REMEDIAL INVESTIGATION REPORT

Herkimer Former MGP Site
West Smith Street
Herkimer, NY
Site # V00471-6

Prepared for:

nationalgrid

300 Erie Boulevard West
C-1
Syracuse, NY 13202

Prepared by:

TRC

Windsor, Connecticut

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1.0 INTRODUCTION

This report describes the methods employed and results for the Remedial Investigation (RI) conducted by TRC Environmental Corporation (TRC) under contract to National Grid at the Non-Owned former manufactured gas plant (MGP) site located on West Smith Street, in Herkimer, New York (Site). The RI was conducted in accordance with the RI Work Plan (RIWP), which was approved by the New York State Department of Environmental Conservation (NYSDEC). The primary objective of the RI was to further define the extent of MGP-related site impacts that had been previously identified during the original Site Characterization (SC) and Supplemental Site Characterization investigations.

1.1 Project Objectives

The RI was designed to address the following specific investigation objectives, relative to the further definition of MGP impacts in two previously-identified impacted areas on-site:

- Define the extent of Non-Aqueous Phase Liquid (NAPL) impacts within the former octagonal holder and estimate the volume of NAPL-impacted material;
- Characterize the physical and chemical quality of the fill material within the holder;
- Determine the extent of NAPL impacts outside of the holder and estimate the volume of that material;
- Characterize the physical and chemical quality of the fill material outside of the holder;
- Determine the extent of NAPL impacts in the vicinity of the former oil storage facilities;
- Characterize the physical and chemical quality of soil and ground water in the NAPL-impacted former oil storage area; and
- Characterize hydrogeologic conditions within the impacted areas to evaluate NAPL migration potential.

Section 2 of the report presents a brief site description and Summary of previous site environmental investigations. Section 3 presents a description of the field investigation methods conducted for the RI. Section 4 presents a Summary of the physical and analytical results of the RI program, and a Summary of the salient findings from the combination of investigations (i.e.,

SC through RI) performed at the Site to date. Section 5.0 presents a brief Summary of findings and recommendations.

2.0 PROJECT BACKGROUND

2.1 Site Description

The Site is currently owned by a private individual, and is being evaluated by National Grid under an existing Consent Order for non-owned former MGP sites with NYSDEC. The Site is approximately 0.4 acres in size and is located in a residential neighborhood, at the intersection of West Smith and William Streets. The Site is devoid of any above-grade structures, although a relic concrete foundation is still evident in the center of the Site. The remaining ground surface of the site is grass covered. Access is presently unrestricted. A Site Plan is provided as Figure 1.

2.2 Site Overburden Geology

Based upon the physical conditions encountered during previous subsurface investigations, which extended as deep as 30 feet below ground surface (ftbgs), Site geology consists of three primary overburden units: fill, a fine-grained silt/sand unit, and a coarse sand/gravel unit. Figure 2 presents three geologic cross-sections based on previous Site boring information. Fill was encountered on-site, extending to a depth of approximately six ftbgs across the Site; the fill consisted of native sand, silt and/or gravel mixed with a wide assortment of demolition debris, cinders and ash, and occasional municipal refuse. The silt/sand unit typically extends from approximately six feet to approximately 10 to 12 ftbgs across the Site. Beneath this unit, a coarser sand and gravel unit was encountered, typically extending to the bottom of each boring, some of which extended to a depth of 30 ftbgs. A range in grain-size composition was observed in this material, however it typically included some percentage of coarse-grained material.

Bedrock has not been encountered on-site during any of the MGP investigations. However, according to available information from a nearby construction project, located approximately 0.5 miles northwest of the subject site, bedrock was reportedly encountered at a depth of approximately 80 ftbgs. According to the Geologic Map of New York, Hudson-Mohawk Sheet (Fisher, Isachsen and Rickard, 1970), the specific bedrock formation underlying the Site is unknown however areas to the north and south of the Site are mapped as Utica Shale.

2.3 Previous Environmental Investigations

Several environmental investigations have been performed by National Grid since 2003, consisting of the initial SC and a Supplemental SC. Each of these investigations is described briefly below.

2.3.1 2003 Site Characterization/IRM Study

The 2003 SC investigation was performed by TRC in accordance with a NYSDEC-approved work plan, prepared by Foster Wheeler Environmental Corporation, dated September 2002. The investigation consisted of a geophysical survey, exploratory test pits, soil borings, collection of surface and subsurface soil samples, installation of monitoring wells, collection of two rounds of ground water samples, and a full site survey. The SC field program was performed in the Summer of 2003.

The geophysical survey was performed using a combination of EM-61, EM-31, magnetometry, and ground penetrating radar (GPR). Results of the survey indicated the presence of a number of subsurface structures including a large octagonal feature in the vicinity of a suspected sub-grade holder, several extensive metallic linear features (suspected pipes), and four other suspected former building foundation features.

A total of five test pits were completed, with primary focus on the location of two suspected sub-grade holder foundations and the former location of several large petroleum storage tanks. Two small supplemental test pits were completed to evaluate the nature of metallic anomalies identified during the geophysical survey. Results of the test pit program included the location and physical evaluation of the southern side of a former sub-grade brick gas holder foundation. MGP tar impacts were noted within the holder (at approximately six to seven ftbgs) as well as immediately outside of the foundation structure, extending as deep as ten ftbgs.

Efforts to locate the second holder foundation to the southwest were unsuccessful and no structure or significant MGP impacts were observed. In the vicinity of the former oil storage area, significant evidence of petroleum impacts (i.e. strong odors, staining and elevated PID readings) were observed at a depth of approximately six to seven ftbgs, where the encountered native fine-grained soil coincided with shallow ground water.

A total of 13 soil borings were completed to determine the presence or absence of MGP-related impacts on-site. All borings were completed using standard hollow-stem auger (HSA) methods. Physical results of the boring program highlighted two primary impacted areas on-site: (1) shallow tar impacts in the inner circumference of the identified holder foundation and immediately beneath the foundation; and (2) shallow petroleum-related impacts in the vicinity of the former oil tank location. In general, laboratory results for representative soil samples substantiated the impacts noted during the boring program. Of note was the determination that the subsurface soil conditions along the southern Site boundary were not significantly impacted.

During the field program, four shallow ground water monitoring wells were installed on-site. During the soil boring program, depth to the water table was determined to be approximately seven ftbgs across the Site; the wells were installed to intercept the water table. Based on the ground water elevation data collected during the July 15, 2003 sampling event, interpreted ground water flow on-site appeared to be to the south/southeast. Two rounds of ground water sampling were conducted, one conducted on July 15, 2003 and the second on August 31, 2003. Ground water samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and target analyte list (TAL) metals. NYSDEC Technical and Operational Guidance Series 1.1.1 (TOGs) standard exceedances were detected in MW-03, located near West Smith Street, for xylene, naphthalene, 2-methylnaphthalene, acenaphthene, fluorene, phenanthrene, and anthracene during the first sampling round. The TOGs criterion for benzene was exceeded in MW-02 in the second round sample. Based on these results, on-site ground water impacts were concluded to be limited, and the potential for off-site migration of site-related impacts minimal.

2.3.2 2005 Supplemental Site Characterization Study

A limited supplemental drilling program was conducted by TRC in August of 2005. The work was conducted in accordance with a NYSDEC-approved work plan to better assess the extent of Site impacts that had been identified during the original SC. The program consisted of the advancement of six soil borings with collection of representative soil samples for lab analysis, and evaluation of the four existing monitoring wells for the potential presence of NAPL.

Borings were generally advanced to a minimum depth of 16 ftbgs, except where field conditions precluded achievement of that depth. Within each boring, two soil samples were collected for laboratory analysis. A total of thirteen soil samples were collected and submitted for analysis of benzene, toluene, ethylbenzene and xylene (BTEX) and polycyclic aromatic hydrocarbons (PAHs). In addition, one sample collected from boring SB-16A, which exhibited petroleum-like odors, was submitted for gas chromatograph (GC) fingerprint analysis to determine the type of hydrocarbon source.

Results of the Summary investigations were consistent with those of the previous Site Characterization, which indicated the limited nature of MGP-related impacts on-site. Specifically, the supplemental investigations confirmed the approximate extent of impacts associated with the former octagonal holder, and the absence of significant impacts east of the exposed concrete foundation in the center of the site. Of particular note was the absence of any indications of spent purifier waste in the vicinity of the former gas purification portion of the former MGP, which according to historical Sanborn maps, occupied the eastern section of the former gas production building.

Sampling to the east of the exposed concrete foundation indicated the absence of significant contamination (i.e., non-detect BTEX and less than 1 ppm total PAHs). Sampling to the west of the foundation indicated the presence of hydrocarbon impacts. This finding was consistent with previous studies performed on and adjacent to the Site to characterize a nearby, off-site fuel spill from the former Varlaro gas station property (located at the corner of West Smith and Dewey Streets). Those studies had detected fuel-type contamination on-site which was attributed to a possible combination of off-site and on-site sources.

In addition, TRC evaluated the existing monitoring well network for the presence of NAPL. No measurable NAPL or other physical indications (i.e., blebs, sheens or odors) were noted in any of the wells. Shallow ground water contouring indicated that low gradient ground water flow was directed to the south/southwest, consistent with previous studies. Ground water sampling, as part of the initial SC, indicated only minor ground water impacts on-site, with no significant concentrations of BTEX or PAHs detected downgradient from former MGP operations.

