

## **National Grid**

### **Site Characterization Report**

Watertown (Anthony Street) Non-Owned Former MGP  
Site #V004736, City of Watertown, Jefferson County

April 2007

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City of Watertown,  
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National Grid

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## **1. Introduction**

This Site Characterization (SC) Report presents the findings of SC investigations completed at National Grid's Anthony Street Non-Owned Former MGP Site (the site). This report has been prepared in response to New York State Department of Environmental Conservation's (NYSDEC's) December 4, 2006 letter to National Grid. The SC work was conducted by ARCADIS BBL on behalf of National Grid in accordance with an Order on Consent (No. D0-0001-0011, dated July 3, 2001) between National Grid and the NYSDEC. The SC investigations were completed during the course of three separate efforts from 2004 to 2006. The results of these investigations were previously provided to NYSDEC in letters dated August 31, 2004, March 7, 2006, and August 28, 2006. The purpose of this report is to combine the SC results that were previously provided to NYSDEC into a single document. Site background information is provided below, followed by a discussion of the SC investigations and the SC findings.

## **2. Existing Site Conditions and Site History**

The site is approximately located at 121 J. B. Wise Place (formerly Anthony Street) in a commercial district of Watertown, New York. The site is currently occupied by a three-story former department store building ("Empsall Plaza building") on the southern portion of the site and an adjacent building on the northern portion, most recently occupied by a mattress store (Figure 1). The Empsall Plaza building is currently used as office space for various businesses and a children's gaming center. The remaining areas of the site are covered with asphalt parking lots (owned and maintained by the City of Watertown) used for customers and employees associated with the Empsall Plaza building and mattress store. Both buildings are constructed of brick. The lowermost floor of the mattress store rests on a limestone block foundation and is approximately 4 feet above grade on the front (east-northeast) side of the building. Most of the foundation of the Empsall Plaza building appears to be constructed as slab-on-grade, but a boiler room/basement does exist in the western-southwestern corner of the building.

Readily apparent evidence of the former MGP does not exist at the ground surface of the site. Based on review of available Sanborn maps, it appears that most of the structures associated with the former MGP are overlain by the two existing onsite buildings; however, the location of the northernmost (and largest) former gas holder appears to be mostly or entirely covered by parking/driveway areas.

The majority of the site is of general low relief, and is approximately 460 feet above mean sea level with a slight drop in elevation to the northeast, toward the Black River. An approximately 20-foot high steep bank, however, abuts the southeast side of the two onsite buildings. As shown on Figure 1, the Black River is approximately 300 feet northeast of the site. The elevation of the Black River near the site is approximately 400 feet above mean sea level. Near the site, the Black River flows to the northwest in a gorge with steep limestone ledges on either side.

Two streets, J. B. Wise Place and City Center Drive, are located between the Black River and the site. J. B. Wise Place sustains low-volume traffic associated with the local merchants and businesses and City Center Drive is a relatively high-volume route. Onsite drainage consists of sheet flow along the top of the asphalt which is directed toward catch-basins located along J. B. Wise Place and throughout the parking area. Given the proximity to the Black River and the topographic expression of the area, storm water from the site is likely routed to the Black River.

Review of Sanborn Fire Insurance Maps (Sanborns) indicates that the MGP was present in 1884. The 1884 Sanborn map showed that the MGP consisted of two gas holders, nine retorts, gas house, storage shed, and two-story coal house with railroad tracks across Anthony Street to the east of the site. The site was apparently expanded in 1890 to include a purifying house and purifiers, and other associated structures and again in 1902 with a third gas holder. MGP-related operations appear to have stopped between 1902 and 1909 with other businesses occupying some of the gas plant buildings. Between 1909 and 1949, all remnants of the MGP-related structures were removed from the site. Between 1949 and 1971, Anthony Street was renamed J.B. Wise Place.

### 3. Site Characterization Investigations

The SC was conducted under three phases of investigation. The scope of these investigations were detailed in NYSDEC-approved work plans dated June 6, 2003, October 4, 2004, and May 4, 2006. A summary of the work conducted and dates of completion for the three SC phases of investigation is provided in the table below.

Dates of Completion	Work Conducted
April and May 2004	Conducted a Geophysical Survey and Excavated 6 Test Pits (TP-1 through TP-6)
October and November 2005	Installed 3 Monitoring Wells MW-1, MW-2, and MW-3) and Drilled 2 Soil Borings (SB-1 and SB-2)
June 2006	Conducted Additional Groundwater Sampling from one Monitoring Well (MW-1)

The SC activities discussed in this report were conducted in general accordance with the NYSDEC-approved *Generic Site Characterization/IRM Work Plan for Site Investigations at Non-Owned Former MGP Sites* and supporting appendices (Field Sampling Plan [FSP] and Quality Assurance Project Plan [QAPP]), dated November 2002. A site-specific Health and Safety Plan (HASP) was developed and implemented during the course of the SC investigations.

A summary description of the fieldwork conducted during the SC is provided below. Figure 1 shows the investigation locations.

#### 3.1 Geophysical Survey

A geophysical investigation was conducted to assess the presence and location of MGP structures (e.g., gas holders, purifier house), estimate the depth to bedrock surface in the area of the site, and fine-tune locations for test pits. The geophysical investigation was conducted on April 28 and 29, 2004 using Ground Penetrating Radar (GPR) surveying techniques in the approximate area shown on Figure 1. As summarized in the table below, several potential buried structures were identified during the GPR survey. Test pits were subsequently completed to assess the nature of the potential structures identified during the survey. The test pit numbers are also indicated in the table below.

Location	Structure	Test Pit
South side of Empsall Plaza	Wall-like structure, possible foundation of purifying building.	TP-1
South of Empsall Plaza, near former filling station	Concrete slab-like structure at approximately 1.5 feet below grade, measuring approximately 20 feet by 40 feet.	None.
Alleyway between two buildings, near inferred location of walls of Gas Holder No. 2	Wall-like structures, possible walls of Gas Holder No. 2.	TP-2
Alleyway between two buildings, near inferred center of center of Gas Holder No. 2	Dome-like feature measuring approximately 10-feet wide by 30-feet long, long axis oriented northeast-southwest.	TP-3
Northeast of corner of mattress store), area of Gas Holder No. 3	Wall-like structures, possible walls of Gas Holder No. 3.	TP-5, TP-6

In addition to the structures noted above, numerous utility lines were also identified during the GPR survey mainly northeast of the Empsall Plaza building. The locations of previously proposed test pits TP-3 and TP-4 were modified to account for the presence of these buried utilities.

As shown on Figure 1, the GPR survey was also performed over the area identified on historical documents as a tunnel. The GPR results did not indicate the presence of a tunnel; however, the results did indicate that the bedrock in this area is approximately 9 feet below grade.

### 3.2 Test Pits

Test pit excavations were completed on May 10 and 11, 2004. A total of six test pits (TP-1 through TP-6) were excavated using a rubber-tired backhoe at the locations shown on Figure 1. The test pits were excavated to visually assess subsurface soil conditions in the area of potential buried structures and to enable the collection of subsurface soil samples for chemical analysis. Depending on location, test pits were generally excavated to the top of an underlying structure (i.e., concrete slab) or to the top of bedrock. Soil was excavated from each test pit in 2-foot lifts. Soil samples were collected from each approximate 2-foot interval for visually characterization (e.g., staining, odors, soil properties) and head-space screening using a photoionization detector (PID). Observations and measurements made



at each test pit were recorded in a field notebook and each test pit was photo-documented. Test pit logs are provided in Appendix A.

With the exception of test pit TP-2 (where no samples were collected for chemical analysis because of the presence of an impenetrable concrete slab just below ground surface), one or two analytical soil samples were selected from each test pit for analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX), polycyclic aromatic hydrocarbons (PAHs), and total cyanide. In addition, one sample was collected from test pit TP-4 for analysis of Target Compound List (TCL) volatile organic compounds (VOCs), TCL semi-VOCs (SVOCs), and Gasoline Range Organics (GRO) due to the presence of a strong petroleum odor observed at approximately 6 feet below grade at this location. Analytical soil samples were preferentially selected for laboratory analysis based on the presence of potential visual impacts, odors, and/or elevated PID measurements.

Upon completion, each test pit was backfilled using material excavated from that test pit. The backfilled material was compacted in approximate 8-inch lifts using a vibratory compactor up to approximately two feet below grade. The remaining approximately two feet was backfilled with run of crusher material which was compacted in approximate 12-inch lifts. The surface of each test pit was restored to the conditions observed prior to the test pit excavations (i.e., crushed stone or asphalt).

### 3.3 Soil Borings

Two soil borings (SB-1 and SB-2) were drilled within the inferred limits of Former Holder No. 1 on October 18, 2005. Based on historical mapping, it appears that Former Holder No. 1 is located generally beneath the area of the boiler room of the Empsall Plaza building. The approximate location of Former Holder No. 1 (based on the historical mapping) and surveyed locations of soil borings SB-1 and SB-2 are shown on Figure 1.

The purpose of the soil borings was to gather data to help evaluate whether there is an imminent threat to human health posed by potential MGP-related residuals beneath the Empsall Plaza building, particularly in the area of Former Holder No. 1. Each soil boring was completed by coring the concrete floor and using direct-push drilling techniques to advance the boring and continuously collect soil samples for observation and chemical analysis. Soil samples were preferentially selected for chemical analysis based on the potential presence of MGP-related residuals, as indicated by visual, olfactory, and field PID screening results. The following samples were selected for chemical analysis (the numbers in parentheses indicate the sampled interval in feet): SB-1(4-8), SB-1(8-10), SB-2(0-4), and SB-2(4-10). Although sample IDs generally indicate two to four foot sampling

intervals, the actual samples submitted for analysis were based on sample recovery. For example, sample SB-1(8-10) was taken from the 8- to 10-foot sampling interval, but there was only 0.9 feet of sample collected from the 2-foot sample interval. In the case of sample SB-2(4-10), the sampling interval of 4 to 10 feet was larger than a single 4-foot-long sampling interval because it was necessary to composite recovery from the 4- to 8-foot and 8- to 10-foot sampling intervals to provide enough volume of sample for laboratory analysis. The sample recoveries for the soil borings are provided on the subsurface logs in Appendix A.

The borings were advanced to refusal and backfilled with a cement/bentonite grout. The floor surface was repaired at each location by returning the cored section of concrete to the hole and applying cement grout to the annular space around the cored section.

### **3.4 Monitoring Wells**

Three monitoring wells (MW-1, MW-2, and MW-3) were installed on October 17 and 18, 2005. The new wells were installed to collect additional soil data that would supplement the existing data collected during the first phase of SC work and to collect groundwater data to assess groundwater conditions at the site.

The three monitoring wells were all installed in paved areas and in the presumed hydraulically down-gradient direction (generally toward the Black River) from several of the former MGP structures as follows:

- MW-1 downgradient from Former Holder No. 3
- MW-2 down gradient from Former Holder No. 2
- MW-3 downgradient from Former Holder No. 1 and the former purifier house and retorts

The surveyed locations of these monitoring wells are shown on Figure 1.

The soil borings drilled to facilitate the installation of the monitoring wells were advanced using 4.25-inch hollow stem augers (HSAs). Each boring was advanced to refusal and soil samples were collected continuously at each location using direct-push sampling equipment. Soil samples were selected for chemical analysis from the soil boring drilled for monitoring well MW-3 because it was anticipated that this well would be dry, based on visual observations made during advancement of the boring. Soil samples were collected

at this location from the 0 to 4 feet below ground surface (bgs) and 4 to 8 feet bgs intervals.

Each well was constructed using 2-inch diameter schedule 40 PVC material. Five-foot long, 0.010-inch slotted (10-slot) well screens were installed at each location immediately above the depth of refusal. Wells were finished at the surface with a flush-mounted protective casing set into a concrete surface pad. Monitoring wells MW-1 and MW-2 were developed a minimum of 2 days after installation by using disposable bailers to remove approximately ten saturated-length well volumes of groundwater from each monitoring well. Monitoring well MW-3 was not developed because it did not contain groundwater on the day the wells were developed.

Groundwater samples were collected and water levels were measured at monitoring wells MW-1 and MW-2 on October 27, 2005. These samples were analyzed for TCL VOCs, TCL SVOCS, and total cyanide using USEPA SW-846 Methods by Severn Trent Laboratories (STL) of Edison, New Jersey. An additional groundwater sample was collected from MW-1 on June 27, 2006 for free cyanide and total cyanide analyses. This sample was analyzed by Clarkson University of Potsdam, New York for free cyanide testing using the microdiffusion method (ASTM-4285-95) and total cyanide testing using USEPA Method 4500-CNE and a duplicate sample was analyzed by STL for total cyanide by SW-846 methods. The groundwater analytical results are provided in Table 2.

A groundwater sample could not be collected from monitoring well MW-3 on either of the sampling dates because this well was dry on both dates.

#### 4. Site Characterization Findings

The findings of the SC fieldwork are summarized below in terms of the media investigated.

##### 4.1 Subsurface Soil

This section discusses the subsurface conditions observed while excavating test pits and drilling soil borings (including the soil borings drilled to facilitate well installations). Subsurface soil analytical results are also summarized in this section.

The table below presents a summary of the observed subsurface conditions at the site. Refer to the subsurface logs in Appendix A for additional detail regarding the observations made at each location.

