE REPORT

NIAGARA MOHAWK

BROADWAY

SCHENECTADY, NEW YORK

Prepared for

NIAGARA MOHAWK

Prepared by

S&W SERVICES, INC.
One Remington Park Drive
Cazenovia, New York 13035
(315) 655-4953

JUNE 2004

Project No. 2071

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SECTION 2 - REMOVAL DESCRIPTION 2

SECTION 3 - SAMPLING 3

SECTION 4 - EXTENT OF PETROLEUM IMPACT 3

SECTION 5 - CONCLUSIONS AND RECOMMENDATIONS 3

LIST OF APPENDICES

Appendix	
A	Disposal Receipts and Records
B	Soil Sample Analytical Results
C	Site Map
D	Site Photographs

TANK CLOSURE REPORT

Site:
Niagara Mohawk
Broadway
Schenectady, NY (Schenectady County)
Spill No.: 0403347

Subject Tank: Tank No. ~~1~~ 2: 8,000-Gallon Underground Gasoline Storage Tank

SECTION 1 - INTRODUCTION

A. **Date of Tank Removal.** The storage tank was removed on June 1, 2004.

B. **Purpose of Tank Removal.** The storage tank was removed because it was recommended by Niagara Mohawk's Fleet and Environmental Groups.

C. **Permits Required or Obtained.** A permit was not required for the tank removal.

D. **Contractor Performing Tank Removal.**

S&W Services, Inc.
One Remington Park Drive
Cazenovia, NY 13035

Contractor Performing Post-Excavation Sampling.

S&W Services, Inc.
One Remington Park Drive
Cazenovia, NY 13035

E. **Number, Size, Description, and Manufacturer of Tank Removed.** One 8,000-gallon, single-walled, fiberglass-constructed underground storage tank was removed. The manufacturer of the tank was Xerxes.

SECTION 2 - REMOVAL DESCRIPTION

A. **Description of Tank Removal Procedures.** The concrete pad and top of tank was excavated to expose the tank. Soil from around the sides was then excavated and the tank and associated piping were pulled from the excavation.

B. **Description of Tank Disposal Procedures.** The tank was cut open, cleaned, and transported off-site to Waste Management for disposal (Appendix A).

C. **Condition of Tank and Piping.** The tank and the product and vent piping were visually inspected after removal from the ground. The piping was found to be in good condition. After cleaning, the tank was inspected. The tank was also found to be in good condition with no signs of pitting or corrosion.

D. **Description of Product Released During Tank and Line Removal.** Product was not observed in the excavation during the tank removal.

E. **Disposal of Hazardous Waste and Non-Hazardous Waste Generated.**

No petroleum-impacted soil was transported off-site. All soil remained on-site as directed by Niagara Mohawk and the NYSDEC.

F. **Use of Excavated Soil Not Disposed Of.** Soil which did not exhibit petroleum impacts when screened with a photoionization detector was used to backfill the excavation.

G. **Regulatory Personnel in Attendance.** Regulatory personnel were not in attendance during the tank removal; however, the appropriate regulatory personnel were notified prior to the tank removal. Niagara Mohawk Environmental Affairs personnel and management were on-site during tank removal activities.

H. **Depth of Groundwater.** Groundwater was encountered during the tank removal at approximately 5 FT to 6 FT.

SECTION 3 - SAMPLING

A. **Methods Used to Obtain and Handle Samples Collected in the Field.** Endpoint soil samples were collected following removal of the tank. Seven (7) soil samples were collected from the four walls and floor of the tank excavation. The soil samples were analyzed by EPA Method 8021/8270 for the target parameters established in STARS Memo No. 1, Petroleum-Contaminated Soil Guidance Policy (NYSDEC, 1992).

B. **Company Performing Sampling.** A representative of S&W Services, Inc. performed the above-referenced sampling.

SECTION 4 - EXTENT OF PETROLEUM IMPACT

A. **Vertical and Lateral Extent of Petroleum Impact.** Petroleum-impacted soil was not observed in the excavation area during the tank removal.

B. **Use of Excavated Soil and Screening of Soil for Contamination.** All soil was used as backfill.

C. **Backfill Material.** In addition to the excavated soils, clean gravel obtained from an off-site source was used to backfill the excavation.

D. **NYSDEC Oil and Hazardous Material Spill Reporting Program.** Spill number 0403347 was assigned to the site as a result of the tank removal.

SECTION 5 - CONCLUSIONS AND RECOMMENDATIONS

Tank was removed, cleaned and disposed off-site. There was no petroleum-impacted soil observed during excavation; however, analytical results showed some elevated levels; thus Niagara Mohawk notified the NYSDEC and a spill number was generated. All soil from excavation activities remained on-site within the excavated area.

APPENDIX A

Disposal Receipts and Records

Port of Albany, Albany, NY 12202
Email: albany@epsofvermont.com

EPS ENVIRONMENTAL
PRODUCTS & SERVICES
OF VERMONT, INC
ALBANY NY DIVISION

PHONE: (518) 465-4000
FAX: (518) 465-5722
1-800-5-SPILLS

June 29, 2004

Attn: Tina Dorrance, S&W Services

From: Peter Marotta, EP&S of Vt.

RE: Fiberglass tank disposal

Attached you will find documents tracking the transportation, dismantling, and disposal of (1) 8,000 gallon fiberglass tank. The tank was cleaned on June 1, 2004 at the Niagara Mohawk facility on Broadway, Schenectady, NY by EP&S of Vt. crew as per industry standards. The empty and clean tank was transported to our branch office in the Port of Albany. The tank was dismantled/scrapped on June 7, 2004 (Daily Job Report and disposal ticket attached). The scrap fiberglass was disposed at Waste Management, 100 Boat St. Albany, NY. Should you have any further questions regarding the disposal of this tank, please feel free to contact me.