3.0 REMEDIAL INVESTIGATION FIELD ACTIVITIES

Field investigation activities completed during the RI were designed to delineate NAPL impacts at the Site related to two historic sources previously identified during earlier investigations. On-site sources of NAPL impacts include a former gas holder where MGP tar and impacted soil were previously identified (Holder Area), and an area of the Site where free-phase petroleum product and impacted soils were previously identified (Petroleum Area). Specifically, the RI scope consisted of the following field activities:

- Advancement of soil borings and collection of representative soil samples for laboratory analysis to delineate the two identified NAPL areas;
- Laboratory analysis of collected soil samples to determine the limits of MGP contamination and assist in the evaluation of potential remedial approaches;
- Installation of a product recovery well to enable evaluation of conditions within the petroleum-impacted area for potential remediation and to enhance interpretation of Site ground water behavior;
- Collection and analysis of one additional round of ground water samples from the existing monitoring well network;
- Performance of hydraulic conductivity testing of site soils;
- Monitoring of the existing well network for the potential presence of NAPL;
- Installation of five soil vapor probes across the Site; and
- Collection and laboratory analysis of four soil vapor samples and an ambient air sample.

The performance of each of the activities is described below. Investigation findings for each of the field activities are presented in Section 4.

3.1 Soil Boring Program

The soil boring program for the RI was completed between May 19 and May 23, 2008. The soil boring program was completed using a combination of direct push and HSA drilling techniques. TRC retained Lyon Drilling Company of Tully, New York to provide drilling services associated with the soil investigation. The program included the completion of 22 soil borings, consisting of 15 borings to delineate NAPL impacts in the petroleum-impacted area and

seven borings to delineate NAPL impacts in the former holder area. The locations of all borings completed during the RI as well as those completed during previous investigations at the Site are depicted on Figure 3. Copies of boring logs for the soil borings are included in Appendix A.

The Petroleum Area borings (SB-20 through SB-28 and SB-36 through SB-41) were located on an approximate 20-foot grid to define the areal extent of impacts in that area. In some instances, where NAPL was detected in a boring, additional "step-out" borings were completed to help delineate the extent of those impacts. Direct-push drilling methods were employed for soil sampling where subsurface conditions would allow. Due to the presence of relic foundations in this area, HSA drilling methods were used at two locations to advance through the foundations prior to commencement of direct-push sampling. In borings where sample recoveries were poor, a three-inch diameter split-spoon was used. However, when it was determined that use of the split-spoon did not improve sample recovery, direct push drilling techniques were employed during the remainder of the boring program. Boring depths in the Petroleum Area ranged from 16 to 20 feet bgs.

Although the former octagonal holder foundation has been the subject of previous investigations, additional characterization was conducted to better define the areal and vertical extent of NAPL impacts both within and outside of this structure. To complement the existing information, seven additional soil borings (SB-29 through SB-35) were advanced in the area of the former gas holder, both inside and outside of the structure, to further evaluate the presence of NAPL in this area.

Soil sampling in the area of the former gas holder was performed using a combination of HSA and direct-push drilling techniques. In general, direct-push drilling techniques were utilized on all borings where subsurface conditions allowed, since the direct push sample tooling allowed for more efficient continuous sampling.

Spent acetate liners from the Macrocore soil sampler and all soil cuttings were collected in 55-gallon drums for proper off-site disposal. At the completion of sampling, each boring was abandoned by backfilling with grout (i.e., tremie-grouting) in accordance with the RIWP.

During the direct-push sampling, the Macrocore samplers were decontaminated between samples using a potable water and Alconox rinse, followed by a potable water rinse. In several instances where heavily-impacted soils were encountered, the sampling equipment was also steam-cleaned between samples. When utilized, hollow stem augers were also decontaminated

by steam cleaning prior to use; split-spoons were decontaminated using an Alconox, potable water, methanol, deionized water decontamination procedure. All spent decontamination fluids were containerized in 55-gallon drums for off-site disposal.

Decontamination of drilling equipment was conducted on either a double layer of 6-mil polyethylene sheeting, or as in the case of equipment which was steam cleaned, over a temporary decontamination pad. The decontamination pad consisted of a waterproof tarp laid over the ground surface and constructed with a 12-inch containment berm around each of its four sides. Decontamination fluid was allowed to drain to a low point in the tarp where it was then pumped to 55-gallon drums for off-site disposal.

Of note were the poor sample recoveries experienced in the Petroleum Area soil borings below the fine-grained silt layer where the coarse sand/gravel unit was typically encountered. Such sampling difficulties were experienced using both direct-push and HSA methods (with two- and three-inch split-spoons). However, although precise vertical delineation of NAPL impacts could not be achieved in several borings, physical and chemical results for deeper samples collected in those locations indicate that, overall, vertical delineation of impacts was achieved in this area.

3.1.1 Field Soil Screening

During drilling, TRC personnel continuously logged all recovered soil samples. Soil boring log forms are included as Appendix A; in support of later discussions in Section 4, copies of all prior investigation boring logs are also included in Appendix A. Although NAPL delineation and laboratory soil sample selection was based primarily on visual and olfactory observations, a Minirae 2000 photoionization detector (PID) with a 10.6 eV lamp was also used to screen soil samples for the presence of total organic vapors.

In addition, to support identification of NAPL in the recovered soil samples, hydrophobic dye testing using Sudan IV dye was initially conducted on select soil samples. During preliminary sampling within the Petroleum Area, where initial screening indicated the presence of significant physical impacts (e.g., strong odors, heavy sheens, visible blebs), a representative sample was collected from the most heavily-impacted interval for field dye-testing. Observations of the dye test results led to the conclusion that this was an ineffective method for determining the presence of NAPL, as the dye did not appear to consistently mark the NAPL.

Therefore, further use of the hydrophobic dye testing was discontinued after several attempts to identify NAPL were inconclusive.

3.1.2 Soil Sampling and Analysis

In addition to NAPL field screening, selected soil samples were collected for laboratory analysis. In most instances, two soil samples were collected from each boring. The analytical parameters specified in the RIWP were selected based on previous Site investigation results which indicated that BTEX compounds and PAHs constituted the primary constituents of concern in the two subject study areas. In addition, two representative samples of NAPL-impacted soil were submitted for Gas Chromatograph (GC) Fingerprint analysis to determine the NAPL source and chemical characteristics. All of the collected soil samples were submitted for analysis to ChemTech Laboratories of Mountainside, New Jersey for the following analyses:

- BTEX via EPA Method 8260, and
- PAHs via EPA Method 8270.

Discussion of the analytical results for the RI soil sampling program is presented in Section 4.

3.2 Product Recovery Well Installation

Once the full extent of NAPL impacts had been determined within the Petroleum Area, TRC selected the most visually impacted location, SB-41, for installation of a four-inch diameter product recovery well to assist in evaluating the presence of potentially recoverable free product. Recovery Well RW-1 was installed using standard HSA methods, and was constructed of four-inch diameter schedule 40 PVC with a 10 ft. long 20-slot screen. The well was screened to intercept the water table from 5 to 15 ftbgs and fitted with a three-foot long solid sump from 15 to 18 ftbgs in the event dense non-aqueous phase liquid (DNAPL) was present. The well was constructed with solid riser from 5 to 0.5 ftbgs fitted with a locking cap, and finished at the ground surface with a flush-mounted curb box cemented in place. Upon its completion, RW-1 was developed by pumping until the discharge was visibly free of suspended material.

3.3 Ground Survey

TRC retained Thew Associates of Canton, New York to perform a survey of all of the RI soil boring locations and the newly installed recovery well. On June 17, 2008, Thew Associates performed the survey work and subsequently provided a complete survey plan as a supplement to their prior survey work. It should be noted that all of the RI sample points presented in the RI report figures are based on the survey, except for boring SB-30. Subsequent review of the survey plan indicated that SB-30, located immediately outside of the former octagonal holder, had not been documented during the survey.

3.4 Ground Water Sampling

On June 17, 2008, TRC returned to the site to evaluate the presence or absence of NAPL in each of the existing monitoring wells (MW-1 through MW-4) and the newly constructed product recovery well (RW-1), and to collect ground water samples from each of the monitoring wells.

Prior to sample collection, all wells were gauged using an electronic oil/water interface probe. No measurable NAPL was detected in any of the existing wells during the ground water sampling program, although visible product, strong odors and sheens were noted on the interface probe during evaluation of RW-1. Following the NAPL evaluation, the depth to water and the well depth were measured and recorded. Potential presence of DNAPL was also evaluated. During NAPL and water level gauging, the interface probe was decontaminated prior to use in each well. Depth to ground water measurements and water table elevation data are presented in Section 4.

Ground water samples were collected from monitoring wells MW-1 through MW-4 using dedicated polyethylene bailers. Due to the presence of heavy visual and olfactory impacts observed in RW-1 during the NAPL evaluation, a ground water sample was not collected from this location. Prior to sampling, each well was purged by removing three well volumes of water. All purge water was transferred into a 55-gallon drum for off-site disposal. Once purged, ground water samples were collected from each monitoring well and submitted under chain-of-custody protocol to Chemtech for the following analyses:

- Target Compound List (TCL) VOCs by EPA Method 8260; and
- TCL SVOCs by EPA Method 8270.

Discussion of the analytical results for the RI ground water sampling is provided in Section 4.

3.5 Hydraulic Conductivity Testing

During the ground water sampling program that was performed in June 2008, TRC conducted hydraulic conductivity testing in two of the existing monitoring wells to further characterize shallow hydrogeologic conditions on-site. While testing was originally considered for the newly-installed recovery well, it was determined that the presence of contamination precluded the use of the testing equipment. Therefore, testing was conducted in two of the existing monitoring network wells: MW-1 and MW-2. Given the relatively consistent overburden conditions encountered on-site, the hydraulic conductivities calculated for the two tested wells are believed to be suitable for use in evaluating the other portions of the Site.