Test Pit/Soil Boring Location	PID Range (ppm)	Analytical Sample Depth	Observations
TP-1	ND	8.5'	<ul style="list-style-type: none"> <li>Visual impacts not observed on soil</li> <li>Groundwater not encountered</li> <li>Encountered possible remnants of purifier building foundation</li> <li>Test pit terminated at 8.5 feet below grade because of ruptured small-diameter copper water line</li> </ul>
TP-2	NA	NA	<ul style="list-style-type: none"> <li>Visual impacts not observed in test pit</li> <li>Concrete slab encountered just below surface; backhoe was unable to break through and test pit was abandoned</li> </ul>
TP-3	ND - 3.3 (at 7.5' bgs)	7.5' and 9.5'	<ul style="list-style-type: none"> <li>Groundwater encountered at 7.0 feet below grade</li> <li>Trace sheen and non-aqueous phase liquid (NAPL) blebs observed on groundwater</li> <li>Faint odor at 7.5 feet below grade</li> <li>Bedrock encountered at approximately 10 feet below grade</li> </ul>
TP-4	ND - 2,891 (at 8.7' bgs)	8.7'	<ul style="list-style-type: none"> <li>Strong petroleum-like odor observed below 6.0 feet below grade</li> <li>Bedrock encountered at approximately 8.9 feet below grade</li> <li>Groundwater encountered on top of bedrock</li> </ul>

Test Pit/Soil Boring Location	PID Range (ppm)	Analytical Sample Depth	Observations
TP-5	ND - 6.4 (at 6.0' bgs)	4.5' - 5.5' and 6.0' - 6.8'	<ul style="list-style-type: none"> <li>Slight organic-like odor noted at 4.0 feet below grade</li> <li>Test pit terminated at 6.8 feet below grade due to concrete slab (possible pad for Gas Holder No. 3)</li> <li>Groundwater not encountered</li> </ul>
TP-6	ND	6.7' - 6.9'	<ul style="list-style-type: none"> <li>Visual impacts not observed in test pit</li> <li>Test pit terminated at 6.9 feet below grade due to concrete slab (possible pad for Gas Holder No. 3)</li> <li>Groundwater not encountered</li> </ul>
SB-1	0.7 - 19.2 (at 8.0' to 10.0' bgs)	4.0' - 8.0' and 8.0' - 10.0'	<ul style="list-style-type: none"> <li>Groundwater encountered immediately below boiler room floor slab</li> <li>Trace black viscous tar-like material at approximately 9.4 feet below floor surface</li> <li>Refusal at 10 feet below floor surface</li> </ul>
SB-2	ND - 4.3 (at 4.0' to 8.0' bgs)	0' - 4.0' and 4.0' - 10.0'	<ul style="list-style-type: none"> <li>Groundwater encountered immediately below boiler room floor slab</li> <li>Slight rainbow sheen at approximately 8 feet below the floor surface</li> <li>Refusal at 10 feet below the floor surface</li> </ul>
MW-1	0.3 to 0.5	NA	<ul style="list-style-type: none"> <li>Visual impacts not observed on soil</li> <li>Refusal at 8.5 feet below grade</li> </ul>
MW-2	0.1 to 0.3	NA	<ul style="list-style-type: none"> <li>Faint petroleum-like odor observed below 8.5 feet below grade</li> <li>Refusal at 8.5 feet below grade</li> </ul>
MW-3	0.6 to 2.7	0' - 4.0' and 4.0' - 8.0'	<ul style="list-style-type: none"> <li>Visual impacts not observed on soil</li> <li>Refusal at 8.6 feet below grade</li> </ul>

**Notes:**

NE = Not Encountered.

NA = Not Applicable.

ND = Non-Detect.

ppm = parts per million.

All depths are approximate.

As noted in the table above, subsurface structures were encountered in four (TP-1, TP-2, TP-5, and TP-6) of the six test pits. While it can be inferred that some of the structures encountered during the test pit excavations are related to the MGP, the site area has had a long development history both before and after the MGP operations; therefore it is not known if the observed structures are actually related to the MGP. Based on the historical locations and site observations the following inferences can be made:

- The shallow slab encountered at test pit TP-2 is in the area of Holder No. 2 and may represent the former holder base. Loose bricks (without mortar) were observed on the

surface of the slab and no apparent impacts were observed between the slab and the layer of bricks.

- The foundation remnants found at TP-1 could be related to the former purifier building.
- The slab encountered at TP-5 and TP-6 could be the base of former Gas Holder No. 3.

Based on the results of the GPR survey, the depth to bedrock in the area of the former MGP is approximately 8 to 13 feet. The GPR results were confirmed in test pits TP-3 and TP-4, where the depth to bedrock was observed to be 10 and 9 feet below grade, respectively. The depth to bedrock at SB-1 and SB-2 is approximately four feet lower than the bedrock depth observed in the other investigation locations possibly because the bedrock was excavated to facilitate construction of the holder.

At each test pit and soil boring/monitoring well location, the unconsolidated materials above the bedrock generally consist of a surface pavement (asphalt, brick, or crushed stone surface and associated bedding [run of crush]) or concrete floor (for the borings SB-1 and SB-2) underlain by fill materials comprised of fine to coarse sand, silt, and clay with varying amounts of cinders, ash, brick, slag, coal, wood, metal, concrete, and glass. The fill material was observed to extend to the bedrock surface in test pits TP-3 and TP-4 and soil borings SB-1, SB-2, MW-1, and MW-3, and to the surface of the concrete slab found in test pits TP-5 and TP-6. Water was encountered above the concrete pad at TP-5 and TP-6; however, based on the depth to water encountered in other test pits and soil borings, the water is believed to be perched above the pad. Fill materials at MW-2 appeared to be underlain by approximately 4 feet of native silt which lies directly on the bedrock surface.

Apparent impacted soil was observed in soil borings SB-1 and SB-2 and test pits TP-3 and TP-4. A trace amount of black, viscous tar-like material was observed at approximately 9.4 feet below grade at SB-1 and trace sheen was observed at SB-2 at approximately 8 feet below grade. Trace sheen and NAPL blebs were observed on the groundwater entering test pit TP-3, and a "moth-ball"-like odor was also observed in TP-3 at approximately 7.5 feet below grade. A strong petroleum-like odor and elevated PID readings (287 to 2,891 parts per million [ppm]) were observed in soil immediately above the bedrock (6 to 8.9 feet below grade) at test pit TP-4. Sheen was also observed on groundwater observed on the top of bedrock in this test pit. Soil samples were selected for laboratory analysis from the apparent impacted intervals observed in soil borings SB-1

and SB-2 and test pits TP-3 and TP-4. Analytical soil samples were selected from the remaining soil boring/test pits based on observed odors, PID readings, and the presence of water.

The petroleum-related impacts observed at test pit TP-4 were reported to the NYSDEC's Spill Hotline on May 12, 2004. The spill number issued for this spill is 0401481.

#### **4.2 Chemical Data**

A total of 13 soil samples were collected for chemical analyses during the SC. The results of these chemical analyses are presented in Table 1. Table 1 provides a comparison of the sample results with the New York State Part 375 Commercial Soil Cleanup Objectives (CSCOs) (effective December 14, 2006). This table also incorporates the results of a data usability summary report (DUSR) prepared for these data. DUSRs of all data presented in this report are provided on the attached CD.

As shown in Table 1, BTEX compounds were detected in one test pit sample (collected at TP-4) and each of the four samples collected from SB-1 and SB-2. No samples contained concentrations of BTEX compounds above the CSCO.

BTEX and a variety of other chemical compounds typically found in gasoline were detected in the soil sample collected from the apparently petroleum impacted interval at test pit TP-4. The sample collected at approximately 8.7 feet bgs at TP-4 contained 10.7 ppm of total BTEX. These results generally corroborate the elevated PID measurements (up to 2,891 ppm) taken on soils encountered at TP-4. A preliminary hydrocarbon source evaluation was completed on the sample from TP-4 which indicated the presence of gasoline in this sample, as discussed below. Given that the MGP was demolished prior to 1909 (based on review of Sanborn maps) and gasoline is not known to have been used in the MGP process, the potential gasoline impacted soils identified in test pit TP-4 are likely associated with a source that post-dates the former MGP.

Total BTEX concentrations detected in the samples collected from SB-1 and SB-2 ranged from 0.0081 to 16.8 ppm. The highest BTEX concentration was detected in the soil interval at SB-1 that contained the trace amount of viscous tar-like material at approximately 9.4 feet below the floor slab.

PAHs were detected in every sample, except the sample collected at 8.5 feet below grade in test pit TP-1. With the exception of the samples collected from soil boring SB-1 and test pit TP-5, low-level concentrations of PAHs were detected in all soil samples (non-detect to

31.9 ppm total PAHs). Locations where PAHs were detected above these trace levels were limited and consisted of three samples where total PAH concentration ranged from 90.6 ppm to 1,750 ppm. Of the total 12 locations where PAHs were detected, only 5 samples had individual PAHs which exceeded CSCOs as follows: (MW-3 (0 to 4 ft bgs), SB-1 (8 to 10 ft bgs), TP-5 (4.5 to 5.5 and 6 to 6.8 ft bgs), and TP-6 (6.7 to 6.9 ft bgs)).

As shown in Table 1, total cyanide was detected in three of the 13 soil samples at concentrations ranging from 5.4 to 19 ppm. The highest total cyanide concentration was detected in the soil interval at SB-1 that contained the highest concentration of total BTEX and total PAHs. No samples contained concentrations of total cyanide above the CSCO.

#### 4.2.1 Preliminary Hydrocarbon Source Evaluation

A preliminary hydrocarbon source evaluation was conducted to assess the potential source of VOCs and SVOCs (particularly PAHs) detected in soil samples collected from the test pits. The evaluation consisted of reviewing the PAH data and total ion chromatograms (TICs) from the GC/MS (PAH) analysis. Diagnostic PAH ratios (e.g., fluoranthene/pyrene) were also calculated to help with the interpretation.

All samples, even TP-1 which had no detectable PAHs, exhibited chromatographic signatures which suggested the presence of a mid-distillate fuel oil that was heavier than a typical No. 2 fuel oil (diesel). The fuel was of a similar type in each sample and likely from a common source.

Also, as evaluated from the PAH data, varying amounts of a high-temperature coal combustion product were present in all samples, except for TP-1, in addition to this mid-distillate oil. The source of the coal combustion PAHs is likely associated with the cinders and ash which were observed in the soils in every test pit except TP-4. Low levels of coal combustion PAHs were present in the TP-3 samples (approximately 2 ppm to 25 ppm total PAHs) whereas approximately 90 to 170 ppm total PAHs were detected in the TP-5 samples.

The GC fingerprints (and GRO analysis) also showed an additional hydrocarbon in the sample collected from TP-4 at 8.7 feet below grade. This sample contained relatively high concentrations of gasoline (95 ppm by GRO) in addition to low levels of coal combustion PAHs (approximately 4 ppm total PAHs) and mid-distillate fuel oil.

In summary, all test pits samples (except at TP-1) contained varying amounts of generally low total PAH concentrations (not detected to 168 ppm) of a mid-distillate fuel oil of



probable common origin and a high temperature coal combustion product likely associated with cinders and ash. TP-1 contained only a trace amount of the mid-distillate fuel oil (no detection of coal combustion PAHs) and TP-4 contained gasoline in addition to the mid-distillate oil and coal combustion PAHs.

### 4.3 Groundwater

This section provides a brief discussion of the groundwater flow at the site and groundwater analytical results.

#### 4.3.1 Groundwater Flow

As previously mentioned, groundwater had not accumulated in monitoring well MW-3 at the time of installation/groundwater sampling. As such, water levels could not be measured at this well. Based on water level measurements obtained on October 27, 2005 and June 27, 2006 from monitoring wells MW-1 and MW-2, there appears to be approximately 2 to 2.5 feet of groundwater above the bedrock surface at these well locations. The groundwater level measurements for October 27, 2005 were converted to elevations, as follows:

Well ID	Measuring Point Elevation (ft AMSL)	Depth to Water	Groundwater Elevation (ft AMSL)
MW-1	444.39	5.78	438.6
MW-2	444.35	5.56	438.8
MW-3	445.87	Dry	<437.2 (bottom of well)

**Note:**

Elevations in reference to NAVD 1988.

The Black River is located approximately 400 feet northeast of the site at an elevation of approximately 30 to 40 feet lower than the site (likely 400 to 410 ft. AMSL, based on the USGS topographic quadrangle contours). Given the close proximity of the Black River and the fact that the river level is tens of feet lower than the measured groundwater levels on the site itself, it is reasonable to assume that groundwater flow in the site area is likely toward the river.

#### 4.3.2 Groundwater Quality

As shown in Table 2, only one VOC (benzene) was detected in one monitoring well (MW-2) at an estimated concentration of 4 parts per billion (ppb). SVOCs were also only

detected in groundwater from MW-2, and all were at estimated concentrations below the quantitation limit. The SVOCs detected at MW-2 are not typically associated with MGP residuals, and PAHs (which are generally associated with MGPs) were not detected in either groundwater sample. Total cyanide was detected in groundwater from both monitoring wells. The concentration of cyanide in MW-1 was in excess of the Class GA standard for total cyanide, while the concentration of total cyanide in MW-2 was less than half the Class GA standard for this compound.

As previously discussed, groundwater was re-sampled from MW-1 on June 27, 2006 and sent to STL and Clarkson University for free and total cyanide analyses. The results of the cyanide analyses for the groundwater sample collected from MW-1 are summarized in the table below.

<b>MW-1 -- Total and Free Cyanide Results (micrograms/liter - µg/L)</b>					
<b>Clarkson University</b>				<b>STL</b>	
Total	Total (dup)	Free	Free (dup)	Total	Total (dup)
406	421	4.6	5.2	350	370

As shown in the above table, the total cyanide results reported by both laboratories are very similar. In general, STL's results are approximately 12 to 14 percent lower than Clarkson's results. As also shown in the above table, free cyanide comprises less than 2 % of the total cyanide concentration detected in groundwater collected from MW-1. This finding is consistent with findings from other MGP sites where the vast majority of the total cyanide present in groundwater is in the form of iron-cyanide complexes and is not biologically available.

## 5. Summary and Conclusions

The following general observations and conclusions can be made based on the information presented above:

### 5.1 Soil

- Soil potentially affected by trace amounts of MGP-related residuals was observed in soil borings SB-1 and SB-2 and test pits TP-3 at approximately 7 to 10 feet below grade (depending on location).
- Petroleum impacted soil attributable to a previous gasoline spill was observed in test pit TP-4 at approximately 6 to 9 feet below grade. This gasoline spill does not appear to be related to the former MGP operations.
- Overall, BTEX concentrations in site samples were low and no samples contained concentrations of BTEX compounds above the CSCOs. Of the 13 soil samples collected at the site for analysis of BTEX, the two highest BTEX concentrations were detected in soil boring SB-1 (16.8 ppm) and test pit TP-4 (10.7 ppm). The BTEX at SB-1 is likely associated with a trace amount of tarry material in the sample, while the BTEX at TP-4 is likely associated with a gasoline spill.
- With the exception of the samples collected from soil boring SB-1 and test pit TP-5, low-level concentrations of PAHs ranged from non-detect to 31.9 ppm total PAHs in the balance of site samples. The source of these PAHs is inferred to be cinders and ash which are abundant in the subsurface material at the site.
- Maximum total PAH concentrations were detected in soil boring SB-1 at 1,750 ppm (8 to 10 feet bgs) and test pit TP-5 at 90.6 ppm (4.5 to 5.5 feet bgs) and 168 ppm (6 to 6.8 feet bgs). The PAHs at SB-1 are likely associated with a trace amount of tarry material in the sample, while the PAHs at TP-5 are likely associated with cinders and ash that are abundant in the fill materials.
- Samples from MW-3 (0 to 4 ft bgs), SB-1 (8 to 10 ft bgs), TP-5 (4.5 to 5.5 and 6 to 6.8 ft bgs), and TP-6 (6.7 to 6.9 ft bgs) contained concentrations of individual PAHs above the CSCO.
- Trace sheen and NAPL blebs were observed in test pit TP-3 on the groundwater at 7 feet below grade, but the total PAH concentration for the sample collected at 7.5 feet

below grade was 24.7 ppm. BTEX compounds were not detected in any samples collected from TP-3.