Sincerely,

P Marotta

Peter Marotta
Branch Manager

264739-DV

ATTENTION SHIPPERS! FREIGHT CHARGES ARE PREPAID ON THIS BILL OF LADING UNLESS MARKED COLLECT.

STRAIGHT BILL OF LADING

ORIGINAL - NOT NEGOTIABLE

Shipper No. ______

Page 1 of 1 Environmental Products + Services of Vermont Carrier No. ______

(Name of carrier) (SCAC) Date ______

On Collect on Delivery shipments, the letters "COD" must appear before consignee's name or as otherwise provided in Item 430, Sec. 1.

TO:
Consignee Environmental Products + Services of Vt.
Street Port of Albany
City Albany State NY Zip Code 12202

FROM:
Shipper Niagara Mohawk
Street Broadway
City Schenectady State NY Zip Code
24 hr. Emergency Contact Tel. No. 518-439-3696

Route

Vehicle Number

No. of Units Container Type	HM	BASIC DESCRIPTION Proper Shipping Name, Hazard Class, Identification Number (UN or NA), Packing Group, per 172.101, 172.202, 172.203	TOTAL QUANTITY (Weight, Volume, Gallons, etc.)	WEIGHT (Subject to Correction)	RATE	CHARGES (For Carrier Use Only)
1		8,000 gallon fiberglass tank	1 80P	5280# PM		
		(empty + clean, for scrap)		see weight ticket attached PM		

PLACARDS TENDERED: YES ☐ NO ☐

Note – (1) Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property, as follows: "The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding ______ per ______."
(2) Where the applicable tariff provisions specify a limitation of the carrier's liability absent a release or a value declaration by the shipper and the shipper does not release the carrier's liability or declare a value, the carrier's liability shall be limited to the extent provided by such provisions. See NMFC Item 172.
(3) Commodities requiring special or additional care or attention in handling or stowing must be so marked and packaged as to ensure safe transportation. See Section 2(e) of Item 360, Bills of Lading, Freight Bills and Statements of Charges and Section 1(a) of the Contract Terms and Conditions for a list of such articles.

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packed, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

______ Signature

REMIT C.O.D. TO: ADDRESS

COD Amt: $

C.O.D. FEE: PREPAID ☐ COLLECT ☐ $

TOTAL CHARGES: $

Subject to Section 7 of the conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

______ (Signature of Consignor)

FREIGHT CHARGES
FREIGHT PREPAID except when box at right is checked ☐ Check box if charges are to be collect

RECEIVED, subject to classifications and tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of, said property over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the bill of lading terms and conditions in the governing classification on the date of shipment.

Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

SHIPPER Niagara Mohawk
PER Barton Selemen

CARRIER Environmental Products + Services of Vt.
PER
DATE 6/1/04

Permanent post-office address of shipper

WM - PORT OF ALBANY
100 BOAT STREET
ALBANY NY 12202

TICKET: 273075
DATE: 06/07/2004
TIME: 11:04 - 11:15

CUSTOMER: EPS / Environmental Products & Services
GENERATOR: NA / Non App PROFILE #: NA
ORIGIN: AL / ALBANY COUNTY
TRUCK: EPS
TRAILER: LICENSE:
COMMENT:

P.O.:
GROSS: 34480 LBS I
TARE: 29200 LBS
NET: 5280 LBS

ACCOUNT: 329

WASTE	NET/TONS	UNIT
CD / CONSTRUCTION & DEMOLITION	2.64	Y

Driver:
IN: scale
B: NYALBA01PC

Weighmaster:
OUT: scale
B: NYALBA01PC

APPENDIX B

Soil Sample Analytical Results

LSL

Tina Dorrance
S&W Services
1 Remington Park Drive
Cazenovia, NY 13035

Phone: (315) 655-4953
FAX: (315) 655-2285

Laboratory Analysis Report

For

S&W Services

LSL Project ID: 0408604

Receive Date/Time: 06/03/04 13:52

Project Received by: MW

Life Science Laboratories, Inc. warrants, to the best of its knowledge and belief, the accuracy of the analytical test results contained in this report, but makes no other warranty, expressed or implied, especially no warranties of merchantability or fitness for a particular purpose. By the Client's acceptance and/or use of this report, the Client agrees that LSL is hereby released from any and all liabilities, claims, damages or causes of action affecting or which may affect the Client as regards to the results contained in this report. The Client further agrees that the only remedy available to the Client in the event of proven non-conformity with the above warranty shall be for LSL to re-perform the analytical test(s) at no charge to the Client. The data contained in this report are for the exclusive use of the Client to whom it is addressed, and the release of these data to any other party, or the use of the name, trademark or service mark of Life Science Laboratories, Inc. especially for the use of advertising to the general public, is strictly prohibited without express prior written consent of Life Science Laboratories, Inc. This report may only be reproduced in its entirety. No partial duplication is allowed. The Chain of Custody document submitted with these samples is considered by LSL to be an appendix of this report and may contain specific information that pertains to the samples included in this report. The analytical result(s) in this report are only representative of the sample(s) submitted for analysis. LSL makes no claim of a sample's representativeness, or integrity, if sampling was not performed by LSL personnel.

Life Science Laboratories, Inc.

LSL Central Lab
5854 Butternut Drive
East Syracuse, NY 13057
Tel. (315) 445-1105
Fax (315) 445-1301
NYS DOH ELAP #10248
PA DEP #68-2556

LSL North Lab
131 St. Lawrence Avenue
Waddington, NY 13694
Tel. (315) 388-4476
Fax (315) 388-4061
NYS DOH ELAP #10900

LSL Finger Lakes Lab
16 N. Main St., PO Box 424
Wayland, NY 14572
Tel. (585) 728-3320
Fax (585) 728-2711
NYS DOH ELAP #11667

LSL Southern Tier Lab
30 East Main Street
Cuba, NY 14727
Tel. (585) 968-2640
Fax (585) 968-0906
NYS DOH ELAP #10760

LSL MidLakes Lab
699 South Main Street
Canandaigua, NY 14424
Tel. (585) 396-0270
Fax (585) 396-0377
NYS DOH ELAP #11369

This report was reviewed by: Linda Water QC *Date:* 6/17/04
Life Science Laboratories, Inc.