In each of the two tested wells, TRC utilized standard slug-testing methods to enable calculation of hydraulic conductivities in the shallow overburden. Following measurement of depth to ground water, a pressure transducer was installed within the well and a weighted 1.5-inch diameter PVC slug inserted. Following sufficient time for stabilization of the water level, the slug was quickly removed from the well and the subsequent water level change recorded via the transducer connected to a In-Situ Level TROLL® datalogger. Results were reviewed in the field following each slug-test to ensure usability in calculating conductivities. Upon return to the office, TRC downloaded the recorded water level recharge data into a PC-based program, Win-Situ 5®, and the hydraulic conductivity values calculated and graphed. Results of the slug-testing are discussed in Section 4.

3.6 Soil Vapor Investigation

In order to determine if MGP-related contaminants are present in soil vapor beneath the Site which may pose a potential vapor intrusion issue to nearby, off-site residential receptors, a soil vapor investigation was performed in March 2009. The soil vapor program was conducted at the request of NYSDEC following the department's review of the Draft RI report, dated October 17, 2008. The soil vapor investigation involved the installation of five soil vapor probes (SV-1 through SV-5) and the collection and laboratory analysis of four soil vapor samples and one ambient air sample (SV-1, SV-1, SV-3, SV-5, and VA). Installation of the soil vapor probes

and collection and laboratory analysis of soil vapor samples was conducted in accordance with applicable technical guidance, including:

- *Standard Operating Procedures - Soil Vapor Intrusion Evaluation at National Grid MPG Sites in New York State*, (O'Brien & Gere, September 2006);
- *Guidance for Evaluating Soil Vapor Intrusion in the State of New York* (NYSDOH, October, 2006); and
- *Soil Vapor Work Plan*, prepared by TRC, dated October 18, 2007.

A discussion of the soil vapor sampling program is provided below.

3.6.1 Soil Vapor Probe Installation

On March 17, 2009, TRC visited the Site to oversee the installation of five soil vapor probes (SV-1 through SV-5). Lyon Drilling Company of Tully, NY was contracted by TRC to install the soil vapor sampling probes using direct push (i.e., Geoprobe®) drilling techniques.

The locations of the vapor probes are shown on the attached Figure 3. Location rationale for each of the sample points are as follows:

- SV-1 was installed in the northeast corner of the site to evaluate potential upgradient, off-site sources of contamination and potential for vapor impacts across West Smith and William Streets;
- SV-2 was installed to evaluate the nearest potential side- and/or down-gradient receptor (Netti Residence) for potential vapor intrusion;
- SV-3 was installed in proximity to the confirmed impacted area (vicinity of SB-11 and MW-2), to evaluate soil vapor down-gradient of impacted areas and upgradient of nearby residential receptors;
- SV-4 was installed near the Filipski residence located on West Smith Street, to evaluate this potential receptor in proximity to and down-gradient of impacted areas; and
- SV-5 was installed in proximity to the petroleum-impacted area, adjacent to a relic foundation slab, to evaluate soil vapor in the most-impacted area of the site, for comparison to other vapor sample location results.

Each soil vapor probe was constructed of ¼-inch diameter Teflon®-lined polyethylene tubing attached via a barbed hose connector to a dedicated stainless steel drive point and screen.

The drive point, screen and tubing were inserted into a hollow rod and driven to the target depth using a truck-mounted Geoprobe®. Once advanced to depth, the Geoprobe® tooling was retracted, leaving the soil vapor point and tubing in place. Fine glass beads were then poured into the annular space between the borehole wall and the vapor probe, to approximately one foot above the top of the stainless steel screen. A hydrated bentonite seal was then installed, from the top of the glass bead layer to the ground surface. All vapor probes were completed at the ground surface with a flush-mount curb box cemented in place. Specific construction details for each of the soil vapor probes are presented in Table 1.

On March 18, 2009, TRC personnel returned to the subject site to collect soil vapor samples from the newly installed vapor probes. Prior to collection of soil vapor samples, a tracer gas evaluation was conducted to ensure proper vapor probe construction prevented short-circuiting of atmosphere to the sample probe.

The tracer gas evaluation was performed using a specially-constructed flux chamber consisting of a Plexiglas dome outfitted with a stainless steel flange and several fittings. Fittings included a sample port, which was connected to the sample tubing on the vapor probe, an injection port where helium gas could be introduced into the chamber to enrich the atmosphere surrounding the top of the vapor probe, and a port to monitor the helium concentration within the flux chamber to ensure the atmosphere within the flux chamber was properly enriched with helium.

The tracer gas evaluation was performed on each of the vapor probes. The process for conducting the tracer gas evaluation was the same for each vapor probe. Once the vapor probe tubing was connected to the sample port, the flux chamber flange was imbedded approximately ½-inch into the surrounding ground surface. A hydrated bentonite seal was then placed around the interface between the flux chamber and the ground surface to prevent tracer gas leakage. Once the flux chamber was properly sealed, the atmosphere inside the flux chamber was evacuated using an SKC model 224-PCXR4 personal sampling pump. When evacuation of the atmosphere inside the flux chamber was complete, the tracer gas was introduced from a compressed gas cylinder containing 20,000 parts per million (ppm) of helium. Helium concentrations were then measured within the flux chamber using a Radiodetection Model MGD-2002 helium detector.

When the monitored concentration within the flux chamber reached a concentration of 20,000 ppm of helium, the tracer gas supply was turned off and the vapor probe was purged of approximately three "vapor" volumes. Purging of the vapor probe was accomplished using an SKC pump, at a calibrated to pump rate of 0.2 liters per minute. Once the vapor probe was sufficiently purged, the helium detector was used to monitor for the presence of the tracer gas in the vapor probe. Measureable concentrations of helium were not detected in any of the vapor probes during the tracer gas evaluation. Based on the results of the tracer gas evaluation, NYSDEC personnel agreed that the vapor probes had been installed properly and that soil vapor sampling could be initiated.

3.6.2 Soil Vapor Sample Collection

Sample collection from each of the vapor probes was accomplished by using pre-cleaned six liter Summa canisters fitted with regulators calibrated to collect vapor samples at a rate of 0.19 to 0.2 L/min. Each of the Summa canisters were connected to the soil vapor probes using dedicated polyethylene tubing. In order to obtain a representative background air sample, a sample of ambient air was collected from the approximate center of the site. The location of the ambient sample was chosen due to frequent changes in wind direction observed across the Site. To collect the ambient air sample, a six liter Summa canister fitted with a regulator calibrated to flow rate of 0.19 to 0.2 L/min was used. A duplicate sample was collected from the ambient sample location (VA) and identified as VA-2. The locations of all soil vapor samples and the ambient outdoor air sample are shown on Figure 3.

The procedure for the collection of vapor samples using Summa canisters was the same for all samples. Once the appropriate connections were made, the Summa canisters were opened and the vacuum gauge readings and start times were recorded. Sample Collection Field Forms were completed for each vapor sample as prescribed by National Grid. Copies of the Sample Collection Field Forms are included as Appendix B. Each of the valves on the Summa canisters were closed when the vacuum gauges read between 2 and 5 inches of mercury. Once sampling was complete, the samples were submitted under chain-of-custody protocol to Alpha Analytical Laboratoryies, a New York certified laboratory, for analysis by USEPA Compendium Method TO-15 with additional constituent analysis as described in "Standard Operating Procedures - Soil Vapor Intrusion Evaluation at National Grid MPG Sites in New York State, (O'Brien & Gere, September 2006)."

Due to the tight, fine-grained soil conditions and high water table conditions at the Site, TRC had difficulty collecting soil vapor samples from two of the five vapor probes: SV-3 located along the western side of the Site, and SV-4 located on the northwest portion of the Site. A vapor sample was eventually collected from SV-3 (near monitoring well MW-2) over an eight-hour collection period, with approximately 9 mm of vacuum remaining in the sample canister. No sample could be collected from vapor probe SV-4, near the Filipski residence.

Due to these problems, a decision was made to install new vapor points in close proximity to the previous vapor probes (SV-3 and SV-4). On March 26, 2009 TRC returned to the Site to oversee the installation of the replacement vapor probes at locations SV-3 and SV-4. Two new vapor probes were installed at each of the sampling locations. The replacement soil vapor probes identified as SV-3A and SV-4A were installed to a depth of 5 ftbgs, one foot shallower than the previous probes (SV-3 and SV-4, respectively) and constructed using one-foot long stainless steel screen implants. Replacement vapor probes SV-3B and SV-4B were installed to a depth of 5 ftbgs, one foot shallower than the previous probes (SV-3 and SV-4, respectively), but were constructed using the six-inch long stainless steel screen implants. During installation of the new vapor probes, soil samples were collected from each new vapor probe location to observe the subsurface soil conditions. Soil in the areas of SV-3 and SV-4, consisted of dense silt. The presence of this dense material is believed to have prevented the collection of vapor samples on the northwest portion of the Site. Additional information pertaining to the construction of the replacement vapor probes is included in Table 1.

On March 27, 2009, TRC returned to the Site to perform tracer gas evaluations on the newly installed vapor points (SV-3B and SV-4B) and to collect vapor samples.

Following the tracer gas evaluations, Summa canisters were connected to vapor probes SV-3B, SV-4A and SV-4B. Attempts were made to collect vapor samples from both replacement vapor probes SV-4A and SV-4B due to the difficult conditions encountered during the previous sampling attempt at this location. Sample methods utilized were identical to those used during the initial vapor sampling conducted on March 18, 2009, discussed previously. A soil vapor sample was successfully collected from vapor probe SV-3B, however no vapor sample could be collected from either SV-4A or SV-4B. Collected Samples were submitted to Alpha Analytical Laboratories for analysis by USEPA Compendium Method TO-15 with additional

constituent analysis as described in "Standard Operating Procedures - Soil Vapor Intrusion Evaluation at National Grid MPG Sites in New York State, (O'Brien & Gere, September 2006)."