- Saturated conditions were detected immediately below the boiler room floor slab at boring locations SB-1 and SB-2.

## **5.2 Groundwater**

- Groundwater was encountered at approximately 6 feet below the paved ground surface at monitoring well locations MW-1 and MW-2.
- Groundwater from MW-1 contained a concentration of total cyanide above the Class GA Standard for this compound, while MW-2 had a total cyanide concentration below the Class GA Standard. Three SVOCs were detected in groundwater from MW-2; however, all were below the quantitation limit and none appear to be MGP-related. The only VOC detected in groundwater from either monitoring well location was benzene, at a concentration of 4 ppb at monitoring well MW-2. This monitoring well is located approximately 40 feet from a reported gasoline spill (Spill No. 0401481) at test pit location TP-4. The limits of this gasoline spill have not been defined and elevated concentrations of petroleum related constituents are likely present elsewhere in the vicinity of this test pit.
- The vast majority of the cyanide detected in groundwater from MW-1 is in a form that is not biologically available, and that the free cyanide concentration is more than an order of magnitude below the NYSDEC Class GA Standard of 200 µg/L for cyanide. As such, the potential risk of exposure to free cyanide in ground water is low and not a viable exposure pathway

Given the discussion points outlined above, only low concentrations of potentially MGP-related materials are present in overburden soil and groundwater at the site and complete exposure pathways were not identified for the observed MGP-related constituents (i.e., NAPL bleb at 7 feet below asphalt surface at TP-3 and trace of tarry material approximately 9.4 feet below the floor slab at SB-1). Based on the information collected to date, the Anthony Street former MGP site poses little to no risk to human health or the environment. However, as discussed in a December 4, 2006 letter from NYSDEC, NYSDEC has requested that National Grid conduct a bedrock investigation and further investigate the extent of soil and groundwater containing elevated total cyanide concentrations. Furthermore, NYSDEC has requested that National Grid conduct a vapor intrusion evaluation of the Empsall Plaza building. At NYSDEC's request, National Grid

will conduct limited additional investigations under the context of a Remedial Investigation (RI). As discussed with NYSDEC during a January 4, 2007 meeting in Albany, a vapor intrusion (VI) evaluation will be performed in the Empsall Plaza building during the 2006/2007 heating season. As per the Master Schedule, the RI will be conducted during 2008.

**TABLES**

**Table 1. Site Characterization Results, Summary of Soil Analytical Results**  
**National Grid, Watertown (Anthony Street) Former MGP Site, Watertown, New York**

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<b>VOCs</b>									
1,1,1,2-Tetrachloroethane	--	mg/kg	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	500	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
1,1,2,2-Tetrachloroethane	--	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
1,1,2-Trichloroethane	--	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
1,1,2-Trichlorotrifluoroethane	--	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
1,1-Dichloroethane	240	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
1,1-Dichloroethene	500	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
1,1-Dichloropropene	--	mg/kg	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	--	mg/kg	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichloropropane	--	mg/kg	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	--	mg/kg	0.011 UJ	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
1,2,4-Trimethylbenzene	190	mg/kg	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-Chloropropane	--	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
1,2-Dibromoethane	--	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
1,2-Dichlorobenzene	500	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
1,2-Dichloroethane	30	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
1,2-Dichloropropane	--	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
1,3,5-Trimethylbenzene	190	mg/kg	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	280	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
1,3-Dichloropropane	--	mg/kg	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	130	mg/kg	0.011 UJ	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
2,2-Dichloropropane	--	mg/kg	NA	NA	NA	NA	NA	NA	NA
2-Butanone	500	mg/kg	0.053 U	0.059 U [0.057 U]	0.074 U	0.44 U	0.067 U	0.068 U	NA
2-Chloroethyl vinyl ether	--	mg/kg	NA	NA	NA	NA	NA	NA	NA
2-Chlorotoluene	--	mg/kg	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	--	mg/kg	0.053 UJ	0.059 UJ [0.057 U]	0.074 UJ	0.44 U	0.067 UJ	0.068 UJ	NA
4-Chlorotoluene	--	mg/kg	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-Pentanone	--	mg/kg	0.053 U	0.059 U [0.057 U]	0.074 U	0.44 U	0.067 U	0.068 U	NA
Acetone	500	mg/kg	0.053 UJ	0.059 UJ [0.057 UJ]	0.074 UJ	<b>0.44 J</b>	0.067 UJ	0.068 UJ	NA
Acrolein	--	mg/kg	NA	NA	NA	NA	NA	NA	NA
Acrylonitrile	--	mg/kg	NA	NA	NA	NA	NA	NA	NA
Benzene	44	mg/kg	0.011 U	0.012 U [0.011 U]	<b>0.015</b>	<b>1.6</b>	<b>0.001 J</b>	<b>0.11</b>	0.00023 U
Bromobenzene	--	mg/kg	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	--	mg/kg	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	--	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
Bromoform	--	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
Bromomethane	--	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
Carbon Disulfide	--	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
Carbon Tetrachloride	22	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA

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<b>VOCs (Cont'd.)</b>									
Chlorobenzene	500	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
Chloroethane	--	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
Chloroform	350	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
Chloromethane	--	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
cis-1,2-Dichloroethene	500	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
cis-1,3-Dichloropropene	--	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
Cyclohexane	--	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	<b>0.014</b>	NA
Dibromochloromethane	--	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
Dibromomethane	--	mg/kg	NA	NA	NA	NA	NA	NA	NA
Dichlorodifluoromethane	--	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
Ethylbenzene	390	mg/kg	0.011 U	0.012 U [0.011 U]	<b>0.0011 J</b>	<b>4.5 D</b>	<b>0.0026 J</b>	<b>0.1</b>	0.00028 U
Hexachlorobutadiene	--	mg/kg	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	--	mg/kg	0.011 U	0.012 U [0.011 U]	<b>0.00082 J</b>	<b>0.15</b>	<b>0.0011 J</b>	<b>0.02</b>	NA
m/p-Xylenes	--	mg/kg	0.011 U	0.012 U [0.011 U]	<b>0.0018 J</b>	<b>4.3</b>	<b>0.0033 J</b>	<b>0.089</b>	0.00058 U
Methyl Acetate	--	mg/kg	0.011 UJ	0.012 UJ [0.011 UJ]	0.015 UJ	0.088 U	0.013 UJ	0.014 UJ	NA
Methyl tert-butyl Ether	500	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
Methylcyclohexane	--	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	<b>0.094</b>	<b>0.068</b>	<b>0.14</b>	NA
Methylene Chloride	500	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	<b>0.00088 J</b>	NA
Naphthalene	--	mg/kg	NA	NA	NA	NA	NA	NA	NA
n-Butylbenzene	500	mg/kg	NA	NA	NA	NA	NA	NA	NA
n-propylbenzene	500	mg/kg	NA	NA	NA	NA	NA	NA	NA
o-Xylene	--	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	<b>1.6</b>	<b>0.0012 J</b>	<b>0.012 J</b>	0.00049 U
p-Isopropyltoluene	--	mg/kg	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	500	mg/kg	NA	NA	NA	NA	NA	NA	NA
Styrene	--	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	<b>0.2</b>	0.013 U	0.014 U	NA
Tert butyl alcohol	--	mg/kg	NA	NA	NA	NA	NA	NA	NA
tert-Butylbenzene	500	mg/kg	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	150	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
Toluene	500	mg/kg	0.011 U	0.012 U [0.011 U]	<b>0.0012 J</b>	<b>4.8 D</b>	0.013 U	<b>0.0022 J</b>	0.00029 U
trans-1,2-Dichloroethene	500	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
trans-1,3-Dichloropropene	--	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
Trichloroethene	200	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
Trichlorofluoromethane	--	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
Vinyl Acetate	--	mg/kg	NA	NA	NA	NA	NA	NA	NA
Vinyl Chloride	13	mg/kg	0.011 U	0.012 U [0.011 U]	0.015 U	0.088 U	0.013 U	0.014 U	NA
Xylene (Total)	500	mg/kg	0.011 U	0.012 U [0.011 U]	<b>0.0018 J</b>	<b>5.9</b>	<b>0.0045 J</b>	<b>0.101</b>	ND
Total BTEX	--	mg/kg	ND	ND [ND]	<b>0.0191 J</b>	<b>16.8</b>	<b>0.0081 J</b>	<b>0.313 J</b>	ND
Total VOCs	--	mg/kg	ND	ND [ND]	<b>0.0199 J</b>	<b>17.7 J</b>	<b>0.0772 J</b>	<b>0.488 J</b>	ND

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<b>SVOCs</b>									
1,1-Biphenyl	--	mg/kg	0.35 U	0.39 U [0.37 U]	0.12 J	26 DJ	0.12 J	0.44 U	NA
1,2,4-Trichlorobenzene	--	mg/kg	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	500	mg/kg	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	280	mg/kg	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	130	mg/kg	NA	NA	NA	NA	NA	NA	NA
2,2-oxybis(1-Chloropropane)	--	mg/kg	0.35 U	0.39 U [0.37 U]	0.49 U	4.6 U	0.44 U	0.44 U	NA
2,4,5-Trichlorophenol	--	mg/kg	0.88 U	0.97 U [0.94 U]	1.2 U	12 UJ	1.1 U	1.1 U	NA
2,4,6-Trichlorophenol	--	mg/kg	0.35 U	0.39 U [0.37 U]	0.49 U	4.6 UJ	0.44 U	0.44 U	NA
2,4-Dichlorophenol	--	mg/kg	0.35 U	0.39 U [0.37 U]	0.49 U	4.6 U	0.44 U	0.44 U	NA
2,4-Dimethylphenol	--	mg/kg	0.35 U	0.39 U [0.37 U]	0.49 U	0.86	0.44 U	0.44 U	NA
2,4-Dinitrophenol	--	mg/kg	0.88 U	0.97 UJ [0.94 UJ]	1.2 U	12 UJ	1.1 UJ	1.1 UJ	NA
2,4-Dinitrotoluene	--	mg/kg	0.35 U	0.39 U [0.37 U]	0.49 U	4.6 UJ	0.44 U	0.44 U	NA
2,6-Dinitrotoluene	--	mg/kg	0.35 U	0.39 U [0.37 U]	0.49 U	4.6 UJ	0.44 U	0.44 U	NA
2-Chloronaphthalene	--	mg/kg	0.35 U	0.39 U [0.37 U]	0.49 U	4.6 UJ	0.44 U	0.44 U	NA
2-Chlorophenol	--	mg/kg	0.35 U	0.39 U [0.37 U]	0.49 U	4.6 U	0.44 U	0.44 U	NA
2-Methylnaphthalene	--	mg/kg	0.35 U	0.39 U [0.37 U]	0.13 J	130 D	0.49	0.12	0.064 U
2-Methylphenol	500	mg/kg	0.35 U	0.39 U [0.37 U]	0.49 U	4.6 U	0.44 U	0.44 U	NA
2-Nitroaniline	--	mg/kg	0.88 U	0.97 U [0.94 U]	1.2 U	12 UJ	1.1 U	1.1 U	NA
2-Nitrophenol	--	mg/kg	0.35 U	0.39 U [0.37 U]	0.49 U	4.6 U	0.44 U	0.44 U	NA
3,3-Dichlorobenzidine	--	mg/kg	0.35 U	0.39 UJ [0.37 UJ]	0.49 U	4.6 U	0.44 UJ	0.44 UJ	NA
3+4-Methylphenols	500	mg/kg	0.35 U	0.39 U [0.37 U]	0.49 U	4.6 U	0.44 U	0.44 U	NA
3-Nitroaniline	--	mg/kg	0.88 U	0.97 U [0.94 U]	1.2 U	12 UJ	1.1 U	1.1 U	NA
4,6-Dinitro-2-methylphenol	--	mg/kg	0.88 UJ	0.97 UJ [0.94 UJ]	1.2 U	12 UJ	1.1 UJ	1.1 UJ	NA
4-Bromophenyl-phenylether	--	mg/kg	0.35 UJ	0.39 UJ [0.37 UJ]	0.49 U	4.6 UJ	0.44 UJ	0.44 UJ	NA
4-Chloro-3-methylphenol	--	mg/kg	0.35 U	0.39 U [0.37 U]	0.49 U	4.6 U	0.44 U	0.44 U	NA
4-Chloroaniline	--	mg/kg	0.35 U	0.39 U [0.37 U]	0.49 U	4.6 U	0.44 U	0.44 U	NA
4-Chlorophenyl-phenylether	--	mg/kg	0.35 U	0.39 U [0.37 U]	0.49 U	4.6 UJ	0.44 U	0.44 U	NA
4-Nitroaniline	--	mg/kg	0.88 U	0.97 U [0.94 U]	1.2 U	12 UJ	1.1 U	1.1 U	NA
4-Nitrophenol	--	mg/kg	0.88 U	0.97 U [0.94 U]	1.2 U	12 UJ	1.1 U	1.1 U	NA
Acenaphthene	500	mg/kg	0.35 U	0.39 U [0.37 U]	0.44 J	69 D	0.29	0.085	0.082 U
Acenaphthylene	500	mg/kg	0.16 J	0.23 J [0.24 J]	0.084 J	20 J	0.12 J	0.44 U	0.11 U
Acetophenone	--	mg/kg	0.35 U	0.39 U [0.37 U]	0.49 U	4.6 U	0.44 U	0.44 U	NA
Anthracene	500	mg/kg	0.55 J	0.11 J [0.077 J]	0.05 J	65 D	0.34 J	0.12 J	0.089 U
Atrazine	--	mg/kg	0.35 UJ	0.39 UJ [0.37 UJ]	0.49 U	4.6 UJ	0.44 UJ	0.44 UJ	NA
Azobenzene	--	mg/kg	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	--	mg/kg	0.35 U	0.39 U [0.37 U]	0.49 U	4.6 U	0.44 U	0.44 U	NA
Benzo(a)anthracene	5.6	mg/kg	2 JD	0.68 [0.57]	0.27 J	49 D	0.34 J	0.22 J	0.056 U
Benzo(a)pyrene	1	mg/kg	1.3 JD	0.92 J [0.95 J]	0.23 J	34 J	0.19 J	0.14 J	0.064 U
Benzo(b)fluoranthene	5.6	mg/kg	3.3 JD	0.84 J [0.8 J]	0.3 J	35 J	0.19 J	0.17 J	0.2 U