A copy of this report was sent to:

Date Printed: 5/17/04

-- LABORATORY ANALYSIS REPORT --

S&W Services *Cazenovia, NY*

Sample ID: SW1 LSL Sample ID: 0408604-001
Location: Sidewall
Sampled: 06/01/04 11:00 Sampled By: DW
Sample Matrix: SHW Dry Wt

Analytical Method Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) NYS-DEC STARS 8021 Volatiles					
Benzene	<6	ug/kg dry		6/11/04	LEF
n-Butylbenzene	<6	ug/kg dry		6/11/04	LEF
sec-Butylbenzene	<6	ug/kg dry		6/11/04	LEF
tert-Butylbenzene	<6	ug/kg dry		6/11/04	LEF
Ethyl benzene	<6	ug/kg dry		6/11/04	LEF
Isopropylbenzene (Cumene)	<6	ug/kg dry		6/11/04	LEF
4-Isopropyl toluene (Cymene)	<6	ug/kg dry		6/11/04	LEF
MTBE	<6	ug/kg dry		6/11/04	LEF
Naphthalene	<6	ug/kg dry		6/11/04	LEF
N-Propylbenzene	<6	ug/kg dry		6/11/04	LEF
Toluene	<6	ug/kg dry		6/11/04	LEF
1,2,4-Trimethylbenzene	<6	ug/kg dry		6/11/04	LEF
1,3,5-Trimethylbenzene	<6	ug/kg dry		6/11/04	LEF
Xylenes (Total)	<6	ug/kg dry		6/11/04	LEF
Total Solids @ 103-105 C	88	%		6/10/04	LEF
(1) NYS-DEC STARS 8270 Base/Neutrals					
Acenaphthene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Anthracene	280	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(a)anthracene	810	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(b)fluoranthene	1500	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(k)fluoranthene	650	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(ghi)perylene	1200	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(a)pyrene	1400	ug/kg dry	6/11/04	6/16/04	CRT
Chrysene	870	ug/kg dry	6/11/04	6/16/04	CRT
Dibenz(a,h)anthracene	220	ug/kg dry	6/11/04	6/16/04	CRT
Fluoranthene	750	ug/kg dry	6/11/04	6/16/04	CRT
Fluorene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Indeno(1,2,3-c,d)pyrene	1200	ug/kg dry	6/11/04	6/16/04	CRT
Phenanthrene	200	ug/kg dry	6/11/04	6/16/04	CRT
Pyrene	1400	ug/kg dry	6/11/04	6/16/04	CRT
Total Solids @ 103-105 C	88	%		6/10/04	LEF

-- LABORATORY ANALYSIS REPORT --

S&W Services Cazenovia, NY

Sample ID: SW2 LSL Sample ID: 0408604-002

Location: Sidewall

Sampled: 06/01/04 11:00 Sampled By: DW

Sample Matrix: SHW Dry Wt

Analytical Method Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) NYS-DEC STARS 8021 Volatiles					
Benzene	<6	ug/kg dry		6/11/04	LEF
n-Butylbenzene	<6	ug/kg dry		6/11/04	LEF
sec-Butylbenzene	<6	ug/kg dry		6/11/04	LEF
tert-Butylbenzene	<6	ug/kg dry		6/11/04	LEF
Ethyl benzene	<6	ug/kg dry		6/11/04	LEF
Isopropylbenzene (Cumene)	<6	ug/kg dry		6/11/04	LEF
4-Isopropyl toluene (Cymene)	<6	ug/kg dry		6/11/04	LEF
MTBE	<6	ug/kg dry		6/11/04	LEF
Naphthalene	<6	ug/kg dry		6/11/04	LEF
N-Propylbenzene	<6	ug/kg dry		6/11/04	LEF
Toluene	<6	ug/kg dry		6/11/04	LEF
1,2,4-Trimethylbenzene	<6	ug/kg dry		6/11/04	LEF
1,3,5-Trimethylbenzene	<6	ug/kg dry		6/11/04	LEF
Xylenes (Total)	<6	ug/kg dry		6/11/04	LEF
Total Solids @ 103-105 C	84	%		6/10/04	LEF
(1) NYS-DEC STARS 8270 Base/Neutrals					
Acenaphthene	<500	ug/kg dry	6/11/04	6/16/04	CRT
Anthracene	1000	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(a)anthracene	2300	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(b)fluoranthene	8800	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(k)fluoranthene	2100	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(ghi)perylene	20000	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(a)pyrene	8500	ug/kg dry	6/11/04	6/16/04	CRT
Chrysene	2500	ug/kg dry	6/11/04	6/16/04	CRT
Dibenz(a,h)anthracene	<500	ug/kg dry	6/11/04	6/16/04	CRT
Fluoranthene	2300	ug/kg dry	6/11/04	6/16/04	CRT
Fluorene	<500	ug/kg dry	6/11/04	6/16/04	CRT
Indeno(1,2,3-c,d)pyrene	15000	ug/kg dry	6/11/04	6/16/04	CRT
Phenanthrene	800	ug/kg dry	6/11/04	6/16/04	CRT
Pyrene	3500	ug/kg dry	6/11/04	6/16/04	CRT
Total Solids @ 103-105 C	84	%		6/10/04	LEF

A pattern resembling a degraded Fuel Oil #2 is present at an estimated amount of 310mg/kg dry.