3.7 Investigation Derived Waste Management

All soil cuttings, spent acetate liners, soiled personal protective equipment (PPE), spent decontamination fluids and monitoring well purge water were containerized in 55-gallon drums for off-site disposal. During the field program, the accumulated drums of all investigation derived wastes (IRW) were labeled as to their contents and date of accumulation and were stored in a locked portable steel storage container. A total of three drums of soil cuttings, six drums of accumulated fluids, and one drum of soiled PPE were generated during the RI. Following completion of the RI program, the drums were sampled for characterization by National Grid's contractor, Clean Harbors. Upon receipt of the characterization data, the trailer and the drums were removed from the premises by Clean Harbors, for subsequent proper disposal.

4.0 REMEDIAL INVESTIGATION RESULTS

The results of previous SC and Supplemental SC investigation results have been presented in several Summary reports. Prior findings included the identification of MGP-related impacts in two primary locations on-site: (1) the former octagonal holder foundation in the western portion of the Site (Holder Area), and (2) the vicinity of the former feedstock oil tanks in the central part of the Site (Petroleum Area). Collected soil samples have yielded analytical results confirming the presence of typical MGP contaminants of concern, most notably BTEX and PAHs, in the two study areas. Results from two previous ground water sampling events indicated only limited shallow ground water impacts in the four perimeter wells, indicating the apparent absence of potential MGP-related contaminant migration off-site. Therefore, based on the previously-confirmed and characterized MGP residual impacts in the two identified areas, the primary objective of the RI (delineation of those two areas to determine areal and vertical limits that may require remediation) was achieved.

While the primary purpose of this report is to describe the results of the RI program as it relates to the overall Site characterization, the following section discusses the combined results of the previous and recent RI investigations to present a Summation of the MGP impacts that have been identified to date.

4.1 Site Soil Characterization

As indicated in Section 1, the primary objective of the RI was the delineation of the two impacted areas of concern (Petroleum Area and Holder Area). A total of 22 supplemental RI borings were advanced to further evaluate the extent of the NAPL-related contamination detected in the two locations, making a total of 41 soil borings that have been completed on-site to evaluate MGP-related impacts. Soil boring logs for all of the completed borings are provided as Appendix A, with the borings designated SB-20 through SB-41 reflecting the recent RI soil borings. In addition, Table 2 presents a Summary of all MGP investigation borings completed to date, including the following information:

- Boring Designation
- Boring Site location
- Description of physical impacts
- Analyzed soil sample IDs
- Highlighted sample intervals where NAPL was observed
- Summary soil analytical results (Total BTEX and Total PAHs)

Discussion of the RI soil boring results is presented below, by primary study area. Validated RI soil sample analytical results are presented in Table 3. In addition, Figure 4 depicts the Site locations where visual indications of NAPL were observed, approximate depth intervals of those indications, and approximate limits of the two NAPL-impacted areas based on field observations.

Analytical results for soil samples collected during the RI were compared to NYSDEC 6 NYCRR Part 375 Restricted Use Soil Cleanup Objectives for Restricted Residential Use. The Restricted Residential Use Soil Cleanup Objectives were chosen for comparison purposes based on the potential future development of the Site. Data Usability Summary Reports for data collected during the RI are included in Appendix D.

4.1.1 Petroleum Area

A total of 15 supplemental borings were advanced as part of the RI program to delineate the extent of NAPL impacts in the vicinity of the former oil tanks. As Summarized in Table 2, physical indications of NAPL (i.e., product-saturated soil or product blebs) were observed in seven of the 15 borings. The shallowest impacts were noted at approximately five ftbgs. in SB-21 and SB-37, although the remaining borings exhibiting presence of visible product showed first evidence of NAPL at depths ranging between six feet and eight ftbgs. Due to poor sample recoveries using both direct-push and split-spoon sampling methods, the precise vertical limit of NAPL impacts was difficult to ascertain, particularly in the vicinity of the contact between the fine silt/sand unit and the deeper coarse sand and gravel unit. Further complicating this vertical delineation was the potential carry-down of impacts to deeper zones during sampling, and the withdrawal of deeper samples through shallower, heavily-impacted zones.

Based on review of the boring logs and the accompanying analytical data, the following understanding of NAPL impacts in the Petroleum Area has been developed. Figure 4 depicts the borings and depth intervals where NAPL was encountered in the Petroleum Area. In the northern end of the NAPL-impacted area, shallow petroleum-type impacts were noted within the uppermost native soil (commencing at the fill/native soil interface) extending downward to depths of 10 to 14 feet. GC Fingerprint of a sample collected from SB-20 (Sample SB-20(5.5-6.0)), advanced in the vicinity of the former oil tanks, exhibited a profile consistent with No. 6 fuel oil. Further south, the impacts appear to be a possible combination of petroleum and MGP tar-type contamination (based on visual appearance, staining and naphthalene/tar-like odor),

although no specific source of tar (e.g., identifiable former MGP structure) has been identified in this area of the Site. Previous GC fingerprint analysis of a soil sample from 2003 SC boring SB-08 had indicated a weathered mid-weight fuel oil. Heaviest physical evidence of NAPL impacts were observed in SB-41, located in the approximate center of the defined Petroleum Area NAPL zone, extending from 8 to approximately 18 ftbgs. As a result, well recovery well RW-1 was installed in this location to determine if NAPL would passively accumulate in a product recovery well.

As indicated in Table 3, samples collected from NAPL-impacted intervals yielded concentrations of PAHs in excess of the Restricted Residential Soil Cleanup Objectives, typically including the compounds benzo(a)pyrene, benzo(a)anthracene, chrysene, and/or naphthalene. Total PAH concentrations in NAPL-impacted samples ranged from 7,370 ug/kg in Sample SB-08(6-8) to a high of 40,400,000 ug/kg (i.e., 40,400 mg/kg) in Sample SB-21(5.5-6). SB-21 was located in close proximity to the former oil storage tanks near the relic foundation. While one or more of the BTEX compounds were detected in the majority of the soil samples from the NAPL intervals in the Petroleum Area, detected concentrations were generally below the Restricted Residential Soil Cleanup Objectives, except in the samples collected from borings SB-21 and SB-24.

In Summary, physical and chemical evidence of MGP NAPL was detected consistently within a defined area within the approximate center of the Site, at depths between five and 12 ftbgs. Deeper impacts were noted during sampling in borings within the inner portion of this defined area (e.g., SB-24 and SB-41) although the precise lower limits of NAPL impacts could not be conclusively determined. The NAPL impacts appear to be generally associated with the fine-grained, native soils below the fill layer and extend up to several feet into the coarse sand/gravel unit beneath. The encountered NAPL appears to be a floating product (LNAPL) based on the shallow nature of observed impacts without evidence of deeper movement of discrete product.

Figure 4 depicts the approximate areal extent of NAPL impacts based on the combined boring programs in this area. Using the defined limits shown in this figure, the NAPL zone occupies approximately 3,100 square feet. Based on the average depth interval exhibiting NAPL impacts, from six to 12 feet bgs., it is estimated that approximately 700 cubic yards of NAPL-impacted material reside in the Petroleum Area. The NAPL-impacted interval is located beneath

an average depth of six feet of fill material containing varying concentrations of contaminants of concern; therefore, approximately the equivalent volume of fill material overlies the NAPL zone.

4.1.2 Holder Area

A total of seven supplemental borings were advanced as part of the RI program to delineate the extent of NAPL impacts associated with the former octagonal holder, making a total of 14 borings advanced in the vicinity of this structure. Previous exploratory test pit and soil boring investigations during the SC had confirmed the location and general construction and dimensions of the sub-grade brick holder foundation. The structure is approximately 40 feet in diameter, with a conic bottom sloping from a depth of six feet in the center down to eight feet within the inner circumference. A riveted metal liner was previously observed within the inner perimeter during exploratory test pit excavation.

As Summarized in Table 2, physical indications of NAPL were observed in all interior holder borings, ranging from tar coating on the bottom mortared brick (SB-04 and SB-05) in the shallow center of the holder to two feet of viscous MGP tar saturated material in the inner perimeter (SB-13 and SB-32). In addition, limited NAPL impacts were noted immediately beneath the holder bottom in SB-32B, with tar blebs and sheens observed from a depth of approximately 10 to 11.5 ftbgs. Total BTEX concentration of 51,280 ug/kg and Total PAHs of 102,100 ug/kg were detected in a soil sample from that interval. However, only very slight odor was noted in the deeper interval, from 12 to 14.2 ftbgs and the soil sample collected from that interval yielded no detectable BTEX or PAHs. Impacts beneath the holder bottom had previously been noted in the SC Boring SB-13, with heavy sheen, staining and odor from 8 to12 ftbgs (34,700 ug/kg BTEX and 2,461 ug/kg PAHs). No discrete NAPL was noted in that interval however. In conclusion, limited quantities of tar-like material have been detected within the holder, with up to two feet of tar-saturated fill present within the inner perimeter of the structure.