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<b>SVOCs (Cont'd.)</b>									
Benzo(g,h,i)perylene	500	mg/kg	1.3	0.26 J [0.2 J]	0.49 U	11 J	0.35 J	0.16 J	0.16 U
Benzo(k)fluoranthene	56	mg/kg	2.8	0.39 J [0.26 J]	0.098 J	19 J	0.12 J	0.056 J	0.13 U
Benzoic acid	--	mg/kg	NA	NA	NA	NA	NA	NA	NA
Benzyl Alcohol	--	mg/kg	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	--	mg/kg	0.35 U	0.39 U [0.37 U]	0.49 U	4.6 U	0.44 U	0.44 U	NA
bis(2-Chloroethyl)ether	--	mg/kg	0.35 U	0.39 U [0.37 U]	0.49 U	4.6 U	0.44 U	0.44 U	NA
bis(2-Ethylhexyl)phthalate	--	mg/kg	0.38	0.39 UJ [0.15 J]	0.49 U	4.6 U	0.44 UJ	0.44 UJ	NA
Butylbenzylphthalate	--	mg/kg	0.35 U	0.39 UJ [0.37 UJ]	0.49 U	4.6 U	0.44 U	0.44 UJ	NA
Caprolactam	--	mg/kg	0.35 U	0.39 U [0.37 U]	0.49 U	4.6 U	0.44 U	0.44 U	NA
Carbazole	--	mg/kg	0.16 J	0.39 UJ [0.37 UJ]	0.14 J	28 J	0.15 J	0.075 J	NA
Chrysene	56	mg/kg	1.1 JD	0.88 J [0.78 J]	0.43 J	42 JD	0.44 J	0.3 J	0.12 U
Dibenz(a,h)anthracene	0.56	mg/kg	0.71	0.18 J [0.16 J]	0.49 U	5.6 J	0.44 UJ	R	0.11 U
Dibenzofuran	--	mg/kg	0.053 J	0.39 U [0.37 U]	0.21 J	49 D	0.2 J	0.055 J	NA
Diethylphthalate	--	mg/kg	0.35 U	0.39 U [0.37 U]	0.49 U	4.6 UJ	0.44 U	0.44 U	NA
Dimethylphthalate	--	mg/kg	0.35 U	0.39 U [0.37 U]	0.49 U	4.6 UJ	0.44 U	0.44 U	NA
Di-n-butylphthalate	--	mg/kg	0.35 UJ	0.39 UJ [0.37 UJ]	0.49 U	4.6 UJ	0.44 UJ	0.44 UJ	NA
Di-n-octyl phthalate	--	mg/kg	0.35 U	R [R]	0.49 U	4.6 UJ	0.44 UJ	R	NA
Fluoranthene	500	mg/kg	2.5 JD	0.3 J [0.17 J]	0.32 J	77 D	0.65 J	0.32 J	0.052 U
Fluorene	500	mg/kg	0.04 J	0.39 U [0.37 U]	0.12 J	60 D	0.24 J	0.097 J	0.11 U
Hexachlorobenzene	--	mg/kg	0.35 UJ	0.39 UJ [0.37 UJ]	0.49 U	4.6 UJ	0.44 UJ	0.44 UJ	NA
Hexachlorobutadiene	--	mg/kg	0.35 U	0.39 U [0.37 U]	0.49 U	4.6 U	0.44 U	0.44 U	NA
Hexachlorocyclopentadiene	--	mg/kg	0.35 U	0.39 U [0.37 U]	0.49 U	4.6 UJ	0.44 U	0.44 U	NA
Hexachloroethane	--	mg/kg	0.35 U	0.39 U [0.37 U]	0.49 U	4.6 U	0.44 U	0.44 U	NA
Indeno(1,2,3-cd)pyrene	5.6	mg/kg	1.4	R [0.18 J]	0.49 U	11 J	0.24 J	R	0.09 U
Isophorone	--	mg/kg	0.35 U	0.39 U [0.37 U]	0.49 U	4.6 U	0.44 U	0.44 U	NA
Naphthalene	500	mg/kg	0.13 J	0.39 U [0.37 U]	2.9 D	710 DJ	2.5	0.71	0.081 U
Nitrobenzene	--	mg/kg	0.35 U	0.39 U [0.37 U]	0.49 U	4.6 U	0.44 U	0.44 U	NA
N-Nitroso-di-n-propylamine	--	mg/kg	0.35 U	0.39 U [0.37 U]	0.49 U	4.6 U	0.44 U	0.44 U	NA
N-Nitrosodiphenylamine	--	mg/kg	0.35 UJ	0.39 UJ [0.37 UJ]	0.49 U	4.6 UJ	0.44 UJ	0.44 UJ	NA
Pentachlorophenol	6.7	mg/kg	0.88 UJ	0.97 UJ [0.94 UJ]	1.2 U	12 UJ	1.1 UJ	1.1 UJ	NA
Phenanthrene	500	mg/kg	2.2 J	0.3 J [0.12 J]	0.18 J	250 D	1.4 J	0.7 J	0.084 U
Phenol	500	mg/kg	0.35 U	0.39 UJ [0.37 UJ]	0.49 U	4.6 U	0.44 UJ	0.44 UJ	NA
Pyrene	500	mg/kg	4 D	1.3 J [1.1 J]	0.6	160 D	0.85 J	0.52 J	0.067 U
Total PAHs	--	mg/kg	23.5 J	6.39 J [5.61 J]	6.15 J	1,750 J	8.75 J	3.72 J	ND
Total SVOCs	--	mg/kg	24.1 J	6.39 J [5.76 J]	6.62 J	1,850 J	9.22 J	3.85 J	ND
<b>Misc</b>									
Cyanide	27	mg/kg	5.4 J	0.585 U [0.566 U]	0.751 U	19	0.714 U	11	0.566 U
Gasoline Range Organics	--	mg/kg	NA	NA	NA	NA	NA	NA	NA

See Notes on Page 9.

**Table 1. Site Characterization Results, Summary of Soil Analytical Results**  
**National Grid, Watertown (Anthony Street) Former MGP Site, Watertown, New York**

Sample ID: Sample Depth (feet): Date Collected:	New York Part 375 Commercial Soil Cleanup Objectives	Units	TP-3 7.5 05/11/04	TP-3 9.5 05/11/04	TP-4 8.7 05/11/04	TP-5 4.5 - 5.5 05/12/04	TP-5 6 - 6.8 05/12/04	TP-6 6.7 - 6.9 05/12/04
<b>VOCs</b>								
1,1,1,2-Tetrachloroethane	--	mg/kg	NA	NA	0.064 U	NA	NA	NA
1,1,1-Trichloroethane	500	mg/kg	NA	NA	0.061 U	NA	NA	NA
1,1,2,2-Tetrachloroethane	--	mg/kg	NA	NA	0.074 U	NA	NA	NA
1,1,2-Trichloroethane	--	mg/kg	NA	NA	0.077 U	NA	NA	NA
1,1,2-Trichlorotrifluoroethane	--	mg/kg	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	240	mg/kg	NA	NA	0.032 U	NA	NA	NA
1,1-Dichloroethene	500	mg/kg	NA	NA	0.048 U	NA	NA	NA
1,1-Dichloropropene	--	mg/kg	NA	NA	0.056 U	NA	NA	NA
1,2,3-Trichlorobenzene	--	mg/kg	NA	NA	0.036 U	NA	NA	NA
1,2,3-Trichloropropane	--	mg/kg	NA	NA	0.067 U	NA	NA	NA
1,2,4-Trichlorobenzene	--	mg/kg	NA	NA	0.043 U	NA	NA	NA
1,2,4-Trimethylbenzene	190	mg/kg	NA	NA	28	NA	NA	NA
1,2-Dibromo-3-Chloropropane	--	mg/kg	NA	NA	0.14 U	NA	NA	NA
1,2-Dibromoethane	--	mg/kg	NA	NA	0.094 U	NA	NA	NA
1,2-Dichlorobenzene	500	mg/kg	NA	NA	0.054 U	NA	NA	NA
1,2-Dichloroethane	30	mg/kg	NA	NA	0.048 U	NA	NA	NA
1,2-Dichloropropane	--	mg/kg	NA	NA	0.047 U	NA	NA	NA
1,3,5-Trimethylbenzene	190	mg/kg	NA	NA	10	NA	NA	NA
1,3-Dichlorobenzene	280	mg/kg	NA	NA	0.055 U	NA	NA	NA
1,3-Dichloropropane	--	mg/kg	NA	NA	0.058 U	NA	NA	NA
1,4-Dichlorobenzene	130	mg/kg	NA	NA	0.058 U	NA	NA	NA
2,2-Dichloropropane	--	mg/kg	NA	NA	0.046 U	NA	NA	NA
2-Butanone	500	mg/kg	NA	NA	0.42 U	NA	NA	NA
2-Chloroethyl vinyl ether	--	mg/kg	NA	NA	0.28 U	NA	NA	NA
2-Chlorotoluene	--	mg/kg	NA	NA	0.045 U	NA	NA	NA
2-Hexanone	--	mg/kg	NA	NA	0.098 U	NA	NA	NA
4-Chlorotoluene	--	mg/kg	NA	NA	0.11 U	NA	NA	NA
4-Methyl-2-Pentanone	--	mg/kg	NA	NA	0.2 U	NA	NA	NA
Acetone	500	mg/kg	NA	NA	0.49 UJ	NA	NA	NA
Acrolein	--	mg/kg	NA	NA	0.27 UJ	NA	NA	NA
Acrylonitrile	--	mg/kg	NA	NA	0.47 U	NA	NA	NA
Benzene	44	mg/kg	0.00026 U [0.00027 U]	0.00028 U	0.036 U	0.00025 U	0.00026 U	0.00027 U
Bromobenzene	--	mg/kg	NA	NA	0.035 U	NA	NA	NA
Bromochloromethane	--	mg/kg	NA	NA	0.079 U	NA	NA	NA
Bromodichloromethane	--	mg/kg	NA	NA	0.052 U	NA	NA	NA
Bromoform	--	mg/kg	NA	NA	0.038 U	NA	NA	NA
Bromomethane	--	mg/kg	NA	NA	0.12 U	NA	NA	NA
Carbon Disulfide	--	mg/kg	NA	NA	0.058 UJ	NA	NA	NA
Carbon Tetrachloride	22	mg/kg	NA	NA	0.07 U	NA	NA	NA

See Notes on Page 9.

**Table 1. Site Characterization Results, Summary of Soil Analytical Results**  
**National Grid, Watertown (Anthony Street) Former MGP Site, Watertown, New York**

Sample ID: Sample Depth (feet): Date Collected:	New York Part 375 Commercial Soil Cleanup Objectives	Units	TP-3 7.5 05/11/04	TP-3 9.5 05/11/04	TP-4 8.7 05/11/04	TP-5 4.5 - 5.5 05/12/04	TP-5 6 - 6.8 05/12/04	TP-6 6.7 - 6.9 05/12/04
<b>VOCs (Cont'd.)</b>								
Chlorobenzene	500	mg/kg	NA	NA	0.055 U	NA	NA	NA
Chloroethane	--	mg/kg	NA	NA	0.13 U	NA	NA	NA
Chloroform	350	mg/kg	NA	NA	0.086 U	NA	NA	NA
Chloromethane	--	mg/kg	NA	NA	0.1 U	NA	NA	NA
cis-1,2-Dichloroethene	500	mg/kg	NA	NA	0.11 U	NA	NA	NA
cis-1,3-Dichloropropene	--	mg/kg	NA	NA	0.023 U	NA	NA	NA
Cyclohexane	--	mg/kg	NA	NA	NA	NA	NA	NA
Dibromochloromethane	--	mg/kg	NA	NA	0.056 U	NA	NA	NA
Dibromomethane	--	mg/kg	NA	NA	0.09 U	NA	NA	NA
Dichlorodifluoromethane	--	mg/kg	NA	NA	0.05 U	NA	NA	NA
Ethylbenzene	390	mg/kg	0.00032 U [0.00033 U]	0.00034 U	1.5	0.00031 U	0.00032 U	0.00033 U
Hexachlorobutadiene	--	mg/kg	NA	NA	0.038 U	NA	NA	NA
Isopropylbenzene	--	mg/kg	NA	NA	1.2	NA	NA	NA
m/p-Xylenes	--	mg/kg	0.00067 U [0.00068 U]	0.0007 U	8.7	0.00063 U	0.00067 U	0.00068 U
Methyl Acetate	--	mg/kg	NA	NA	NA	NA	NA	NA
Methyl tert-butyl Ether	500	mg/kg	NA	NA	0.053 U	NA	NA	NA
Methylcyclohexane	--	mg/kg	NA	NA	NA	NA	NA	NA
Methylene Chloride	500	mg/kg	NA	NA	0.093 U	NA	NA	NA
Naphthalene	--	mg/kg	NA	NA	2	NA	NA	NA
n-Butylbenzene	500	mg/kg	NA	NA	4.6	NA	NA	NA
n-propylbenzene	500	mg/kg	NA	NA	2.7	NA	NA	NA
o-Xylene	--	mg/kg	0.00056 U [0.00057 U]	0.00059 U	0.47 J	0.00053 U	0.00056 U	0.00057 U
p-Isopropyltoluene	--	mg/kg	NA	NA	1.2	NA	NA	NA
sec-Butylbenzene	500	mg/kg	NA	NA	0.81	NA	NA	NA
Styrene	--	mg/kg	NA	NA	0.051 U	NA	NA	NA
Tert butyl alcohol	--	mg/kg	NA	NA	0.65 U	NA	NA	NA
tert-Butylbenzene	500	mg/kg	NA	NA	2.1	NA	NA	NA
Tetrachloroethene	150	mg/kg	NA	NA	0.049 U	NA	NA	NA
Toluene	500	mg/kg	0.00034 U [0.00034 U]	0.00035 U	0.058 U	0.00032 U	0.00034 U	0.00034 U
trans-1,2-Dichloroethene	500	mg/kg	NA	NA	0.076 U	NA	NA	NA
trans-1,3-Dichloropropene	--	mg/kg	NA	NA	0.063 U	NA	NA	NA
Trichloroethene	200	mg/kg	NA	NA	0.1 U	NA	NA	NA
Trichlorofluoromethane	--	mg/kg	NA	NA	0.086 U	NA	NA	NA
Vinyl Acetate	--	mg/kg	NA	NA	0.35 U	NA	NA	NA
Vinyl Chloride	13	mg/kg	NA	NA	0.04 U	NA	NA	NA
Xylene (Total)	500	mg/kg	ND [ND]	ND	9.17 J	ND	ND	ND
Total BTEX	--	mg/kg	ND [ND]	ND	1	ND	ND	ND
Total VOCs	--	mg/kg	ND [ND]	ND	63.3 J	ND	ND	ND

See Notes on Page 9.