Analysis performed at: *(1) LSL Central, (2) LSL North, (3) LSL Finger Lakes, (4) LSL Southern Tier, (5) LSL MidLakes*

-- LABORATORY ANALYSIS REPORT --

S&W Services *Cazenovia, NY*

Sample ID: SW3 LSL Sample ID: 0408604-003
Location: Sidewall
Sampled: 06/01/04 12:30 Sampled By: DW
Sample Matrix: SHW Dry Wt

Analytical Method Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) NYS-DEC STARS 8021 Volatiles					
Benzene	<3000	ug/kg dry		6/11/04	LEF
n-Butylbenzene	<3000	ug/kg dry		6/11/04	LEF
sec-Butylbenzene	<3000	ug/kg dry		6/11/04	LEF
tert-Butylbenzene	<3000	ug/kg dry		6/11/04	LEF
Ethyl benzene	<3000	ug/kg dry		6/11/04	LEF
Isopropylbenzene (Cumene)	<3000	ug/kg dry		6/11/04	LEF
4-Isopropyl toluene (Cymene)	<3000	ug/kg dry		6/11/04	LEF
MTBE	<3000	ug/kg dry		6/11/04	LEF
Naphthalene	150000	ug/kg dry		6/11/04	LEF
N-Propylbenzene	<3000	ug/kg dry		6/11/04	LEF
Toluene	<3000	ug/kg dry		6/11/04	LEF
1.2.4-Trimethylbenzene	6000	ug/kg dry		6/11/04	LEF
1.3.5-Trimethylbenzene	<3000	ug/kg dry		6/11/04	LEF
Xylenes (Total)	7400	ug/kg dry		6/11/04	LEF
Total Solids @ 103-105 C	84	%		6/10/04	LEF
(1) NYS-DEC STARS 8270 Base/Neutrals					
Acenaphthene	320000*	ug/kg dry	6/11/04	6/16/04	CRT
Anthracene	250000*	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(a)anthracene	110000	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(b)fluoranthene	71000	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(k)fluoranthene	26000	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(ghi)perylene	29000	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(a)pyrene	94000	ug/kg dry	6/11/04	6/16/04	CRT
Chrysene	110000	ug/kg dry	6/11/04	6/16/04	CRT
Dibenz(a.h)anthracene	<20000	ug/kg dry	6/11/04	6/16/04	CRT
Fluoranthene	210000*	ug/kg dry	6/11/04	6/16/04	CRT
Fluorene	220000*	ug/kg dry	6/11/04	6/16/04	CRT
Indeno(1.2.3-c.d)pyrene	30000	ug/kg dry	6/11/04	6/16/04	CRT
Phenanthrene	650000*	ug/kg dry	6/11/04	6/16/04	CRT
Pyrene	290000*	ug/kg dry	6/11/04	6/16/04	CRT
Total Solids @ 103-105 C	84	%		6/10/04	LEF

**These results should be considered an estimate because the concentration exceeded the linear range of the instrument.*

-- LABORATORY ANALYSIS REPORT --

S&W Services *Cazenovia, NY*

Sample ID: SW4 LSL Sample ID: 0408604-004
Location: Sidewall
Sampled: 06/01/04 13:00 Sampled By: DW
Sample Matrix: SHW Dry Wt

Analytical Method Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) NYS-DEC STARS 8021 Volatiles					
Benzene	<5	ug/kg dry		6/14/04	LEF
n-Butylbenzene	<5	ug/kg dry		6/14/04	LEF
sec-Butylbenzene	<5	ug/kg dry		6/14/04	LEF
tert-Butylbenzene	<5	ug/kg dry		6/14/04	LEF
Ethyl benzene	<5	ug/kg dry		6/14/04	LEF
Isopropylbenzene (Cumene)	<5	ug/kg dry		6/14/04	LEF
4-Isopropyl toluene (Cymene)	<5	ug/kg dry		6/14/04	LEF
MTBE	<5	ug/kg dry		6/14/04	LEF
Naphthalene	<5	ug/kg dry		6/14/04	LEF
N-Propylbenzene	<5	ug/kg dry		6/14/04	LEF
Toluene	<5	ug/kg dry		6/14/04	LEF
1,2,4-Trimethylbenzene	<5	ug/kg dry		6/14/04	LEF
1,3,5-Trimethylbenzene	<5	ug/kg dry		6/14/04	LEF
Xylenes (Total)	<5	ug/kg dry		6/14/04	LEF
Total Solids @ 103-105 C	93	%		6/11/04	LEF
(1) NYS-DEC STARS 8270 Base/Neutrals					
Acenaphthene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Anthracene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(a)anthracene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(b)fluoranthene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(k)fluoranthene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(ghi)perylene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(a)pyrene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Chrysene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Dibenz(a,h)anthracene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Fluoranthene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Fluorene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Indeno(1,2,3-c,d)pyrene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Phenanthrene	210	ug/kg dry	6/11/04	6/16/04	CRT
Pyrene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Total Solids @ 103-105 C	93	%		6/10/04	LEF

Analysis performed at: *(1) LSL Central, (2) LSL North, (3) LSL Finger Lakes, (4) LSL Southern Tier, (5) LSL MidLakes*

- - LABORATORY ANALYSIS REPORT - -

S&W Services *Cazenovia, NY*

Sample ID:	GW1	LSL Sample ID:	0408604-005
Location:	Before Tank		
Sampled:	06/01/04 16:00	Sampled By: DW	
Sample Matrix:	NPW		