A total of eight exterior borings have been advanced in proximity to the holder to evaluate potential external impacts. Results of these investigations have indicated the presence of shallow NAPL impacts along the northern, eastern, and southern sides of the holder from approximately six feet extending as deep as 10.8 ftbgs in Boring SB-30 (east side). Figure 4 depicts the borings and depth intervals where NAPL was encountered immediately outside of the holder. The nature of these observations was in the form of product blebs, odor and sheen. Analytical sample results have ranged as high as 10,800 ug/kg BTEX and 167,400 ug/kg PAHs

in sample SB-29(7-7.5) and 37,620 ug/kg BTEX and 46,320 ug/kg PAHs in sample SB-29(8-8.5), from the boring immediately southeast of the holder. Sample SB-29(8-8.5) was also subjected to GC fingerprint analysis which was indicative of gasoline mixed with an unknown fuel oil. The specific source of these impacts is not known.

Vertical limitations of the observed external impacts were confirmed both in the limited nature of physical manifestations (i.e., very slight odor) and the absence of detectable BTEX and PAHs in the 16 to 16.5 foot interval. In Summary, the exterior boring findings indicate the presence of a relatively shallow, discrete impacted interval around a portion of the holder perimeter with physical and analytical evidence that the contamination does not extend deeper.

Based on review of the available boring logs and the accompanying analytical data, the following understanding of NAPL impacts in the Holder Area has been developed. Residual quantities of weathered, non-mobile tar reside within the holder structure, primarily within the deeper, inner perimeter. Exterior impacts to soils are also present coincident with the approximate bottom of the holder, although the specific release mechanism for those impacts is not known. In Summary, physical and chemical evidence of limited quantities of NAPL was detected in the bottom of the holder, immediately beneath the bottom, and around the north, east, and southern sides of the structure. Northern extent of these impacts were not clearly defined as the nearest step-out boring to impacted SB-31B (i.e., SB-6) is approximately 30 feet to the north. However, based on available information in this portion of the Site, the vertical extent of MGP impacts associated with the holder appear to be limited to maximum of approximately 12 ftbgs (within and outside of the holder footprint).

Estimated limits of the NAPL impacts associated with the Holder Area are depicted in Figure 4. Based on the average depth of impacts noted within and outside of the holder structure (i.e., maximum of four feet of NAPL-impacts) and the calculated surface area of the defined NAPL-impacted zone (approximately 2,100 square feet), it is estimated that approximately 300 cubic yards of NAPL-impacted material are present in the Holder Area. As in the Petroleum Area, the defined NAPL interval is located beneath an average of six feet of fill material containing varying concentrations of contaminants of concern, including levels above corresponding Restricted Residential Soil Cleanup Objectives. Therefore, an additional volume of approximately 500 cubic yards of fill material overlies the defined NAPL-impacted material.

4.2 Site Ground Water Characterization

RI ground water investigation activities included water level and NAPL measurements in the five-well monitoring network, slug-testing in two of the monitoring wells, and collection of an additional round of ground water samples. Results from each of these activities are discussed below.

4.2.1 Ground Water Flow Direction

Water table elevation measurements were collected during two RI field events: (1) during the June 17, 2008 ground water sampling event; and (2) during the NAPL evaluation that was conducted on September 19, 2008. Water table elevations at each well location were calculated to allow for interpretation of ground water gradient and direction. Water table elevations for both dates are Summarized in Table 4. Ground water contours and the general direction of ground water flow across the Site, based on information collected during this investigation, are depicted on Figures 5 and 6. As is indicated on both contour maps, low gradient is evident across the site with a maximum elevation difference of 0.48 feet on June 17, 2008 and 0.5 feet on September 19, 2008. As indicated in earlier ground water contour maps developed for the SC programs, ground water flow appears to be to the southwest.

4.2.2 Hydraulic Conductivity Testing

TRC conducted slug tests on two wells at the Site. The slug tests were designed to evaluate the approximate the hydraulic conductivity of the subsurface materials. The data that was collected was evaluated using the Bouwer and Rice (1976) method for unconfined aquifers with partially penetrating monitoring wells to estimate hydraulic conductivity.

Hydraulic conductivity testing was accomplished using an In-Situ Level TROLL® and the accompanying Win-Situ 5® datalogging software. The Win-Situ software allows for the input of field test data followed by a graphical analysis for the aquifer recovery. The Bouwer and Rice formula was then used to calculate an estimate of hydraulic conductivity (K) for the area immediately surrounding the monitoring well.

Hydraulic conductivity data and calculations for both monitoring wells MW-1 and MW-2 are included in Appendix E. As can be seen on the graphs, similar aquifer response was observed at both wells. The estimated K for monitoring well MW-1 was 6.73E-01 ft/day and the estimated K for monitoring well MW-2 was 2.52E+00 ft/day. These values fall within ranges

expected for semi-pervious, generally fine-grained unconsolidated materials with poor aquifer qualities. These K values are consistent with the field observations of the subsurface materials within which the monitoring wells are installed.

4.2.3 Ground Water Sampling

One supplemental round of ground water sampling was conducted in accordance with the approved RI Work Plan, on June 17, 2008. Based on visual and olfactory evidence of heavy petroleum impacts in recovery well RW-1, a ground water sample was not collected from that location. The collected samples from the four monitoring wells were analyzed for TCL VOCs and TCL SVOCs. Table 4 presents a Summary hits table, which indicates an absence of any detectable VOCs or SVOCs in three of the four wells sampled. Of note was the detection of chloroform and six PAH compounds (naphthalene, acenapthene, fluorene, phenanthrene and pyrene in the sample collected from well MW-3, located near West Smith Street.

The detected concentration of chloroform is believed to be a likely artifact of laboratory cross-contamination. However, the detection of the PAHs in this location is consistent with analytical results from previous Site ground water sampling events. As stated in the previous SC Summaries, the source of these constituents is not clear, although previous site ground water studies by other consultants for the nearby Volaro property (located on the corner of West Smith and Dewey Streets, northeast of the Site) had encountered a range of fuel-type contaminants on the subject site, including petroleum product, which were attributed to a possible combination of on-site and off-site sources. Although no direct association with the defined Petroleum Area has been established, some indications of petroleum impacts (i.e., sheens, petroleum odor and total PAHs up to 22,200 ug/kg) were noted in boring SB-20, located between MW-3 and the defined limits of the Petroleum Area.

Also of note was the absence of detectable COCs in MW-2 which is located in proximity to the former holder, and which has yielded detectable benzene in a prior sampling round. Based on these results, while shallow ground water within the defined Petroleum Area is evidently impacted (as evidenced by the physical indications observed in RW-1), the existing Site monitoring data continue to indicate an apparent absence of off-site migration of MGP constituents with ground water.

4.3 Soil Vapor Sample Results

Once laboratory analysis on the soil vapor samples was complete, the data was validated by TRC. A copy of the Data Usability Summary Report is included in Appendix C. Validated analytical results for the soil vapor samples are presented in Table 6A.

New York State currently does not have any standards, criteria or guidance values for concentrations of compounds in soil vapor. Additionally, there are currently no databases available of background levels of VOCs in soil vapor. In the absence of any such criteria, National Grid has chosen to compare soil vapor sample analytical results to screening criteria which assume that the resulting indoor air concentrations are equal to or less than one-tenth of the soil vapor concentrations, as described in "Standard Operating Procedures - Soil Vapor Intrusion Evaluation at National Grid MPG Sites in New York State (O'Brien & Gere, September 2006)."

For the purposes of this report, soil vapor sample results were compared to background concentrations and published health risk concentrations multiplied by a factor of 10. Analytical results for the ambient atmosphere sample, VA, will serve as the site-specific background concentrations to which the soil vapor sample analytical results are compared. Additionally, soil vapor sample analytical results were compared to the typical indoor air concentrations as published in "Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH, 2005)[1]," and "Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (USEPA, 2002)[2]."

Table 6B Summarizes the possible MGP-related constituents detected in the soil vapor samples as compared to the screening criteria discussed above. As shown in Table 6B, possible MGP-related constituents detected in the soil vapor samples included 1,2,4-Trimethylbenzene, benzene, ethylbenzene, p/m-xylene, o-xylene, toluene, nonane, decane, and undecane. None of the detected concentrations of possible MGP-related constituents were above the comparison criteria. In general, the detected concentrations of these constituents were higher in the soil vapor samples than in the ambient air samples. Additionally, the detected concentrations of

[1] NYSDOH, 2005. "Guidance for Evaluating Soil Vapor Intrusion in the State of New York." As recommended by NYSDOH, typical indoor air concentrations in residential settings are the upper fence values from the NYSDOH 2003 Fuel Oil Study data. Typical concentrations in non-residential settings are the 90th percentile values from the USEPA BASE data.

[2] USEPA, 2002. "Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils." $R = 10^{-5}$ used for residential, $R = 10^{-4}$ used for non-residential.

several possible MGP-related constituents were lower in the upgradient soil vapor sample, SV-1, than in the other soil vapor samples.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The primary objective of the RI investigation was to fully delineate the impacts that had been previously identified in two areas of the Site, the former Holder Area and the Petroleum Area. The following section presents a Summary of the findings of the RI in the context of all of the previous Site characterization work that has been performed on-site to assess former MGP impacts.

5.1 Site Soil

MGP tar material has been identified in a limited area within and immediately outside of the former sub-grade holder foundation. Limited thickness of heavily-weathered tar interspersed in the fill material was observed in the bottom of the holder, particularly within the deeper, inner perimeter. Lesser indications of tar impacts, to a maximum thickness of four feet, were noted around exterior portions of the holder. Of note was the limited presence of non-mobile product in the vicinity of the structure. This material is overlain by up to six feet of less-contaminated fill material. Based on the confirmed proximity of petroleum-related impacts to the east, and the results of soil fingerprint analyses, the exterior impacts to the east/southeast of the holder may include a mixture of tar and petroleum residuals.