**Table 1. Site Characterization Results, Summary of Soil Analytical Results**  
**National Grid, Watertown (Anthony Street) Former MGP Site, Watertown, New York**

Sample ID: Sample Depth (feet): Date Collected:	New York Part 375 Commercial Soil Cleanup Objectives	Units	TP-3 7.5 05/11/04	TP-3 9.5 05/11/04	TP-4 8.7 05/11/04	TP-5 4.5 - 5.5 05/12/04	TP-5 6 - 6.8 05/12/04	TP-6 6.7 - 6.9 05/12/04
<b>SVOCs</b>								
1,1-Biphenyl	--	mg/kg	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	--	mg/kg	NA	NA	0.011 U	NA	NA	NA
1,2-Dichlorobenzene	500	mg/kg	NA	NA	0.021 U	NA	NA	NA
1,3-Dichlorobenzene	280	mg/kg	NA	NA	0.014 U	NA	NA	NA
1,4-Dichlorobenzene	130	mg/kg	NA	NA	0.016 U	NA	NA	NA
2,2-oxybis(1-Chloropropane)	--	mg/kg	NA	NA	0.021 U	NA	NA	NA
2,4,5-Trichlorophenol	--	mg/kg	NA	NA	0.026 U	NA	NA	NA
2,4,6-Trichlorophenol	--	mg/kg	NA	NA	0.014 U	NA	NA	NA
2,4-Dichlorophenol	--	mg/kg	NA	NA	0.014 U	NA	NA	NA
2,4-Dimethylphenol	--	mg/kg	NA	NA	0.021 U	NA	NA	NA
2,4-Dinitrophenol	--	mg/kg	NA	NA	0.017 U	NA	NA	NA
2,4-Dinitrotoluene	--	mg/kg	NA	NA	0.0078 U	NA	NA	NA
2,6-Dinitrotoluene	--	mg/kg	NA	NA	0.017 U	NA	NA	NA
2-Chloronaphthalene	--	mg/kg	NA	NA	0.0081 U	NA	NA	NA
2-Chlorophenol	--	mg/kg	NA	NA	0.017 U	NA	NA	NA
2-Methylnaphthalene	--	mg/kg	0.072 J [0.46]	0.0077 U	2.1	0.81 J	1.9 J	0.14 J
2-Methylphenol	500	mg/kg	NA	NA	0.025 U	NA	NA	NA
2-Nitroaniline	--	mg/kg	NA	NA	0.014 U	NA	NA	NA
2-Nitrophenol	--	mg/kg	NA	NA	0.016 U	NA	NA	NA
3,3-Dichlorobenzidine	--	mg/kg	NA	NA	0.063 U	NA	NA	NA
3+4-Methylphenols	500	mg/kg	NA	NA	0.018 U	NA	NA	NA
3-Nitroaniline	--	mg/kg	NA	NA	0.063 U	NA	NA	NA
4,6-Dinitro-2-methylphenol	--	mg/kg	NA	NA	0.023 U	NA	NA	NA
4-Bromophenyl-phenylether	--	mg/kg	NA	NA	0.01 U	NA	NA	NA
4-Chloro-3-methylphenol	--	mg/kg	NA	NA	0.012 U	NA	NA	NA
4-Chloroaniline	--	mg/kg	NA	NA	0.14 U	NA	NA	NA
4-Chlorophenyl-phenylether	--	mg/kg	NA	NA	0.0097 U	NA	NA	NA
4-Nitroaniline	--	mg/kg	NA	NA	0.031 U	NA	NA	NA
4-Nitrophenol	--	mg/kg	NA	NA	0.038 U	NA	NA	NA
Acenaphthene	500	mg/kg	0.046 J [0.4 J]	0.068 J	0.0086 U	1.9 J	2.5	0.23 J
Acenaphthylene	500	mg/kg	0.013 U [0.26 J]	0.013 U	0.012 U	0.26 J	1.4 J	0.42 J
Acetophenone	--	mg/kg	NA	NA	NA	NA	NA	NA
Anthracene	500	mg/kg	0.052 J [1.3 J]	0.13 J	0.044 J	5.6 J	6.9	1.8
Atrazine	--	mg/kg	NA	NA	NA	NA	NA	NA
Azobenzene	--	mg/kg	NA	NA	0.011 U	NA	NA	NA
Benzaldehyde	--	mg/kg	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	5.6	mg/kg	0.083 J [1.7 J]	0.18 J	0.049 J	6.3 J	12	2.8
Benzo(a)pyrene	1	mg/kg	0.072 J [1.2 J]	0.14 J	0.045 J	5.4 J	12	2.2
Benzo(b)fluoranthene	5.6	mg/kg	0.053 J [1.1 J]	0.12 J	0.041 J	5.3 J	14	2.4

See Notes on Page 9.

**Table 1. Site Characterization Results, Summary of Soil Analytical Results**  
**National Grid, Watertown (Anthony Street) Former MGP Site, Watertown, New York**

Sample ID: Sample Depth (feet): Date Collected:	New York Part 375 Commercial Soil Cleanup Objectives	Units	TP-3 7.5 05/11/04	TP-3 9.5 05/11/04	TP-4 8.7 05/11/04	TP-5 4.5 - 5.5 05/12/04	TP-5 6 - 6.8 05/12/04	TP-6 6.7 - 6.9 05/12/04
<b>SVOCs (Cont'd.)</b>								
Benzo(g,h,i)perylene	500	mg/kg	0.019 U [0.51]	0.071 J	0.017 U	2.6	4.8	0.96
Benzo(k)fluoranthene	56	mg/kg	0.055 J [0.79]	0.085 J	0.04 J	2.3	6.2	1
Benzoic acid	--	mg/kg	NA	NA	0.014 U	NA	NA	NA
Benzyl Alcohol	--	mg/kg	NA	NA	0.0097 U	NA	NA	NA
bis(2-Chloroethoxy)methane	--	mg/kg	NA	NA	0.018 U	NA	NA	NA
bis(2-Chloroethyl)ether	--	mg/kg	NA	NA	0.019 U	NA	NA	NA
bis(2-Ethylhexyl)phthalate	--	mg/kg	NA	NA	0.13 J	NA	NA	NA
Butylbenzylphthalate	--	mg/kg	NA	NA	0.013 U	NA	NA	NA
Caprolactam	--	mg/kg	NA	NA	NA	NA	NA	NA
Carbazole	--	mg/kg	NA	NA	NA	NA	NA	NA
Chrysene	56	mg/kg	0.094 J [1.6 J]	0.16 J	0.062 J	6.3 J	11	2.3
Dibenz(a,h)anthracene	0.56	mg/kg	0.012 U [0.086 J]	0.013 U	0.011 U	0.32 J	1.5 J	0.15 J
Dibenzofuran	--	mg/kg	NA	NA	0.013 U	NA	NA	NA
Diethylphthalate	--	mg/kg	NA	NA	0.012 U	NA	NA	NA
Dimethylphthalate	--	mg/kg	NA	NA	0.0093 U	NA	NA	NA
Di-n-butylphthalate	--	mg/kg	NA	NA	0.4	NA	NA	NA
Di-n-octyl phthalate	--	mg/kg	NA	NA	0.0093 U	NA	NA	NA
Fluoranthene	500	mg/kg	0.18 J [4.3 DJ]	0.37 J	0.15 J	15 J	24 D	6.4 D
Fluorene	500	mg/kg	0.054 J [0.83]	0.08 J	0.045 J	2.6	6	0.63
Hexachlorobenzene	--	mg/kg	NA	NA	0.0073 U	NA	NA	NA
Hexachlorobutadiene	--	mg/kg	NA	NA	0.014 U	NA	NA	NA
Hexachlorocyclopentadiene	--	mg/kg	NA	NA	0.0098 U	NA	NA	NA
Hexachloroethane	--	mg/kg	NA	NA	0.019 U	NA	NA	NA
Indeno(1,2,3-cd)pyrene	5.6	mg/kg	0.01 U [0.52]	0.063 J	0.0094 U	2.4	4.4	0.99
Isophorone	--	mg/kg	NA	NA	0.014 U	NA	NA	NA
Naphthalene	500	mg/kg	0.4 J [1.2 J]	0.13 J	1.3	1.5 J	15 D	0.67
Nitrobenzene	--	mg/kg	NA	NA	0.02 U	NA	NA	NA
N-Nitroso-di-n-propylamine	--	mg/kg	NA	NA	0.017 U	NA	NA	NA
N-Nitrosodiphenylamine	--	mg/kg	NA	NA	0.0099 U	NA	NA	NA
Pentachlorophenol	6.7	mg/kg	NA	NA	0.012 U	NA	NA	NA
Phenanthrene	500	mg/kg	0.21 J [5.2 DJ]	0.45	0.21 J	18 D	25 D	3.9 D
Phenol	500	mg/kg	NA	NA	0.016 U	NA	NA	NA
Pyrene	500	mg/kg	0.16 J [3.2 J]	0.34 J	0.12 J	14 J	19 D	4.9 D
Total PAHs	--	mg/kg	1.53 J [24.7 J]	2.39 J	4.21 J	90.6 J	168 J	31.9 J
Total SVOCs	--	mg/kg	1.53 J [24.7 J]	2.39 J	4.74 J	90.6 J	168 J	31.9 J
<b>Misc</b>								
Cyanide	27	mg/kg	0.653 U [0.654 U]	0.687 U	0.597 U	0.619 U	0.651 U	0.661 U
Gasoline Range Organics	--	mg/kg	NA	NA	95 J	NA	NA	NA

See Notes on Page 9.

**Table 1. Site Characterization Results, Summary of Soil Analytical Results  
National Grid, Watertown (Anthony Street) Former MGP Site, Watertown, New York**

**Notes:**

1. All concentrations reported in milligrams per kilogram (mg/kg); equivalent to parts per million (ppm).
2. Sample depth is reported in feet below ground surface.
3. Detected concentrations are bolded.
4. Underlined values indicate the result exceeds New York State Part 375 Commercial Soil Cleanup Objectives, December 14, 2006.

ND = Not detected.

-- = No criteria listed for specified constituent.

[ ] = Duplicate Sample.

-- = Sample not analyzed for specified constituent.

**Data Qualifiers:**

D = Concentration is based on a diluted sample analysis.

J = Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than zero. The concentration given is an approximate value.

R = The sample results are rejected.

U = The compound was not detected at the indicated concentration.

**Table 2. Site Characterization Results, Summary of Groundwater Analytical Results  
National Grid, Watertown (Anthony Street) Former MGP Site, Watertown, New York**

Sample ID: Date Collected:	New York TOGS Class GA Standards	Units	MW-1 10/27/05	MW-1-CU 06/27/06	MW-1-STL 06/27/06	MW-2 10/27/05
<b>VOCs</b>						
1,1,1-Trichloroethane	5	ug/L	10 U	NA	NA	10 U [10 UJ]
1,1,2,2-Tetrachloroethane	5	ug/L	10 U	NA	NA	10 U [10 UJ]
1,1,2-Trichloroethane	1	ug/L	10 U	NA	NA	10 U [10 UJ]
1,1,2-Trichlorotrifluoroethane	--	ug/L	10 U	NA	NA	10 U [10 UJ]
1,1-Dichloroethane	5	ug/L	10 U	NA	NA	10 U [10 UJ]
1,1-Dichloroethene	5	ug/L	10 U	NA	NA	10 U [10 UJ]
1,2,4-Trichlorobenzene	5	ug/L	10 U	NA	NA	10 U [10 UJ]
1,2-Dibromo-3-Chloropropane	0.04	ug/L	10 U	NA	NA	10 U [10 UJ]
1,2-Dibromoethane	5	ug/L	10 U	NA	NA	10 U [10 UJ]
1,2-Dichlorobenzene	3	ug/L	10 U	NA	NA	10 U [10 UJ]
1,2-Dichloroethane	0.6	ug/L	10 U	NA	NA	10 U [10 UJ]
1,2-Dichloropropane	1	ug/L	10 U	NA	NA	10 U [10 UJ]
1,3-Dichlorobenzene	3	ug/L	10 U	NA	NA	10 U [10 UJ]
1,4-Dichlorobenzene	3	ug/L	10 U	NA	NA	10 U [10 UJ]
2-Butanone	50	ug/L	50 U	NA	NA	50 U [50 UJ]
2-Hexanone	50	ug/L	50 U	NA	NA	50 U [50 UJ]
4-Methyl-2-Pentanone	--	ug/L	50 U	NA	NA	50 U [50 UJ]
Acetone	50	ug/L	50 UJ	NA	NA	50 UJ [50 UJ]
Benzene	1	ug/L	10 U	NA	NA	4 J [4 J]
Bromodichloromethane	50	ug/L	10 U	NA	NA	10 U [10 UJ]
Bromoform	50	ug/L	10 U	NA	NA	10 U [10 UJ]
Bromomethane	5	ug/L	10 UJ	NA	NA	10 UJ [10 UJ]
Carbon Disulfide	60	ug/L	10 U	NA	NA	10 U [10 UJ]
Carbon Tetrachloride	5	ug/L	10 U	NA	NA	10 U [10 UJ]
Chlorobenzene	5	ug/L	10 U	NA	NA	10 U [10 UJ]
Chloroethane	5	ug/L	10 UJ	NA	NA	10 UJ [10 UJ]
Chloroform	7	ug/L	10 U	NA	NA	10 U [10 UJ]
Chloromethane	5	ug/L	10 U	NA	NA	10 U [10 UJ]
cis-1,2-Dichloroethene	5	ug/L	10 U	NA	NA	10 U [10 UJ]
cis-1,3-Dichloropropene	0.4	ug/L	10 U	NA	NA	10 U [10 UJ]
Cyclohexane	--	ug/L	10 U	NA	NA	10 U [10 UJ]
Dibromochloromethane	50	ug/L	10 U	NA	NA	10 U [10 UJ]
Dichlorodifluoromethane	--	ug/L	10 UJ	NA	NA	10 UJ [10 UJ]
Ethylbenzene	5	ug/L	10 U	NA	NA	10 U [10 UJ]
Isopropylbenzene	--	ug/L	10 U	NA	NA	10 U [10 UJ]
m/p-Xylenes	--	ug/L	10 U	NA	NA	0.5 U [10 UJ]
Methyl Acetate	--	ug/L	10 UJ	NA	NA	10 UJ [10 UJ]
Methyl tert-butyl Ether	10	ug/L	10 U	NA	NA	10 U [10 UJ]
Methylcyclohexane	--	ug/L	10 U	NA	NA	10 U [10 UJ]
Methylene Chloride	5	ug/L	10 U	NA	NA	10 U [10 UJ]
o-Xylene	--	ug/L	10 U	NA	NA	10 U [10 UJ]
Styrene	5	ug/L	10 U	NA	NA	10 U [10 UJ]
Tetrachloroethene	5	ug/L	10 U	NA	NA	10 U [10 UJ]
Toluene	5	ug/L	10 U	NA	NA	10 U [10 UJ]
trans-1,2-Dichloroethene	5	ug/L	10 U	NA	NA	10 U [10 UJ]
trans-1,3-Dichloropropene	0.4	ug/L	10 U	NA	NA	10 U [10 UJ]
Trichloroethene	5	ug/L	10 U	NA	NA	10 U [10 UJ]
Trichlorofluoromethane	--	ug/L	10 U	NA	NA	10 U [10 UJ]
Vinyl Chloride	2	ug/L	10 U	NA	NA	10 U [10 UJ]
Xylene (Total)	5	ug/L	20 U	NA	NA	20 U [20 UJ]
Total BTEX	--	ug/L	ND	NA	NA	4 J [4 J]
Total VOCs	--	ug/L	ND	NA	NA	4 J [4 J]

See Notes on Page 3.