Analytical Method Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) NYS-DEC STARS 8021 Volatiles, by 8260					
Benzene	<5	ug/l		6/12/04	LEF
n-Butylbenzene	<5	ug/l		6/12/04	LEF
sec-Butylbenzene	<5	ug/l		6/12/04	LEF
tert-Butylbenzene	<5	ug/l		6/12/04	LEF
Ethyl benzene	<5	ug/l		6/12/04	LEF
Isopropylbenzene (Cumene)	<5	ug/l		6/12/04	LEF
4-Isopropyl toluene (Cymene)	<5	ug/l		6/12/04	LEF
MTBE	1000	ug/l		6/12/04	LEF
This result should be considered an estimate because the concentration exceeded the linear range of the instrument.					
Naphthalene	<5	ug/l		6/12/04	LEF
N-Propylbenzene	<5	ug/l		6/12/04	LEF
Toluene	<5	ug/l		6/12/04	LEF
1,2,4-Trimethylbenzene	<5	ug/l		6/12/04	LEF
1,3,5-Trimethylbenzene	<5	ug/l		6/12/04	LEF
Xylenes (Total)	<5	ug/l		6/12/04	LEF
t-Butyl alcohol	<500	ug/l		6/12/04	LEF
Surrogate (1,2-DCA-d4)	111	%R		6/12/04	LEF
Surrogate (Tol-d8)	91	%R		6/12/04	LEF
Surrogate (4-BFB)	118	%R		6/12/04	LEF
Sample received in inappropriate container.					
(1) NYS-DEC STARS 8270 Base/Neutrals					
Acenaphthene	<50	ug/l	6/14/04	6/17/04	CRT
Acenaphthylene	<50	ug/l	6/14/04	6/17/04	CRT
Anthracene	<50	ug/l	6/14/04	6/17/04	CRT
Benzo(a)anthracene	<50	ug/l	6/14/04	6/17/04	CRT
Benzo(b)fluoranthene	<50	ug/l	6/14/04	6/17/04	CRT
Benzo(k)fluoranthene	<50	ug/l	6/14/04	6/17/04	CRT
Benzo(ghi)perylene	<50	ug/l	6/14/04	6/17/04	CRT
Benzo(a)pyrene	<50	ug/l	6/14/04	6/17/04	CRT
Chrysene	<50	ug/l	6/14/04	6/17/04	CRT
Dibenz(a,h)anthracene	<50	ug/l	6/14/04	6/17/04	CRT
Fluoranthene	<50	ug/l	6/14/04	6/17/04	CRT
Fluorene	<50	ug/l	6/14/04	6/17/04	CRT
Indeno(1,2,3-c,d)pyrene	<50	ug/l	6/14/04	6/17/04	CRT
Phenanthrene	<50	ug/l	6/14/04	6/17/04	CRT
Pyrene	<50	ug/l	6/14/04	6/17/04	CRT
Surrogate (Nitrobenzene-d5)	80	%R	6/14/04	6/17/04	CRT
Surrogate (2-Fluorobiphenyl)	81	%R	6/14/04	6/17/04	CRT
Surrogate (Terphenyl-d14)	101	%R	6/14/04	6/17/04	CRT
Elevated detection limit due to limited sample volume.					

-- LABORATORY ANALYSIS REPORT --

S&W Services *Cazenovia, NY*

Sample ID: GW2 LSL Sample ID: 0408604-006
Location: After Tank
Sampled: 06/01/04 16:00 Sampled By: DW
Sample Matrix: NPW

Analytical Method Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) NYS-DEC STARS 8021 Volatiles, by 8260					
Benzene	370	ug/l		6/12/04	LEF
n-Butylbenzene	<20	ug/l		6/12/04	LEF
sec-Butylbenzene	<20	ug/l		6/12/04	LEF
tert-Butylbenzene	<20	ug/l		6/12/04	LEF
Ethyl benzene	<20	ug/l		6/12/04	LEF
Isopropylbenzene (Cumene)	<20	ug/l		6/12/04	LEF
4-Isopropyl toluene (Cymene)	<20	ug/l		6/12/04	LEF
MTBE	1800	ug/l		6/12/04	LEF
Naphthalene	4000	ug/l		6/12/04	LEF
This result should be considered an estimate because the concentration exceeded the linear range of the instrument.					
N-Propylbenzene	<20	ug/l		6/12/04	LEF
Toluene	360	ug/l		6/12/04	LEF
1,2,4-Trimethylbenzene	47	ug/l		6/12/04	LEF
1,3,5-Trimethylbenzene	51	ug/l		6/12/04	LEF
Xylenes (Total)	370	ug/l		6/12/04	LEF
t-Butyl alcohol	<2000	ug/l		6/12/04	LEF
Surrogate (1,2-DCA-d4)	120	%R		6/12/04	LEF
Surrogate (Tol-d8)	102	%R		6/12/04	LEF
Surrogate (4-BFB)	117	%R		6/12/04	LEF
Sample received in inappropriate container.					
(1) NYS-DEC STARS 8270 Base/Neutrals					
Acenaphthene	54	ug/l	6/14/04	6/17/04	CRT
Acenaphthylene	190	ug/l	6/14/04	6/17/04	CRT
Anthracene	<50	ug/l	6/14/04	6/17/04	CRT
Benzo(a)anthracene	<50	ug/l	6/14/04	6/17/04	CRT
Benzo(b)fluoranthene	<50	ug/l	6/14/04	6/17/04	CRT
Benzo(k)fluoranthene	<50	ug/l	6/14/04	6/17/04	CRT
Benzo(ghi)perylene	<50	ug/l	6/14/04	6/17/04	CRT
Benzo(a)pyrene	<50	ug/l	6/14/04	6/17/04	CRT
Chrysene	<50	ug/l	6/14/04	6/17/04	CRT
Dibenz(a,h)anthracene	<50	ug/l	6/14/04	6/17/04	CRT
Fluoranthene	<50	ug/l	6/14/04	6/17/04	CRT
Fluorene	70	ug/l	6/14/04	6/17/04	CRT
Indeno(1,2,3-c,d)pyrene	<50	ug/l	6/14/04	6/17/04	CRT
Phenanthrene	60	ug/l	6/14/04	6/17/04	CRT
Pyrene	<50	ug/l	6/14/04	6/17/04	CRT
Surrogate (Nitrobenzene-d5)	83	%R	6/14/04	6/17/04	CRT
Surrogate (2-Fluorobiphenyl)	80	%R	6/14/04	6/17/04	CRT
Surrogate (Terphenyl-d14)	89	%R	6/14/04	6/17/04	CRT