Middle-weight petroleum type residuals have been delineated in the central portion of the Site (refer to Figure 4). While the source of these impacts cannot be conclusively determined, several former oil storage tanks appear to be the most likely source. The oil tanks, indicated on historical Sanborn Fire Insurance maps, would likely have contained feedstock oil for the carburated water gas process that was instituted on-site circa 1900. Indications of petroleum product were detected consistently within a defined area in the approximate center of the Site, at depths generally between five and 12 feet. The detected NAPL was typically associated with the fine-grained, native soils below the fill layer, extending up to several feet into the coarse sand/gravel unit beneath. Deeper impacts were noted during sampling in several borings within the defined area, however samples collected beneath those impacts indicate that, overall, vertical delineation of impacts has been achieved.

5.2 Site Ground Water

Three rounds of ground water sampling have been performed on-site since initiation of the SC program in 2003. While shallow ground water in the approximate north/central portion

of the Site, particularly within the footprint of the defined Petroleum Area exhibits signs of contamination, ground water characterization activities have continued to demonstrate little to no adverse impacts in downgradient wells. Further, no NAPL has been detected in any of the well network, including the recovery well that was installed during the RI. The absence of signs of potential off-site migration of site contaminants is not surprising given the low ground water gradient, and the fine-grained nature of the impacted soils with relatively low permeability. Therefore, based on the lack of evidence of off-site contaminant migration and the provision of public water in the area, Site ground water is not believed to present a risk.

5.3 Soil Vapor

Several constituents detected in soil vapor samples collected from four locations across the Site may be associated with former MGP operations, however it should be noted that all of these compounds are frequently associated with other, non-MGP related sources such as fuel oils and gasoline. At least one documented petroleum spill in the vicinity of the Site may have contributed to identified site contamination. The majority of the other detected volatile compounds are more likely associated with other non-MGP sources, such as refrigerants, solvents, and other petroleum products.

Based on a review of the data, NYSDEC and NYSDOH has concurred that while several of the compounds detected in the soil vapor samples may be associated with former Site MGP operations, they were detected at low concentrations and do not pose a health risk to Site occupants or neighbors.

5.4 Recommendations

Based on the results of previous site investigations, the nature and extent of impacts to Site soils and ground water has been defined. While these impacts do not appear to present a direct risk to human health or the environment, the present uncontrolled nature of the Site, and the uncertain future use and operations at the Site warrant further evaluation of appropriate management options.

Based on the combined investigation programs associated with the SC, the Supplemental SC, and the recent RI, sufficient information has been developed to characterize the nature and extent of MGP impacts on-site. While additional information may be required in the event remediation is deemed necessary (e.g., pre-characterization of material for disposal, etc.), the

existing dataset is sufficient to support development of a Remedial Action Work Plan, if appropriate.

TABLES

TABLE 1: SUMMARY OF WELL/VAPOR PROBE CONSTRUCTION DETAILS						
Well/Vapor Probe ID	**Depth (ft. bgs.)**	**Diameter (inches)**	**Screened Interval (ft. bgs.)**	**Sandpack/Glass Bead (ft. bgs.)**	**Seal (ft. bgs.)**	**Completion**
MW-1	14	2	4-14	2-14.5	1-2	Finished at grade with a curb box cemented in-place.
MW-2	14	2	4-14	2-14.5	1-2	Finished at grade with a curb box cemented in place.
MW-3	14	2	4-14	2-14.5	1-2	Finished at grade with a curb box cemented in place.
MW-4	14	2	4-14	2-14.5	1-2	Finished at grade with a curb box cemented in place.
RW-1	18	4	8-18	7-18	6-7	Finished at grade with a curb box cemented in place.
SV-1	6	¼	5.5-6.0	4.5-6.0	Hydrated bentonite from top of glass bead to approximately 0.5 ft. bgs.	Finished at grade with a curb box cemented in place.
SV-2	6	¼	5.5-6.0	4.5-6.0	Hydrated bentonite from top of glass bead to approximately 0.5 ft. bgs.	Finished at grade with a curb box cemented in place.
SV-3	6	¼	5.5-6.0	4.5-6.0	Hydrated bentonite from top of glass bead to approximately 0.5 ft. bgs.	Finished at grade with a curb box cemented in place.
SV-3A	5	½	5.0-6.0	3.5-5.0	Hydrated bentonite from top of glass bead to approximately 0.5 ft. bgs.	Finished at grade with a curb box cemented in place.
SV-3B	5	¼	5.0-6.0	3.5-5.0	Hydrated bentonite from top of glass bead to approximately 0.5 ft. bgs.	Finished at grade with a curb box cemented in place.
SV-4	6	¼	5.5-6.0	4.5-6.0	Hydrated bentonite from top of glass bead to approximately 0.5 ft. bgs.	Finished at grade with a curb box cemented in place.
SV-4A	5	½	5.0-6.0	3.5-5.0	Hydrated bentonite from top of glass bead to approximately 0.5 ft. bgs.	Finished at grade with a curb box cemented in place.
SV-4B	5	¼	5.5-6.0	3.5-5.0	Hydrated bentonite from top of glass bead to approximately 0.5 ft. bgs.	Finished at grade with a curb box cemented in place.

TABLE 2: SUMMARY OF SOIL BORING RESULTS Combined SC, Supplemental SC and RI Borings							
Boring Location	**Boring Location**	**Total Depth**	**Description of Impacts***	**Soil Sample ID**	**NAPL**	**Total BTEX (ug/Kg)**	**Total PAHs (ug/Kg)**
SB-01	Immediately west of holder	30 feet	Slight petroleum odor extending from 4-8 feet, and 12-30 feet.	SB-01(2-4)		ND	60
				SB-01(6-8)		ND	67
				SB-01(10-12)		36.7	110
				SB-01(14-16)		16.5	ND
				SB-01(22-24)		ND	ND
				SB-01(26-28)		ND	ND
SB-02	South of holder	30 feet	Slight petroleum odor noted in fill, from 2-4 feet.	SB-02(2-4)		ND	5,675
				SB-02(6-8)		ND	ND
				SB-02(10-12)		ND	ND
				SB-02918-20)		ND	ND
				SB-02(24-26)		ND	ND
SB-03	Near SW site boundary	30 feet	Slight tar-type odor/staining in fill to 4 feet; strong tar odor and PID=18 ppm from 7-8 feet.	SB-03(4-6)		ND	96
				SB-03(6-8)		ND	ND
				SB-03(18-20)		ND	ND
				SB-03(22-24)		ND	ND
				SB-03(26-28)		ND	ND
SB-04	Within holder		Black staining, strong petroleum-type odor and PID=35 ppm noted from 6.5-10 feet.	SB-04(0-2)		NA	2,983
				SB-04(2-4)		ND	1,760
				SB-04(6-8)		1551	4,320
				SB-04(8-10)		2213	6,816
SB-05	Within holder	6 feet	Black staining throughout fill material in holder; tar product noted on brick fragments from holder bottom at 6 feet.	SB-05(0-2)		ND	2,010
				SB-05(4-6)	Yes	ND	468

TABLE 2: SUMMARY OF SOIL BORING RESULTS Combined SC, Supplemental SC and RI Borings							
Boring Location	**Boring Location**	**Total Depth**	**Description of Impacts***	**Soil Sample ID**	**NAPL**	**Total BTEX (ug/Kg)**	**Total PAHs (ug/Kg)**
SB-06	North of holder	15.5 feet	Minor sheen noted on coarse material at depth of 12 feet.	SB-06(4-5)		ND	9,970
				SB-06(6-7)		ND	696
				SB-06(12-13)		ND	45
SB-07	Vicinity of former oil tanks	30 feet	Strong petroleum odor, black staining, sheen and visible product noted from 6-10 feet. Lesser odor and sheen noted throughout remainder of boring (TD:30 feet), which may be due to shallower impacts.	SB-07(4-6)		ND	4420
				SB-07(6-8)	Yes	133	180,000
				SB-07(12-14)		113	2,628
				SB-07(18-20)		ND	74
				SB-07(24-26)		1.7	ND
				SB-07(26-28)		ND	313
SB-08	West of building foundation	30 feet	Visible weathered tar and odor from 6-7 feet. Strong petroleum odor, staining, sheens with high PID=35 ppm, occasional product blebs from 8-12 feet. Odor and sheens extend to bottom of boring, but may be due to shallower impacts.	SB-08(2-4)		ND	159,600
				SB-08(6-8)	Yes	ND	7,370
				SB-08(10-12)		319.4	36,140
				SB-08(18-20)		2.2	902
				SB-08(24-26)		211	1,008
SB-09	Southeast of holder	27.5 feet	Slight tar odor noted from 10-11 feet.	SB-09(2-4)		ND	1,654
				SB-09(4-6)		ND	ND
				SB-09(14-16)		ND	ND
				SB-09(18-20)		ND	ND
				SB-09(26-28)		ND	ND
SB-10	South of building foundation	30 feet	Small band of weathered tar, with odor and staining at 2 feet. Slight tar odor from 2-6 feet.	SB-10(0-2)	Yes	ND	3,026
				SB-10(0-2)		ND	ND
				SB-10(6-8)		ND	ND
				SB-10(18-20)		ND	ND
				SB-10(20-22)		ND	ND
				SB-10(26-28)		ND	ND