**Table 2. Site Characterization Results, Summary of Groundwater Analytical Results  
National Grid, Watertown (Anthony Street) Former MGP Site, Watertown, New York**

Sample ID: Date Collected:	New York TOGS Class GA Standards	Units	MW-1 10/27/05	MW-1-CU 06/27/06	MW-1-STL 06/27/06	MW-2 10/27/05
<b>SVOCs</b>						
1,1-Biphenyl	--	ug/L	10 U	NA	NA	10 U [10 U]
2,2-oxybis(1-Chloropropane)	5	ug/L	10 U	NA	NA	10 U [10 U]
2,4,5-Trichlorophenol	1	ug/L	10 U	NA	NA	10 U [10 U]
2,4,6-Trichlorophenol	1	ug/L	10 U	NA	NA	10 U [10 U]
2,4-Dichlorophenol	1	ug/L	10 U	NA	NA	10 U [10 U]
2,4-Dimethylphenol	1	ug/L	10 U	NA	NA	10 U [10 U]
2,4-Dinitrophenol	1	ug/L	20 UJ	NA	NA	21 UJ [20 UJ]
2,4-Dinitrotoluene	5	ug/L	10 U	NA	NA	10 U [10 U]
2,6-Dinitrotoluene	5	ug/L	10 U	NA	NA	10 U [10 U]
2-Chloronaphthalene	10	ug/L	10 U	NA	NA	10 U [1.8 U]
2-Chlorophenol	1	ug/L	10 U	NA	NA	10 U [10 U]
2-Methylnaphthalene	--	ug/L	10 UJ	NA	NA	10 UJ [10 UJ]
2-Methylphenol	1	ug/L	10 U	NA	NA	10 U [10 U]
2-Nitroaniline	5	ug/L	10 U	NA	NA	10 U [10 U]
2-Nitrophenol	1	ug/L	10 U	NA	NA	10 U [10 U]
3,3-Dichlorobenzidine	5	ug/L	20 UJ	NA	NA	21 UJ [20 UJ]
3+4-Methylphenols	1	ug/L	10 UJ	NA	NA	10 UJ [10 UJ]
3-Nitroaniline	5	ug/L	10 U	NA	NA	10 U [10 U]
4,6-Dinitro-2-methylphenol	1	ug/L	20 UJ	NA	NA	21 UJ [20 UJ]
4-Bromophenyl-phenylether	--	ug/L	10 U	NA	NA	10 U [10 U]
4-Chloro-3-methylphenol	1	ug/L	10 U	NA	NA	10 U [10 U]
4-Chloroaniline	5	ug/L	10 U	NA	NA	10 U [10 U]
4-Chlorophenyl-phenylether	--	ug/L	10 U	NA	NA	10 U [10 U]
4-Nitroaniline	5	ug/L	10 U	NA	NA	10 U [10 U]
4-Nitrophenol	1	ug/L	20 U	NA	NA	21 U [20 U]
Acenaphthene	20	ug/L	10 U	NA	NA	10 U [10 U]
Acenaphthylene	--	ug/L	10 U	NA	NA	10 U [10 U]
Acetophenone	--	ug/L	10 U	NA	NA	10 U [10 U]
Anthracene	50	ug/L	10 UJ	NA	NA	10 UJ [10 UJ]
Atrazine	--	ug/L	10 U	NA	NA	10 U [10 U]
Benzaldehyde	--	ug/L	10 UJ	NA	NA	10 UJ [10 UJ]
Benzo(a)anthracene	0.002	ug/L	10 U	NA	NA	10 U [10 U]
Benzo(a)pyrene	0.00000001	ug/L	10 UJ	NA	NA	10 U [10 UJ]
Benzo(b)fluoranthene	0.002	ug/L	10 UJ	NA	NA	10 UJ [10 UJ]
Benzo(g,h,i)perylene	--	ug/L	10 U	NA	NA	10 U [10 U]
Benzo(k)fluoranthene	0.002	ug/L	10 UJ	NA	NA	10 UJ [10 UJ]
bis(2-Chloroethoxy)methane	5	ug/L	10 U	NA	NA	10 U [1.3 U]
bis(2-Chloroethyl)ether	1	ug/L	10 U	NA	NA	10 U [10 U]
bis(2-Ethylhexyl)phthalate	5	ug/L	10 U	NA	NA	1.9 J [10 U]
Butylbenzylphthalate	50	ug/L	10 U	NA	NA	10 U [10 U]
Caprolactam	--	ug/L	10 U	NA	NA	10 U [10 U]
Carbazole	--	ug/L	10 U	NA	NA	0.85 [10 U]
Chrysene	0.002	ug/L	10 U	NA	NA	10 U [10 U]
Dibenz(a,h)anthracene	--	ug/L	10 UJ	NA	NA	10 UJ [10 UJ]
Dibenzofuran	--	ug/L	10 U	NA	NA	10 U [10 U]
Diethylphthalate	50	ug/L	10 U	NA	NA	10 U [10 U]
Dimethylphthalate	50	ug/L	10 U	NA	NA	10 U [10 U]
Di-n-butylphthalate	50	ug/L	10 UJ	NA	NA	1.6 J [10 UJ]
Di-n-octyl phthalate	50	ug/L	10 UJ	NA	NA	10 UJ [10 UJ]
Fluoranthene	50	ug/L	10 UJ	NA	NA	10 UJ [10 UJ]
Fluorene	50	ug/L	10 UJ	NA	NA	10 UJ [10 UJ]
Hexachlorobenzene	0.04	ug/L	10 U	NA	NA	10 U [10 U]
Hexachlorobutadiene	0.5	ug/L	10 U	NA	NA	10 U [10 U]
Hexachlorocyclopentadiene	5	ug/L	10 UJ	NA	NA	10 UJ [10 UJ]

See Notes on Page 3.

**Table 2. Site Characterization Results, Summary of Groundwater Analytical Results  
National Grid, Watertown (Anthony Street) Former MGP Site, Watertown, New York**

Sample ID: Date Collected:	New York TOGS Class GA Standards	Units	MW-1 10/27/05	MW-1-CU 06/27/06	MW-1-STL 06/27/06	MW-2 10/27/05
<b>SVOCs (Cont'd.)</b>						
Hexachloroethane	5	ug/L	10 U	NA	NA	10 U [10 U]
Indeno(1,2,3-cd)pyrene	0.002	ug/L	10 UJ	NA	NA	10 UJ [10 UJ]
Isophorone	50	ug/L	10 U	NA	NA	10 U [10 U]
Naphthalene	10	ug/L	10 U	NA	NA	10 U [10 U]
Nitrobenzene	0.4	ug/L	10 U	NA	NA	10 U [10 U]
N-Nitroso-di-n-propylamine	- -	ug/L	10 U	NA	NA	10 U [10 U]
N-Nitrosodiphenylamine	50	ug/L	10 UJ	NA	NA	10 UJ [10 U]
Pentachlorophenol	1	ug/L	20 UJ	NA	NA	21 UJ [20 UJ]
Phenanthrene	50	ug/L	10 UJ	NA	NA	10 UJ [10 UJ]
Phenol	1	ug/L	10 U	NA	NA	10 U [10 U]
Pyrene	50	ug/L	10 U	NA	NA	10 U [10 U]
Total PAHs	- -	ug/L	ND	NA	NA	ND [ND]
Total SVOCs	- -	ug/L	ND	NA	NA	4.35 J [ND]
<b>Misc</b>						
Cyanide	0.2	mg/L	0.744	0.406 [0.421]	0.35 [0.37]	0.098 [0.091]
Free Cyanide	0.2	mg/L	NA	0.0046 [0.0052]	NA	NA

**Notes:**

All concentrations reported in milligrams per liter (ug/L); equivalent to parts per million (ppb), unless otherwise specified.

Detected concentrations are bolded.

Shaded values indicate the result exceeds New York State Technical and Operational Guidance Series (1.1.1).

-- = No standard is available for this constituent.

NA = Not analyzed.

ND = Not detected.

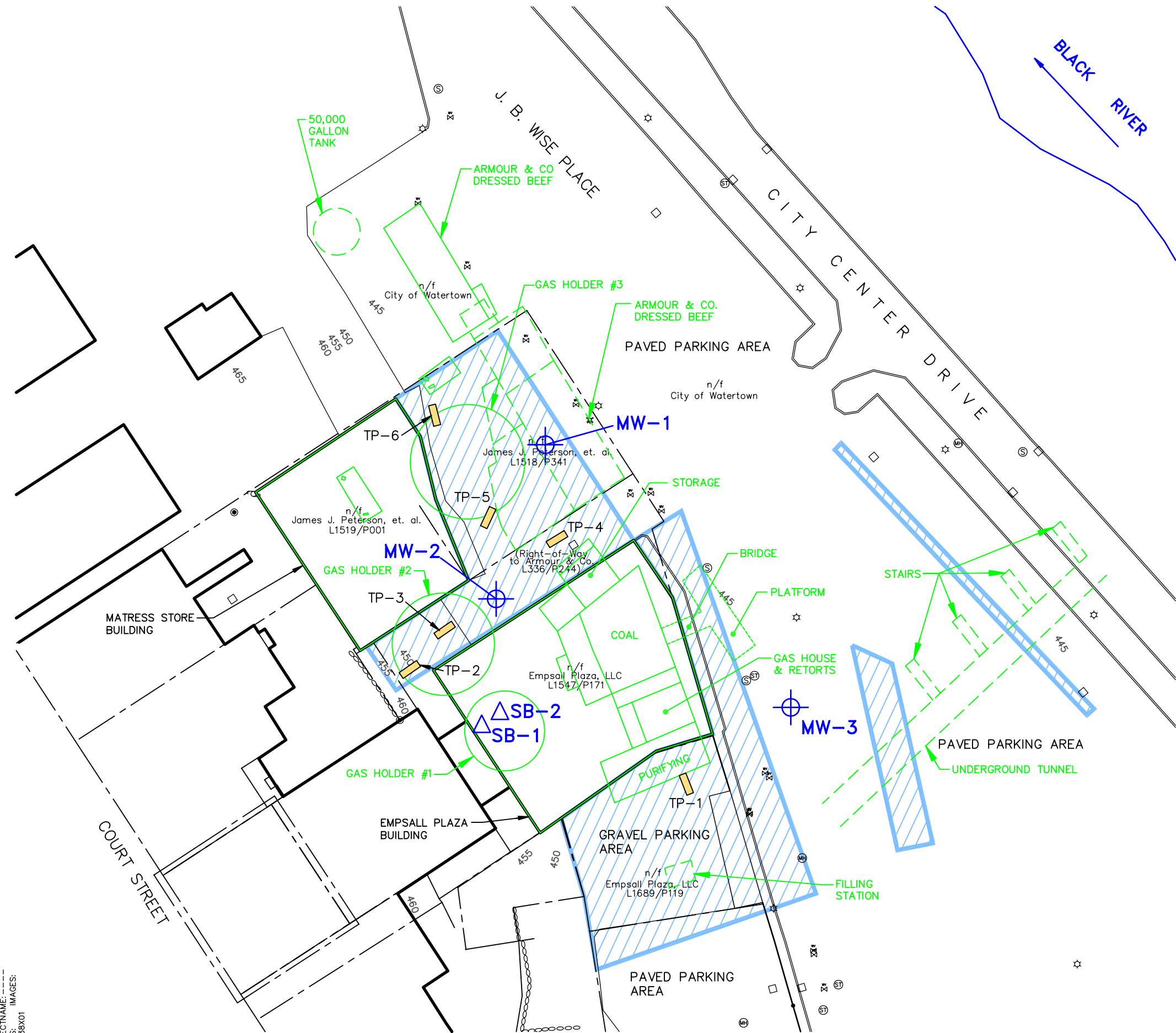
[ ] = Duplicate Sample.

**Data Qualifiers:**















J = Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than zero. The concentration given is an approximate value.

U = The compound was not detected at the indicated concentration.

FIGURE

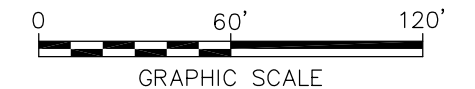


**LEGEND:**

-  SOIL BORING (COMPLETED OCTOBER 2005)
-  OVERBURDEN MONITORING WELL (COMPLETED OCTOBER 2005)
-  TEST PIT LOCATION (COMPLETED MAY 2004)
-  CATCH BASIN
-  MANHOLE (MAY BE SANITARY OR STORM)
-  MANHOLE (STORM)
-  MANHOLE (SANITARY)
-  WATER VALVE
-  LIGHT POLE
-  FOUND IRON PIPE
-  FIRE HYDRANT
-  PROPERTY LINE
-  STRUCTURES FROM 1902 AND 1949 SANBORN MAPS
-  GEOPHYSICAL SURVEY AREA

**NOTES:**

1. ALL HISTORICAL FEATURES ARE FROM SANBORN MAPS PROVIDED BY THE SANBORN LIBRARY, LLC PRODUCED BY ENVIRONMENTAL DATA RESOURCES, INC. (EDR).
2. BASE MAP IS FROM A SURVEY DONE BY WCT SURVEYORS, P.C., CANTON, NEW YORK ON APRIL 5, 2004, FILE # 103-218.
3. ELEVATIONS SHOWN ARE BASED ON NAVD 88 DATUM AS DETERMINED FROM STATIC GPS OBSERVATIONS AS PROCESSED BY THE NATIONAL GEODETIC SURVEY OPUS PROGRAM.
4. LOCATIONS OF ALL HISTORICAL FEATURES ARE APPROXIMATE.