-- LABORATORY ANALYSIS REPORT --

S&W Services *Cazenovia, NY*

Sample ID: B1 LSL Sample ID: 0408604-007
Location: Under Tank
Sampled: 06/01/04 10:00 Sampled By: DW
Sample Matrix: SHW Dry Wt

Analytical Method Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) NYS-DEC STARS 8021 Volatiles					
Benzene	<6	ug/kg dry		6/11/04	LEF
n-Butylbenzene	<6	ug/kg dry		6/11/04	LEF
sec-Butylbenzene	<6	ug/kg dry		6/11/04	LEF
tert-Butylbenzene	<6	ug/kg dry		6/11/04	LEF
Ethyl benzene	<6	ug/kg dry		6/11/04	LEF
Isopropylbenzene (Cumene)	<6	ug/kg dry		6/11/04	LEF
4-Isopropyl toluene (Cymene)	<6	ug/kg dry		6/11/04	LEF
MTBE	<6	ug/kg dry		6/11/04	LEF
Naphthalene	27	ug/kg dry		6/11/04	LEF
N-Propylbenzene	<6	ug/kg dry		6/11/04	LEF
Toluene	<6	ug/kg dry		6/11/04	LEF
1,2,4-Trimethylbenzene	<6	ug/kg dry		6/11/04	LEF
1,3,5-Trimethylbenzene	<6	ug/kg dry		6/11/04	LEF
Xylenes (Total)	<6	ug/kg dry		6/11/04	LEF
Total Solids @ 103-105 C	89	%		6/10/04	LEF
(1) NYS-DEC STARS 8270 Base/Neutrals					
Acenaphthene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Anthracene	380	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(a)anthracene	330	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(b)fluoranthene	230	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(k)fluoranthene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(ghi)perylene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(a)pyrene	230	ug/kg dry	6/11/04	6/16/04	CRT
Chrysene	240	ug/kg dry	6/11/04	6/16/04	CRT
Dibenz(a,h)anthracene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Fluoranthene	390	ug/kg dry	6/11/04	6/16/04	CRT
Fluorene	310	ug/kg dry	6/11/04	6/16/04	CRT
Indeno(1,2,3-c,d)pyrene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Phenanthrene	890	ug/kg dry	6/11/04	6/16/04	CRT
Pyrene	670	ug/kg dry	6/11/04	6/16/04	CRT
Total Solids @ 103-105 C	89	%		6/10/04	LEF

Analysis performed at: *(1) LSL Central, (2) LSL North, (3) LSL Finger Lakes, (4) LSL Southern Tier, (5) LSL MidLakes*

-- LABORATORY ANALYSIS REPORT --

S&W Services *Cazenovia, NY*

Sample ID: B2 LSL Sample ID: 0408604-008
Location: Under Tank
Sampled: 06/01/04 16:30 Sampled By: DW
Sample Matrix: SHW Dry Wt

Analytical Method Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) NYS-DEC STARS 8021 Volatiles					
Benzene	<5	ug/kg dry		6/11/04	LEF
n-Butylbenzene	<5	ug/kg dry		6/11/04	LEF
sec-Butylbenzene	<5	ug/kg dry		6/11/04	LEF
tert-Butylbenzene	<5	ug/kg dry		6/11/04	LEF
Ethyl benzene	<5	ug/kg dry		6/11/04	LEF
Isopropylbenzene (Cumene)	<5	ug/kg dry		6/11/04	LEF
4-Isopropyl toluene (Cymene)	<5	ug/kg dry		6/11/04	LEF
MTBE	<5	ug/kg dry		6/11/04	LEF
Naphthalene	<5	ug/kg dry		6/11/04	LEF
N-Propylbenzene	<5	ug/kg dry		6/11/04	LEF
Toluene	<5	ug/kg dry		6/11/04	LEF
1,2,4-Trimethylbenzene	<5	ug/kg dry		6/11/04	LEF
1,3,5-Trimethylbenzene	<5	ug/kg dry		6/11/04	LEF
Xylenes (Total)	<5	ug/kg dry		6/11/04	LEF
Total Solids @ 103-105 C	93	%		6/10/04	LEF
(1) NYS-DEC STARS 8270 Base/Neutrals					
Acenaphthene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Anthracene	220	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(a)anthracene	1100	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(b)fluoranthene	970	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(k)fluoranthene	530	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(ghi)perylene	550	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(a)pyrene	1300	ug/kg dry	6/11/04	6/16/04	CRT
Chrysene	970	ug/kg dry	6/11/04	6/16/04	CRT
Dibenz(a,h)anthracene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Fluoranthene	830	ug/kg dry	6/11/04	6/16/04	CRT
Fluorene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Indeno(1,2,3-c,d)pyrene	570	ug/kg dry	6/11/04	6/16/04	CRT
Phenanthrene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Pyrene	2600	ug/kg dry	6/11/04	6/16/04	CRT
Total Solids @ 103-105 C	93	%		6/10/04	LEF

Analysis performed at: *(1) LSL Central, (2) LSL North, (3) LSL Finger Lakes, (4) LSL Southern Tier, (5) LSL MidLakes*