TABLE 2: SUMMARY OF SOIL BORING RESULTS Combined SC, Supplemental SC and RI Borings							
Boring Location	**Boring Location**	**Total Depth**	**Description of Impacts***	**Soil Sample ID**	**NAPL**	**Total BTEX (ug/Kg)**	**Total PAHs (ug/Kg)**
SB-11	Southwest of holder	30 feet	Strong petroleum and tar odor and brown/black staining, with high PID=135 ppm, from 8-12 feet. Slight tar odor from 12-24 feet (may be due to shallower impacts).	SB-11(0-2)		ND	ND
				SB-11(8-10)		635	26,250
				SB-11(10-12)		902	21,049
				SB-11(22-24)		ND	59
SB-12	Near West Smith Street	30 feet	Strong petroleum odor, black staining, and sheen from 6-10 feet. Strong odor diminishing with depth to 26 feet (may be due to shallower impacts)	SB-12(2-4)		ND	12,980
				SB-12(6-8)		16.1	43,520
				SB-12(12-14)		ND	ND
				SB-12(16-18)		ND	ND
				SB-12(20-22)		ND	ND
				SB-12(26-28)		ND	ND
SB-13	Within holder	12 feet	Visible tar product, strong odor and sheen noted in lower 2 inches of holder. Heavy sheen, black staining, and strong tar odor noted beneath holder, from 8-12 feet.	SB-13(6-8)	Yes	59,820	77,600
				SB-13(8-10)		ND	35,050
				SB-13(10-12)		34,700	2,461
SB-14	Southwest corner of Site	16 feet	No physical impacts observed.	SB-14(8-10)		ND	ND
				SB-14(14-16)		ND	ND
SB-15	NW corner of Site, next to residence	16 feet	No physical impacts observed.	SB-15(8-10)		ND	ND
				SB-15(14-16)		ND	ND
SB-16A	SW of relic foundation	16 feet	Slight petroelum odor from 5.5 to 10 feet; v.slight odor at 14 feet, with slight sheen noted at 12 feet. High PID=207 ppm at 7 feet.	SB-16A(4-6)		ND	1,484
				SB-16A(6-8)		1.5	16,150
SB-17	NE portion of Site (east of former petroleum tank)	16 feet	No physical impacts observed.	SB-17(8-10)		ND	ND
				SB-17(14-16)		ND	ND

TABLE 2: SUMMARY OF SOIL BORING RESULTS Combined SC, Supplemental SC and RI Borings							
Boring Location	**Boring Location**	**Total Depth**	**Description of Impacts***	**Soil Sample ID**	**NAPL**	**Total BTEX (ug/Kg)**	**Total PAHs (ug/Kg)**
SB-18	SE portion of site, East of relic foundation	16 feet	Slight petroleum odor noted from 8 to 12 feet, with PID=21.5 ppm at 8 feet.	SB-18(8-10)		ND	187
				SB-18(14-16)		ND	ND
SB-19	SE corner of site, adjacent to owner's residence	16 feet	No physical impacts observed although v. slight odor noted during prep. of 8-10 foot sample.	SB-19(8-10)		ND	ND
				SB-19(14-16)		ND	ND
SB-20	North of former oil tanks	16 feet	Sheen and petroleum odor from 5.5 to 8.7, with PID=80.2 ppm at 6 feet.	SB-20(5.5-6)		68	22,200
				SB-20(8-8.5)		ND	9,893
SB-21	Vicinity of former oil tanks	20 feet	NAPL saturation within 4.8 to 14.5 feet, with odor and sheens. High PID=113 at 5.7 feet.	SB-21(5.5-6)	Yes	1,060,000	40,400,000
				SB-21(13.5-14.5)	Yes	1,700	206,700
SB-22	West of former oil tanks	16 feet	Stains and sheen observed from 6 to 9.3 feet.	SB-22(8.5-9)		11,000	77,120
SB-23	Between former oil tank and holder	16 feet	Oil blebs and smearing from 8 to 10.5 feet (PID=high of 14 ppm). Petroleum odor noted in 12 to 16 foot core sample..	SB-23(7.5-8)		62	94,900
				SB-23(8.8-9.2)	Yes	800	42,170
SB-24	South of former oil tanks	20 feet	Petroleum blebs and odor from 6.3 to 10.4. NAPL saturated soil from 10.4 to 11.3. Blebs, odor and sheen to 17 feet.	SB-24(5-5.5)		44,000	825,000
				SB-24(10.8-11.3)	Yes	18,100	929,700
SB-25	Center of relic foundation	16 feet	Product noted in core sample; strong petroleum odor from 8 to 11.1 feet and at 12 feet. Floating product noted in top of sleeve.	SB-25(9-9.5)	Yes	370	274,300
				SB-25(12-12.5)		119	963
SB-26	South of former oil tanks	16 feet	Oil blebs and odor noted from 6.6 to 7.1 feet (poor recovery below). NAPL and odor noted within 8.4 to 10 foot interval.	SB-26(6.6-7.1)	Yes	ND	17,400
				SB-26(9-9.5)		2,840	16,950
SB-27	SW of former oil tanks	16 feet	Sheen and odor noted in 8.7 to 10.4 foot interval (PID=1 ppm). Slight odor from 12 to 13 feet.	SB-27(9-9.5)		4,310	36,700

TABLE 2: SUMMARY OF SOIL BORING RESULTS Combined SC, Supplemental SC and RI Borings							
Boring Location	**Boring Location**	**Total Depth**	**Description of Impacts***	**Soil Sample ID**	**NAPL**	**Total BTEX (ug/Kg)**	**Total PAHs (ug/Kg)**
SB-28	SW corner of relic foundation	16 feet	No physical impacts observed.	SB-28(9-9.5)		ND	ND
SB-29	Immediately outside SE edge of holder	20 feet	Tar-like odor noted at 6+ feet; tar blebs observed in 6.2 to 9.7 feet, with odor and sheen. Slight sheen noted to 14 feet; slight odor to 18 feet..	SB-29(7-7.5)	Yes	10,800	167,400
				SB-29(8-8.5)	Yes	37,620	46,320
				SB-29(16-16.5)		ND	ND
SB-30	Immediately outside east edge of holder	20 feet	Petroleum odor and blebs noted in 8 to 10.8 interval. Slight odor noted to 12.2 feet.	SB-30(9-9.5)	Yes	4,250	8,856
				SB-30(16-16.5)		ND	ND
SB-31B	Immediately outside north edge of holder	20 feet	Visible tar with odor noted within 6.5 to 8.5 foot interval.	SB-31B(8-8.5)	Yes	ND	145
				SB-31B(12-12.7)		ND	ND
SB-32B	Within northern side of holder	20 feet	Visible tar in sampler tip at 6.6 feet, and suspected holder bottom at 8 feet. Tar blebs and sheens below holder botom to 11.5 feet (poor recoveries). V. slight odor only noted from 12 to 14.2 feet.	SB-32B(6-6.5)	Yes	620	14,760
				SB-32B(11-11.5)	Yes	51,280	102,100
				SB-32B(13.7-14.2)		ND	ND
SB-33B	Within northern side of holder (near SB-33B)	12 feet	Occasional indications of tar at 8 to 8.6 foot interval; oily blebs noted in organic peat from 8.6 to 9.6 feet.	SB-33B(7-7.6)	Yes	2,170	12,680
				SB-33B(11-11.5)		ND	777
SB-34	Immediately outsdie SW edge of holder	20 feet	Visible tar, staining, and odor noted in 5.3 to 9.1 interval. Slight odor observed to 14.4 feet.	SB-34(5.3-5.7)	Yes	ND	81,580
				SB-34(13.8-14.4)		1,441	140
SB-35	Within western side of holder	15 feet	Wet tar noted in 5.5-6.1 foot interval. Slight sheen from 7 to 9 feet, and from 11 to 14.3 feet.	SB-35(5.5-6.1)	Yes	16,700	97,800
				SB-35(13-14)		139.2	136
SB-36	Immediately north of relic foundation, on pathway	15 feet	Slight sheen and odor noted in 8.3 to 8.5 foot interval.	SB-36(8.3-8.8)		ND	287
				SB-36(12.4-12.9)		ND	ND

TABLE 2: SUMMARY OF SOIL BORING RESULTS Combined SC, Supplemental SC and RI Borings							
Boring Location	**Boring Location**	**Total Depth**	**Description of Impacts***	**Soil Sample ID**	**NAPL**	**Total BTEX (ug/Kg)**	**Total PAHs (ug/Kg)**
SB-37	Immediately north of former oil tanks	15 feet	Oil blebs with odor and sheen at 5+ feet (poor recoveries). Sheen and petroleum odor in 8 to 9 foot interval. Slight odor at 14 feet.	SB-37(6-6.5)	Yes	23	12611
				SB-37(8.4-9)		27	5355
				SB-37(14-14.5)		ND	ND
SB-38	Eastern edge of relic foundation	12 feet	Obstructions and poor recoveries. No physical impacts observed.	SB-38(5-5.5)		ND	228,000
				SB-38(10.5-11)		ND	1,160
SB-39	North/cental site boundary, near W. Smith St.	15 feet	No physical indications of impacts observed.	SB-39(5.5-6)		ND	198
				SB-39(9-9.8)		ND	ND
SB-40	South/central portion of Site	15 feet	No physical indications of impacts observed.	SB-40(8-8.5)		ND	126
SB-41	West of relic foundation, south of former oil tanks	20 feet	Oil blebs and odor from 8 to 11.2 feet. NAPL saturated soil from 12 to 12.5 feet (poor recovery beneath). Product noted in 16 to 18 foot interval. Slight sheen and odor noted to 19.8 feet.	SB-41(6-6.5)		236	50,690
				SB-41(9-10)	Yes	2,510	21,250
				SB-41(19.3-19.8)		ND	573

TABLE 3
Soil Sample Analytical Results (ug/Kg)
Remedial Investigation
Herkimer (W. Smith St.) Former MGP Site