NATIONAL GRID  
WATERTOWN (ANTHONY STREET) FORMER MGP SITE  
**SITE CHARACTERIZATION REPORT**

**INVESTIGATION LOCATIONS**



## **APPENDIX**

## **Appendix A**

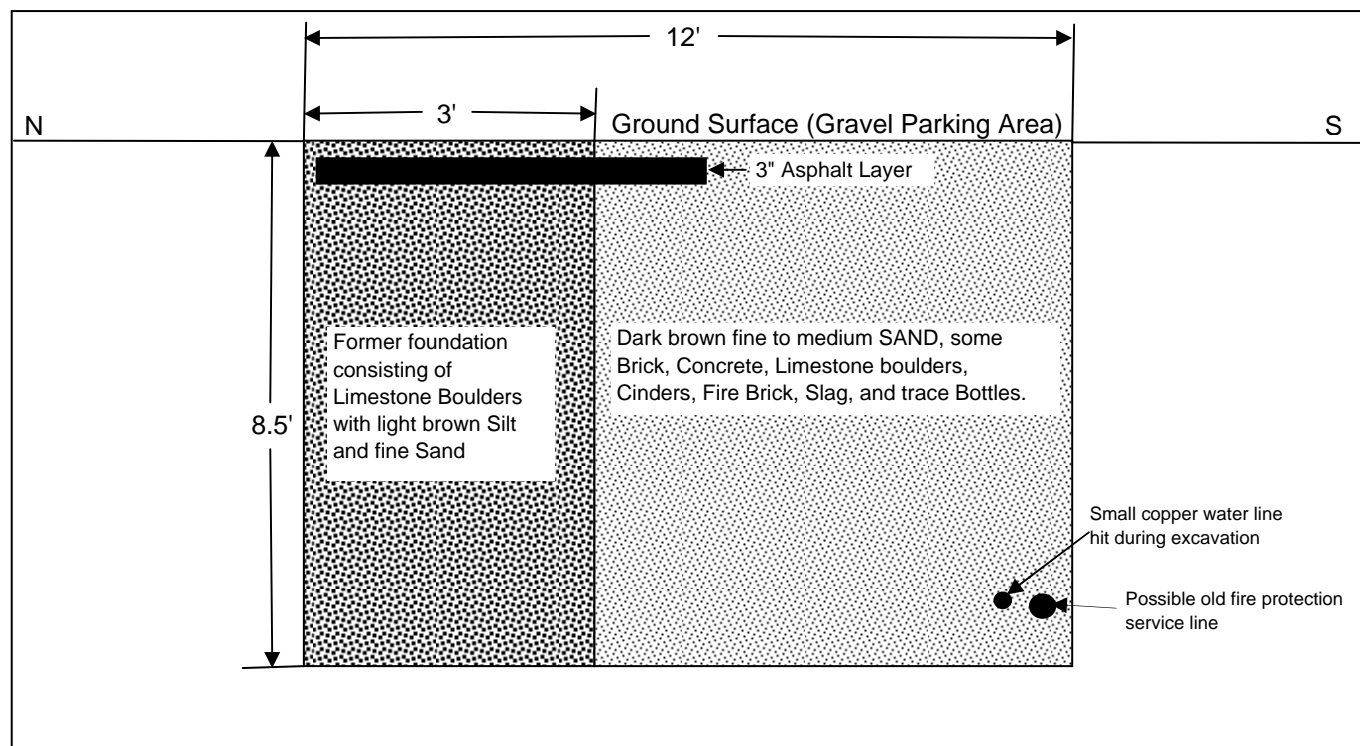
Subsurface Logs

**Test Pit Logs**  
**Niagara Mohawk, A National Grid Company**  
**Watertown (Anthony Street) Former MGP Site**

Test Pit #: TP-1

Date: 5/10/2004

Geologist: David Cornell



PID Readings	
Depth (ft. bgs)	Reading (ppm)
0-8.5	Non-detect

**Comments**

Groundwater not encountered during the excavation.

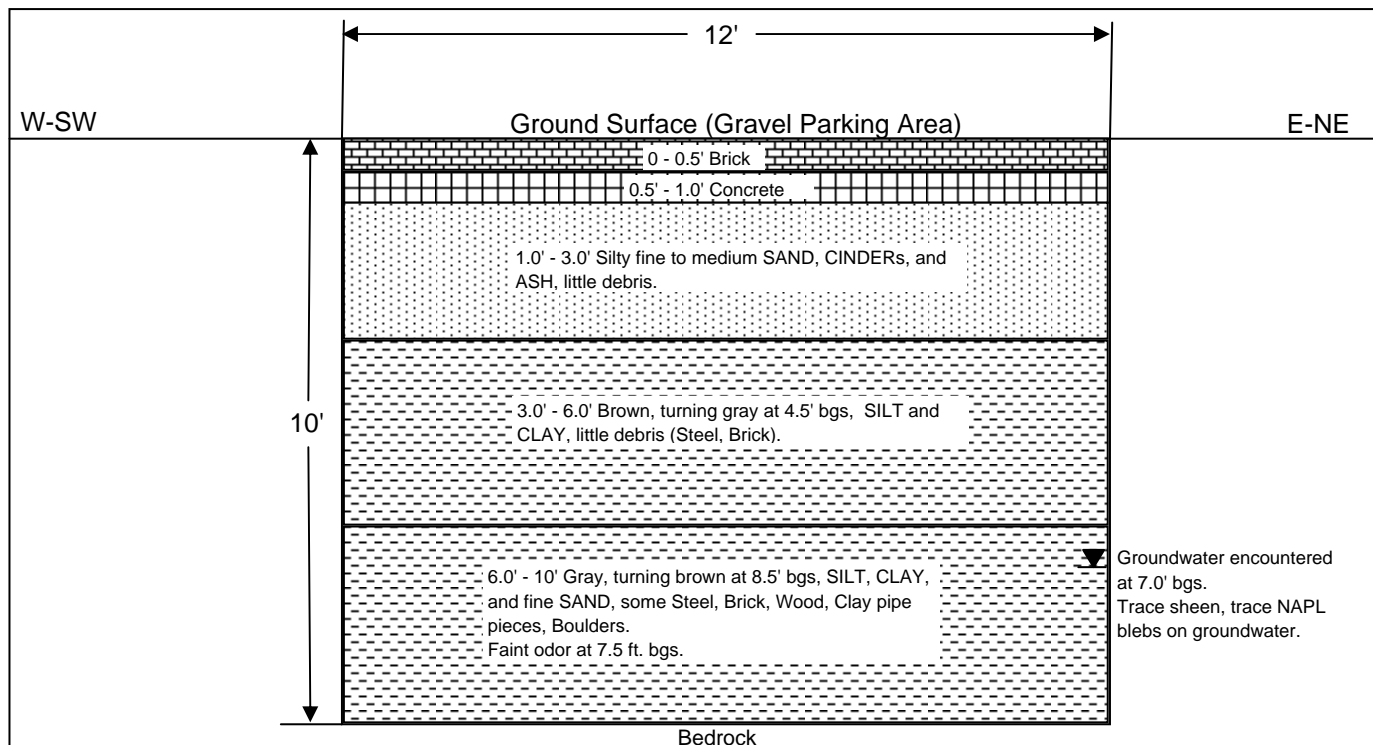
Soil sample TP-1 (8.5') collected at floor of excavation at 8.5 ft. bgs for BTEX, PAH, and total cyanide.

**Test Pit Logs**  
**Niagara Mohawk, A National Grid Company**  
**Watertown (Anthony Street) Former MGP Site**

Test Pit #: TP-3

Date: 5/11/2004

Geologist: David Cornell



PID Readings	
Depth (ft. bgs)	Reading (ppm)
0-2.0	Non-detect
2.0-4.0	Non-detect
4.0-6.0	Non-detect
7.5	3.3
8.0-10	Non-detect

**Comments**

Soil samples collected at 7.5 ft. bgs and 9.5 ft. bgs for BTEX, PAH, and total cyanide. Duplicate sample (DUP-1-5-11-04) collected at 7.5 ft bgs.

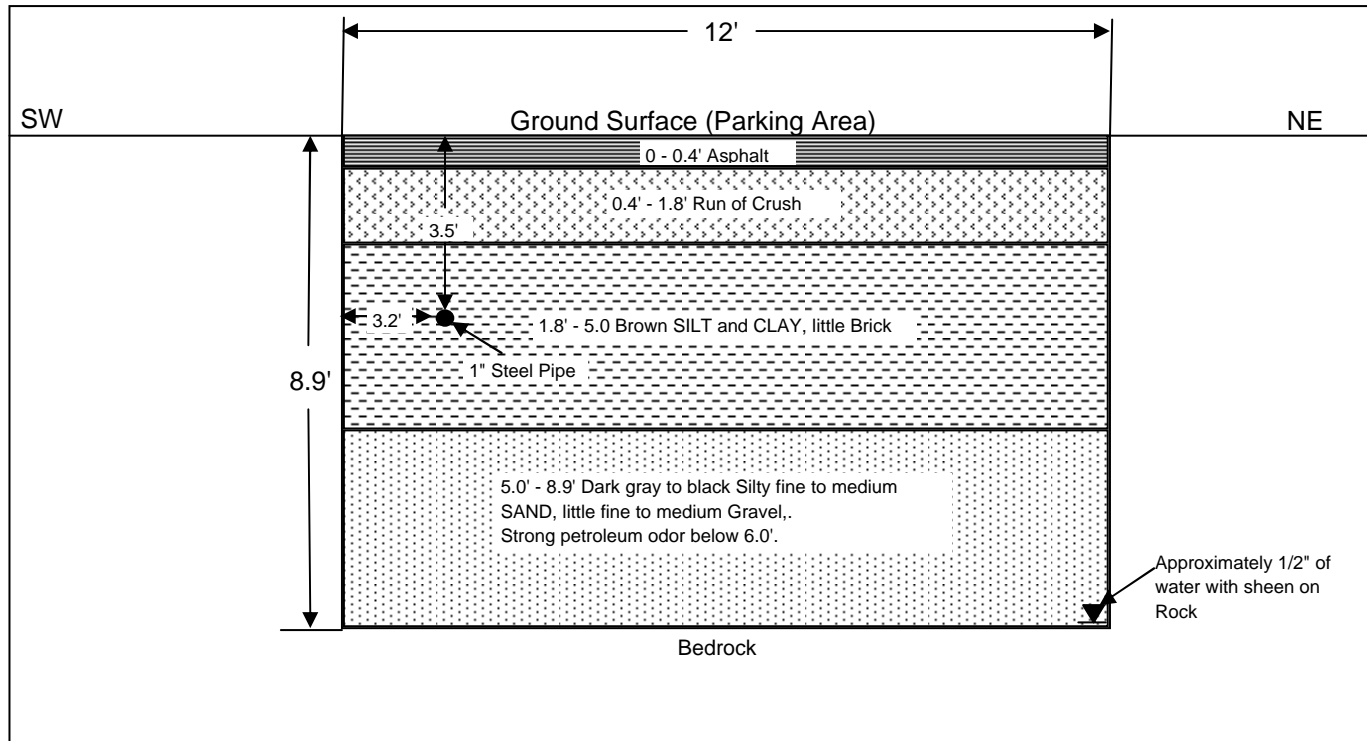


**Test Pit Logs**  
**Niagara Mohawk, A National Grid Company**  
**Watertown (Anthony Street) Former MGP Site**

Test Pit #: TP-4

Date: 5/11/2004

Geologist: David Cornell



PID Readings	
Depth (ft. bgs)	Reading (ppm)
0-5.0	Non-detect
6.0	287
7.0	2,096
8.0	2,495
8.7	2,891
8.9	2,578

**Comments**

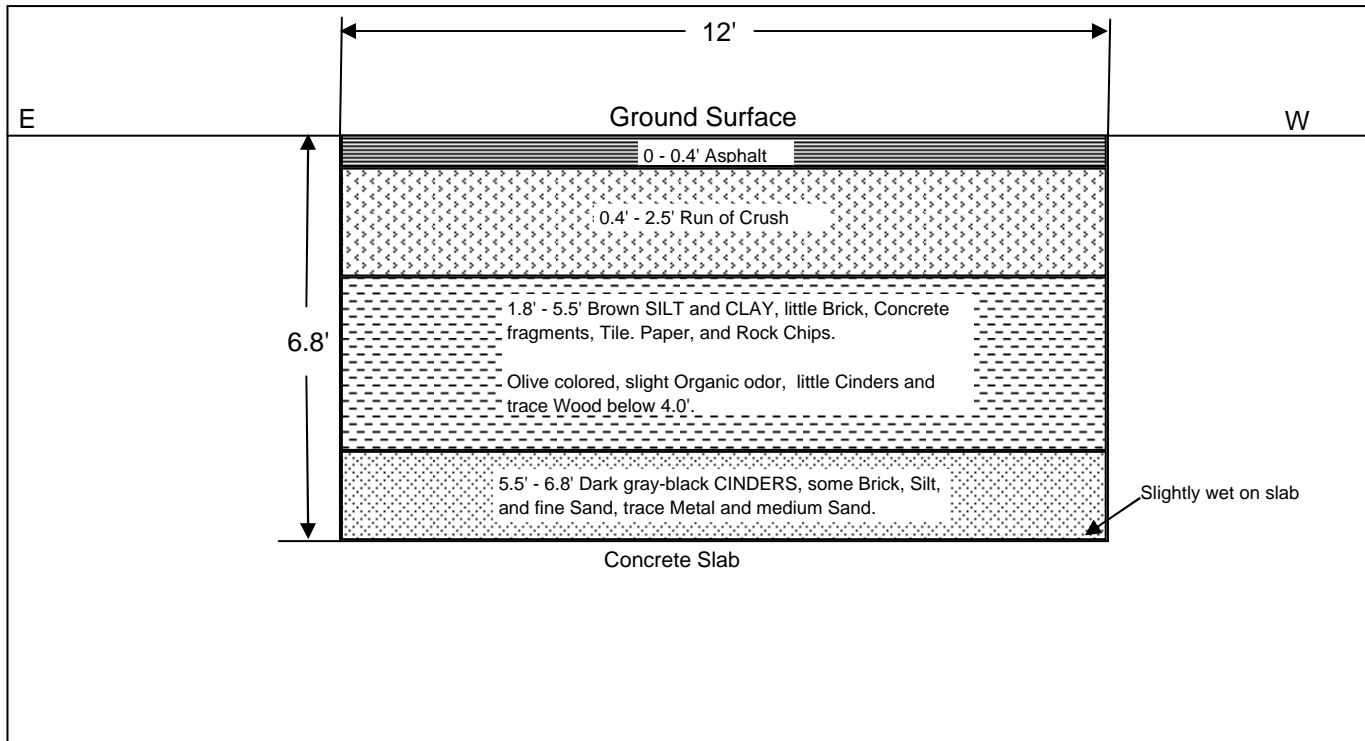
Soil sample collected at 8.7 ft. bgs for VOCs, SVOCs, total cyanide, and GRO.