-- LABORATORY ANALYSIS REPORT --

S&W Services *Cazenovia, NY*

Sample ID: B3 LSL Sample ID: 0408604-009

Location: Under Sump

Sampled: 06/01/04 17:00 Sampled By: DW

Sample Matrix: SHW Dry Wt

Analytical Method Analyte	Result	Units	Prep Date	Analysis Date & Time	Analyst Initials
(1) NYS-DEC STARS 8021 Volatiles					
Benzene	<5	ug/kg dry		6/14/04	LEF
n-Butylbenzene	<5	ug/kg dry		6/14/04	LEF
sec-Butylbenzene	<5	ug/kg dry		6/14/04	LEF
tert-Butylbenzene	<5	ug/kg dry		6/14/04	LEF
Ethyl benzene	<5	ug/kg dry		6/14/04	LEF
Isopropylbenzene (Cumene)	<5	ug/kg dry		6/14/04	LEF
4-Isopropyl toluene (Cymene)	<5	ug/kg dry		6/14/04	LEF
MTBE	<5	ug/kg dry		6/14/04	LEF
Naphthalene	<5	ug/kg dry		6/14/04	LEF
N-Propylbenzene	<5	ug/kg dry		6/14/04	LEF
Toluene	<5	ug/kg dry		6/14/04	LEF
1,2,4-Trimethylbenzene	<5	ug/kg dry		6/14/04	LEF
1,3,5-Trimethylbenzene	<5	ug/kg dry		6/14/04	LEF
Xylenes (Total)	<5	ug/kg dry		6/14/04	LEF
Total Solids @ 103-105 C	94	%		6/10/04	LEF
(1) NYS-DEC STARS 8270 Base/Neutrals					
Acenaphthene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Anthracene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(a)anthracene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(b)fluoranthene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(k)fluoranthene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(ghi)perylene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Benzo(a)pyrene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Chrysene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Dibenz(a,h)anthracene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Fluoranthene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Fluorene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Indeno(1,2,3-c,d)pyrene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Phenanthrene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Pyrene	<200	ug/kg dry	6/11/04	6/16/04	CRT
Total Solids @ 103-105 C	94	%		6/10/04	LEF

Analysis performed at: *(1) LSL Central, (2) LSL North, (3) LSL Finger Lakes, (4) LSL Southern Tier, (5) LSL MidLakes*

LSL

SURROGATE RECOVERY CONTROL LIMITS FOR ORGANIC METHODS

Method	Surrogate(s)	Water Limits, %R	SHW Limits, %R
EPA 504	TCMX	80-120	NA
EPA 508	DCB	70-130	NA
EPA 515.4	DCAA	70-130	NA
EPA 524.2	1,2-DCA-d4, 4-BFB	80-120	NA
EPA 525.2	1,3-DM-2-NB, TPP, Per-d12	70-130	NA
EPA 526	1,3-DM-2-NB, TPP	70-130	NA
EPA 528	2-CP-3,4,5,6-d4, 2,4,6-TBP	70-130	NA
EPA 551.1	Decafluorobiphenyl	80-120	NA
EPA 552.2	2,3-DBPA	80-120	NA
EPA 601	1,2-DCA-d4, Tol-d8, 4-BFB	70-130	NA
EPA 602	1,2-DCA-d4, Tol-d8, 4-BFB	70-130	NA
EPA 608	DCB	30-150	NA
EPA 624	1,2-DCA-d4, Tol-d8, 4-BFB	70-130	NA
EPA 625, AE	2-Fluorophenol	21-110	NA
EPA 625, AE	Phenol-d5	10-110	NA
EPA 625, AE	2,4,6-Tribromophenol	10-123	NA
EPA 625, BN	Nitrobenzene-d5	35-114	NA
EPA 625, BN	2-Fluorobiphenyl	43-116	NA
EPA 625, BN	Terphenyl-d14	33-141	NA
EPA 8010	1,2-DCA-d4, Tol-d8, 4-BFB	70-130	70-130
EPA 8020	1,2-DCA-d4, Tol-d8, 4-BFB	70-130	70-130
EPA 8021	1,2-DCA-d4, Tol-d8, 4-BFB	70-130	70-130
EPA 8081	TCMX, DCB	30-150	30-150
EPA 8082	DCB	30-150	30-150
EPA 8151	DCAA	30-130	30-120
EPA 8260	1,2-DCA-d4, Tol-d8, 4-BFB	70-130	70-130
EPA 8270, AE	2-Fluorophenol	21-110	25-121
EPA 8270, AE	Phenol-d5	10-110	24-113
EPA 8270, AE	2,4,6-Tribromophenol	10-123	19-122
EPA 8270, BN	Nitrobenzene-d5	35-114	23-120
EPA 8270, BN	2-Fluorobiphenyl	43-116	30-115
EPA 8270, BN	Terphenyl-d14	33-141	18-137
DOH 310-13	Dodecane	40-110	40-110
DOH 310-14	Dodecane	40-110	40-110
DOH 310-15	Dodecane	40-110	40-110
DOH 310-34*	4-BFB	50-150	50-150
8015M_GRO*	4-BFB	50-150	50-150
8015M_DRO	Terphenyl-d14	50-150	50-150

*Run by GC/MS.

Units Key:
ug/l = microgram per liter
ug/kg = microgram per kilogram
mg/l = milligram per liter
mg/kg = milligram per kilogram
%R = Percent Recovery

LSL

Life Science Laboratories, Inc.

CHAIN OF CUSTODY RECORD

1508604

LSL Central Lab
5854 Butternut Drive
E. Syracuse, N.Y. 13057
Phone: (315)445-1105
Fax: (315)445-1301

LSL North Lab
131 St. Lawrence Ave.
Waddington, N.Y. 13694
Phone: (315)388-4476
Fax: (315)388-4061

LSL Finger Lakes L
16 N. Main St.
Wayland, N.Y. 14572
Phone: (585)728-3320
Fax: (585)728-2711

Cuba, N.Y. 14727
Phone: (585)968-2640
Fax: (585)968-0906

tb

Report Address:
Name: Darren Worlock
Company: SAW Services
Street: NP
City/State: one Remington Park Drive
Zip: 13035
Phone: (315) 655-4957
Fax: (315) 655-2285
Email: www.swsvcs.com
Client Project ID/Client Site ID

Turnaround Time
Normal 14 DAY ☐
Pre-Authorized: Next Day* ☐ 2-Day* ☐ 3-Day* ☐ 7-Day* ☐
*Additional Charges may apply

Date Needed or Special Instructions:

Authorization or P.O. #

LSL Project Number:

Client's Sample Identifications	Sample Date	Sample Time	Type grab/comp	Matrix	Preserv Added	Containers #	Containers size/type	Analyses	Preserv Check	LSL ID#
SW1 side wall	6/2	11:00	G	Soil	ice	1	G	STARS 8021/8270		001 A
SW2 " "	6/2	11:00	G	Soil		1	G			002
SW3 " "	6/2	12:30	G	Soil		1	G			003
SW4 " "	6/2	1:00	G	Soil		1	G			004
GW1 Ground water before tank	6/2	9:00	G	Water		1	G			005
GW2 Ground water after tank	6/2	9:00	G	Water		1	G			006
B1 under ~~sump~~ tank	6/2	10:00	G	Soil		1	G			007
B2 under tank	6/2	4:30	G	Soil		1	G			008
B3 under ~~tank~~ sump	6/1	5:00	G	Soil		1	G			009

LSL use only:

Containers this C-O-C

Custody Transfers

		Date	Time
Sampled By: Darren Worlock			
Relinquished By: Tina Dorrance	Received By: Tina Dorrance	6/2/04	
Relinquished By:	Received By:		
Shipment Method:	Rec'd for Lab By:		
	Received Intact: Y N	Sample Temp	

*** All areas of this Chain of Custody Record MUST be filled out in order to process samples in a timely manner IN PEN ONLY***

Rev COC

APPENDIX C

Site Sketch

S&W Services, Inc.

One Remington Park Drive
Cazenovia, NY 13035

Client

Subject

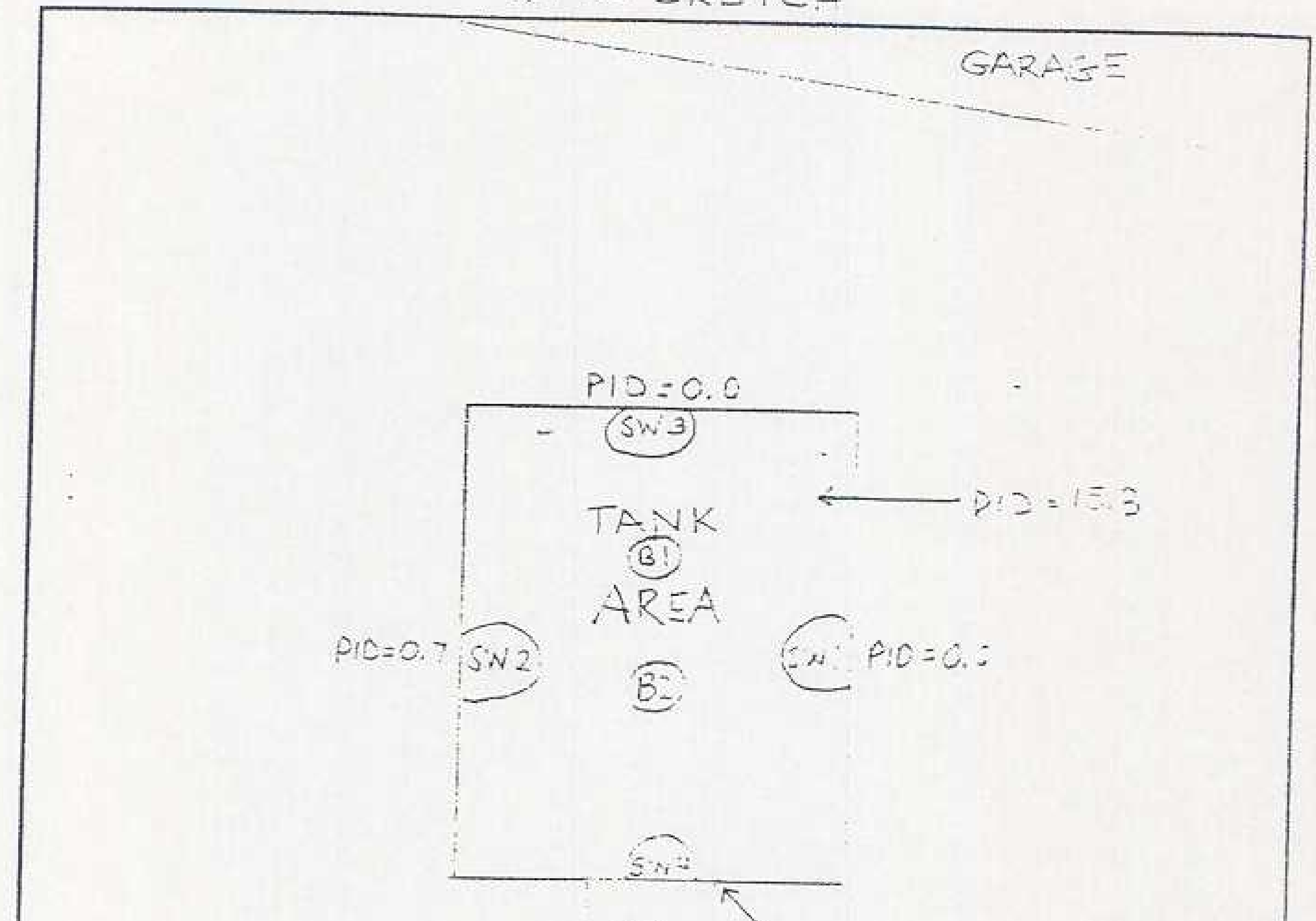
Date

Job No.

Comp. By

Checked By

SITE SKETCH



Sheet____ of____

APPENDIX D

Site Photographs

Niagara Mohawk
Broadway
Schenectady, New York

Tank Closure Photos
June 2004