**Test Pit Logs**  
**Niagara Mohawk, A National Grid Company**  
**Watertown (Anthony Street) Former MGP Site**

Test Pit #: TP-5

Date: 5/12/2004

Geologist: David Cornell



PID Readings	
Depth (ft. bgs)	Reading (ppm)
0-2.0	Non-detect
2.0-4.0	Non-detect
4.0-6.0	Non-detect
6.0-6.8	6.4

**Comments**

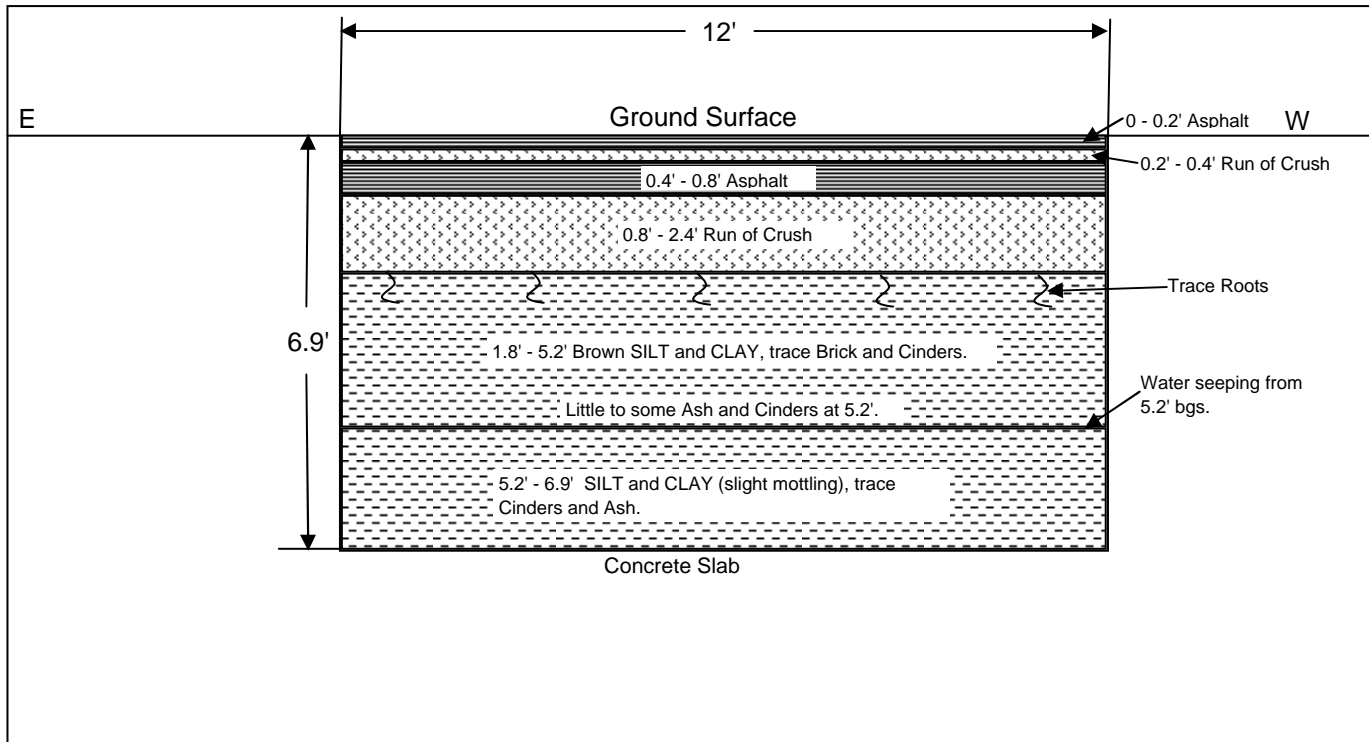
Soil samples collected from 4.5 - 5.5 ft. bgs and from 6.0 - 6.8 ft. bgs for BTEX, PAH, and total cyanide.

**Test Pit Logs**  
**Niagara Mohawk, A National Grid Company**  
**Watertown (Anthony Street) Former MGP Site**

Test Pit #: TP-6

Date: 5/12/2004

Geologist: David Cornell



PID Readings	
Depth (ft. bgs)	Reading (ppm)
0-6.9	Non-detect


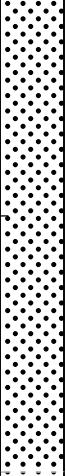

**Comments**

Soil samples collected from 4.5 - 5.5 ft. bgs and from 6.0 - 6.8 ft. bgs for BTEX, PAH, and total cyanide.

**Date Start/Finish:** 10/18/05  
**Drilling Company:** BBLES  
**Driller's Name:** James Boland / Andrew Amell  
**Drilling Method:** Direct Push  
**Bit Size:** NA  
**Auger Size:** NA  
**Rig Type:** Jackhammer  
**Sampling Method:** 2" diameter Macrocore  
 with 4' long acetate liners

**Northing:** 1449458.16  
**Easting:** 997292.25  
**Casing Elevation:** NA  
  
**Borehole Depth:** 10.0' bgs  
**Surface Elevation:** 441.88  
  
**Geologist:** Jennifer Sandorf

**Well/Boring ID:** SB-1  
  
**Client:** National Grid  
  
**Location:** Watertown (Anthony St)  
 Former MGP Site  
 Watertown, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well/Boring Construction
0								
440		1	0-4	1.1	1.1		CONCRETE floor.	
							Dark brown fine to coarse Sand-, some fine to coarse Gravel-sized CINDERS, loose, wet.	
5		2	4-8	1.7	0.7		As above, little fine to medium Sand, loose, wet.	
435								
							As above, trace black Coal fragments.	
10		3	8-12	0.9	19.2		Dark gray SILT, little fine to medium Sand, wet, wet, trace (<10% porespace) black, viscous, tar-like material, moderate MGP-type odor, iridescent sheen on water.	
430							Refusal at 10.0' below floor surface.	
15								


Borehole backfilled  
 with hydrated  
 bentonite chips (0.0  
 - 10.0' below floor  
 surface).



**Remarks:** bgs = below ground surface.  
 NA = Not Available/Not Applicable  
 Soil borings drilled with jackhammer to advance acetate liners inside building.

<b>Date Start/Finish:</b> 10/18/05 <b>Drilling Company:</b> BBLES <b>Driller's Name:</b> James Boland / Andrew Amell <b>Drilling Method:</b> Direct Push <b>Bit Size:</b> NA <b>Auger Size:</b> NA <b>Rig Type:</b> Jackhammer <b>Sampling Method:</b> 2" diameter Macrocore with 4' long acetate liners	<b>Northing:</b> 1449465.55 <b>Easting:</b> 997302.59 <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 10.0' bgs <b>Surface Elevation:</b> 441.88  <b>Geologist:</b> Jennifer Sandorf	<b>Well/Boring ID:</b> SB-2  <b>Client:</b> National Grid  <b>Location:</b> Watertown (Anthony St) Former MGP Site Watertown, NY
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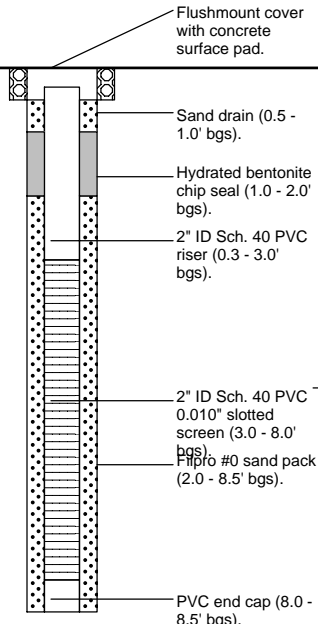



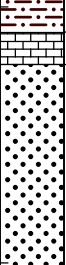

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well/Boring Construction
0								
440		1	0-4	1.2	0.0	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div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	<b>Remarks:</b> bgs = below ground surface. NA = Not Available/Not Applicable Soil borings drilled with jackhammer to advance acetate liners inside building.
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**Date Start/Finish:** 10/17/05  
**Drilling Company:** BBLES  
**Driller's Name:** James Boland / Andrew Amell  
**Drilling Method:** Geoprobe / HSA  
**Bit Size:** NA  
**Auger Size:** 4 1/4" ID  
**Rig Type:** AMS PowerProbe 9600  
**Sampling Method:** 2" diameter Macrocore  
 with 4' long acetate liners

**Northing:** 1449617.86  
**Easting:** 997328.29  
**Casing Elevation:** 444.39  
  
**Borehole Depth:** 8.5' bgs  
**Surface Elevation:** 444.53  
  
**Geologist:** Jennifer Sandorf

**Well/Boring ID:** MW-1  
  
**Client:** National Grid  
  
**Location:** Watertown (Anthony St)  
 Former MGP Site  
 Watertown, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well/Boring Construction
445	0							
		1	0-4	2.6	0.3		Gray fine to coarse SAND and fine to coarse GRAVEL, dense, dry.	
							Brown fine to medium SAND, trace medium to coarse subrounded Gravel, medium dense, moist.	
							Gray-brown SILT, little fine to coarse Sand, trace medium to coarse Gravel, trace red Brick fragments, trace Wood fragments, slightly plastic, moist.	
440	5	2	4-8	1.5	0.3		Red BRICK fragments, moist to wet.	
							Brown fine to medium SAND, some Silt, little fine to coarse angular Rock fragments, moderately loose, moist to wet, slight petroleum-type odor.	
435	10	3	8-12	0.8	0.5		Gray-brown to gray, as above, grading to some Rock fragments, loose, wet, soupy. Refusal at 8.5' bgs.	
430	15							



**Remarks:** bgs = below ground surface.  
 NA = Not Available/Not Applicable  
 Monitoring wells drilled with Geoprobe for soil sampling, then Hollow Stem Augers to set well materials.

**Date Start/Finish:** 10/17/05  
**Drilling Company:** BBLES  
**Driller's Name:** James Boland / Andrew Amell  
**Drilling Method:** Geoprobe / HSA  
**Bit Size:** NA  
**Auger Size:** 4 1/4" ID  
**Rig Type:** AMS PowerProbe 9600  
**Sampling Method:** 2" diameter Macrocore with 4' long acetate liners

**Northing:** 1449530.32  
**Easting:** 997300.33  
**Casing Elevation:** 444.35  
  
**Borehole Depth:** 8.5' bgs  
**Surface Elevation:** 444.63  
  
**Geologist:** Jennifer Sandorf

**Well/Boring ID:** MW-2  
  
**Client:** National Grid  
  
**Location:** Watertown (Anthony St)  
 Former MGP Site  
 Watertown, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well/Boring Construction
445	0							
440	5	1	0-4	2.3	0.1		GRAVEL subbase. Dark red BRICK fragments. Gray fine to coarse SAND, little fine to coarse angular Rock fragments, loose, dry. Yellow-brown SILT, trace red Brick fragments, slightly plastic, dry. Dark gray ROCK fragments (Cinders?), little fine to coarse Sand, dense, moist. Brown fine to medium SAND, trace medium to coarse angular to subangular Rock fragments, moderately loose to medium dense, moist.	Flushmount cover with concrete surface pad. Sand drain (0.5 - 1.0' bgs). Hydrated bentonite chip seal (1.0 - 2.0' bgs). 2" ID Sch. 40 PVC riser (0.3 - 3.0' bgs).
435	10	2	4-8	1.7	0.3		Brown SILT, little fine to coarse Sand, trace fine to medium Gravel, plastic, soft, wet. Dark gray-brown SILT, some Clay, trace wood fragments, plastic, moderately soft, wet.	2" ID Sch. 40 PVC 0.010" slotted screen (3.0 - 8.0' bgs). Fipro #0 sand pack (2.0 - 8.5' bgs).
430	15	3	8-12	0.6	0.3		As above, soft, faint petroleum-type odor. Refusal at 8.5' bgs.	PVC end cap (8.0 - 8.5' bgs).


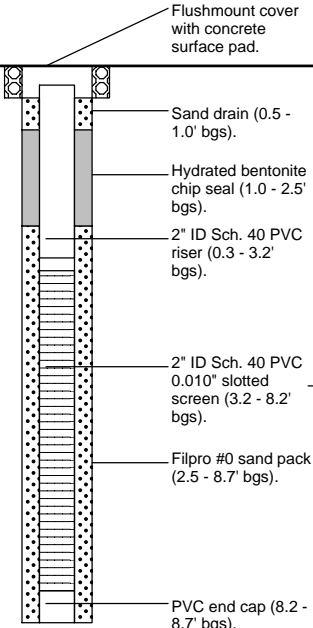









**Remarks:** bgs = below ground surface.  
 NA = Not Available/Not Applicable  
 Monitoring wells drilled with Geoprobe for soil sampling, then Hollow Stem Augers to set well materials.

**Date Start/Finish:** 10/18/05  
**Drilling Company:** BBLES  
**Driller's Name:** James Boland / Andrew Amell  
**Drilling Method:** Geoprobe / HSA  
**Bit Size:** NA  
**Auger Size:** 4 1/4" ID  
**Rig Type:** AMS PowerProbe 9600  
**Sampling Method:** 2" diameter Macrocore  
 with 4' long acetate liners

**Northing:** 1449469.01  
**Easting:** 997467.51  
**Casing Elevation:** 445.65  
  
**Borehole Depth:** 8.7' bgs  
**Surface Elevation:** 445.87  
  
**Geologist:** Jennifer Sandorf

**Well/Boring ID:** MW-3  
  
**Client:** National Grid  
  
**Location:** Watertown (Anthony St)  
 Former MGP Site  
 Watertown, NY

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well/Boring Construction
0								
445		1	0-4	2.7	0.0	 Gray GRAVEL subbase, loose, dry.		
5						 Brown fine to coarse SAND, little to some fine to coarse Gravel, moderately loose, dry.		
						 Dark gray to black fine to coarse SAND, some fine to medium Gravel, moderately loose, dry.		
						 Light brown fine to medium SAND, little fine to coarse subrounded Gravel, moderately loose, dry to moist.		
						 Red BRICK fragments.		
440		2	4-8	2.3	0.0	 Light brown SILT, little to some fine to medium Sand, trace medium to coarse Gravel, very slightly plastic, moderately soft, moist.		
						 Brown to light brown fine to medium SAND, trace Wood fragments, moderately loose, moist.		
						 Dark gray fine to coarse SAND, little Silt, little Rock fragments, moderately loose, moist to wet.		
10		3	8-12	0.6	0.0	Refusal at 8.7' bgs.		
435								
15								
430								



**Remarks:** bgs = below ground surface.  
 NA = Not Available/Not Applicable  
 Monitoring wells drilled with Geoprobe for soil sampling, then Hollow Stem Augers to set well materials.