Parameters	NYSDEC Part 375 Restricted Residential Soil Cleanup Objectives	SB-20	SB-20 DL	SB-20	SB-20 DL	SB-21	SB-21 DL	SB-21 DL2
		5.5-6.0	5.5-6.0	8.0-8.5	8.0-8.5	5.5-6.0	5.5-6.0	5.5-6.0
		5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008	5/19/2008
VOCs - EPA Method 8260 (ug/Kg)								
Benzene	4,800	3.5 U		54 U		28000	3600 U	
Toluene	100,000	4.3 U		25 U		89000 E	150000 D	
Ethyl Benzene	41,000	3.9 U		7.7 U		310000 E	460000 D	
m/p-Xylenes	100,000*	21 J		73 U		200000 E	340000 D	
o-Xylene	100,000*	47		25 U		66000	110000 D	
Total BTEX		68		ND		693000	1060000	
SVOCs - EPA Method 8270 (ug/Kg)								
Acenaphthene	100,000	4700 E	4600 D	1400	1400 D	2600000 E	3200000 ED	4000000 ED
Acenaphthylene	100,000	430	380 JD	170 J	150 JD	1300000 E	1500000 ED	1800000 D
Anthracene	100,000	1700	1600 JD	770	730 JD	790000 E	890000 ED	960000 D
Benzo(a)anthracene	1,000	720	640 JD	360 J	350 JD	460000 E	480000 D	500000 D
Benzo(a)pyrene	1,000	750	690 JD	410 J	370 JD	560000 E	570000 D	640000 D
Benzo(b)fluoranthene	1,000	610	520 JD	290 J	300 JD	450000 E	430000 D	460000 D
Benzo(g,h,i)perylene	100,000	420 J	380 JD	260 J	240 JD	370000 E	330000 D	380000 JD
Benzo(k)fluoranthene	3,900	200 J	97 UD	99 J	93 JD	88000	110000 D	130000 JD
Chrysene	3,900	750	740 JD	350 J	350 JD	370000 E	400000 D	430000 D
Dibenz(a,h)anthracene	330	76 J	160 UD	30 U	60 UD	30000	35000 JD	40000 JD
Fluoranthene	100,000	2400	2300 D	1100	1200 D	1900000 E	2000000 ED	2400000 D
Fluorene	100,000	1900	1700 JD	590	560 JD	1300000 E	1400000 ED	1900000 D
Indeno(1,2,3-cd)pyrene	500	270 J	250 JD	160 J	150 JD	240000 E	220000 D	220000 JD
Naphthalene	100,000	100 J	51 UD	51 J	20 UD	9000000 E J	10000000 ED	16000000 ED
Phenanthrene	100,000	5800 E	5600 D	2500 E	2500 D	3700000 E	4700000 ED	5900000 ED
Pyrene	100,000	3000 E	2800 D	1500	1500 D	2100000 E	2600000 ED	3000000 ED
Total PAHs		23,826	22,200	10,010	9,893	25,258,000	28,865,000	38,760,000

NOTES:

Bold indicates the constituent was detected.

Numbers in bold and shaded indicate the constituent was detected above the NYSDEC Part 375 Criteria.

U = The compound was not detected above the method detection limit (MDL) indicated.

J = The listed concentration is estimated

B = The analyte was found in the laboratory blank as well as the sample.

D = The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.

E (Organics) = Indicates the analyte 's concentration exceeds the calibrated range of the instrument for that specific analysis.

E (Inorganics) = The reported value is estimated because of the presence of interference.

ug/kg = micrograms per kilogram, or parts per billion (ppb).

DL = Diluted sample analyses.

Blank spaces indicate the given analysis was not performed.

*Criterion for xylene applies to m/p and o-xylenes.

TABLE 3
Soil Sample Analytical Results (ug/Kg)
Remedial Investigation
Herkimer (W. Smith St.) Former MGP Site

Parameters	NYSDEC Part 375 Restricted Residential Soil Cleanup	SB-21 DL3 5.5-6.0 5/19/2008	SB-21 DL4 5.5-6.0 5/19/2008	SB-21 13.5-14.5 5/19/2008	SB-21 DL 13.5-14.5 5/19/2008	SB-21 DL2 13.5-14.5 5/19/2008	SB-21 DL3 13.5-14.5 5/19/2008	SB-22 8.5-9.0 5/19/2008
VOCs - EPA Method 8260 (ug/Kg)								
Benzene	4,800			60 U				55 U
Toluene	100,000			27 U				25 U
Ethyl Benzene	41,000			740 J				3300
m/p-Xylenes	100,000*			710 J				4900
o-Xylene	100,000*			250 J				2800
Total BTEX				1700				11000
SVOCs - EPA Method 8270 (ug/Kg)								
Acenaphthene	100,000	4200000 D	4600000 JD	28000 E	32000 ED	34000 D	33000 D	10000 E
Acenaphthylene	100,000	1900000 JD	1700000 JD	2400	2800 D	2300 JD	330 UD	1100
Anthracene	100,000	960000 JD	1100000 JD	7900 E	8100 D	7800 JD	6700 JD	3500 E
Benzo(a)anthracene	1,000	530000 JD	240000 UD	4000 E	4100 D	3700 JD	3900 JD	1500
Benzo(a)pyrene	1,000	680000 JD	290000 UD	4900 E	4800 D	5000 JD	4200 JD	1900
Benzo(b)fluoranthene	1,000	500000 JD	720000 UD	3600	3500 D	4100 JD	2900 JD	1400
Benzo(g,h,i)perylene	100,000	430000 JD	720000 UD	3400	3400 D	3400 JD	3000 JD	1200
Benzo(k)fluoranthene	3,900	91000 UD	460000 UD	850	940 JD	520 UD	1000 UD	410 J
Chrysene	3,900	450000 JD	180000 UD	3800 E	3900 D	4000 JD	3600 JD	1500
Dibenz(a,h)anthracene	330	150000 UD	730000 UD	330 J	290 JD	830 UD	1700 UD	170 J
Fluoranthene	100,000	2400000 D	2400000 JD	14000 E	14000 D	14000 D	15000 JD	5000 E
Fluorene	100,000	1900000 JD	1600000 JD	9500 E	10000 D	11000 JD	8400 JD	4100 E
Indeno(1,2,3-cd)pyrene	500	250000 JD	250000 UD	2100	2000 JD	1600 JD	570 UD	770
Naphthalene	100,000	18000000 ED	19000000 D	48000 E	58000 ED	69000 ED	70000 D	13000 E
Phenanthrene	100,000	6500000 D	7000000 JD	31000 E	35000 ED	38000 D	38000 D	12000 E
Pyrene	100,000	3100000 D	3000000 JD	17000 E	19000 ED	19000 D	18000 JD	6100 E
Total PAHs		41800000	40,400,000	180,780	201,830	216,900	206,700	63,650

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*Criterion for xylene applies to m/p and o-xylenes.

TABLE 3
Soil Sample Analytical Results (ug/Kg)
Remedial Investigation
Herkimer (W. Smith St.) Former MGP Site

Parameters	NYSDEC Part 375 Restricted Residential Soil Cleanup	SB-22 DL 8.5-9.0 5/19/2008	SB-22 DL2 8.5-9.0 5/19/2008	SB-23 7.5-8.0 5/19/2008	SB-23 DL 7.5-8.0 5/19/2008	SB-23 DL2 7.5-8.0 5/19/2008	SB-23 8.8-9.2 5/19/2008	SB-23 DL 8.8-9.2 5/19/2008
VOCs - EPA Method 8260 (ug/Kg)								
Benzene	4,800			4.9 U			4.9 U	
Toluene	100,000			6 U			6 U	
Ethyl Benzene	41,000			25 J			420	
m/p-Xylenes	100,000*			13 U			100	
o-Xylene	100,000*			37			280	
Total BTEX				62			800	
SVOCs - EPA Method 8270 (ug/Kg)								
Acenaphthene	100,000	12000 D	13000 D	11000 E	12000 D	11000 D	7900 E	7300 D
Acenaphthylene	100,000	950 JD	1200 JD	1900	2400 D	1700 JD	640	530 JD
Anthracene	100,000	3800 D	4000 JD	7200 E	7400 D	7000 D	2200	1900 JD
Benzo(a)anthracene	1,000	1600 JD	1800 JD	3900 E	3800 D	3600 JD	960	790 JD
Benzo(a)pyrene	1,000	1800 JD	1900 JD	4200 E	4000 D	3700 JD	1300	990 JD
Benzo(b)fluoranthene	1,000	1400 JD	1400 JD	3300	3200 D	2800 JD	890	680 JD
Benzo(g,h,i)perylene	100,000	1200 JD	1200 JD	2800	2800 D	2500 JD	910	640 JD
Benzo(k)fluoranthene	3,900	360 JD	490 JD	960	850 JD	1100 JD	350 J	340 JD
Chrysene	3,900	1600 JD	1700 JD	3900 E	3700 D	3400 JD	950	810 JD
Dibenz(a,h)anthracene	330	150 UD	310 UD	310 J	320 JD	330 UD	100 J	160 UD
Fluoranthene	100,000	5400 D	5900 D	12000 E	12000 D	12000 D	3000 E	2600 D
Fluorene	100,000	4500 D	5000 D	5300 E	5300 D	5600 D	2800 E	2500 D
Indeno(1,2,3-cd)pyrene	500	700 JD	730 JD	1800	1700 JD	1500 JD	510	430 JD
Naphthalene	100,000	15000 ED	16000 D	190 J	55 UD	110 UD	17000 E	15000 ED
Phenanthrene	100,000	14000 ED	15000 D	21000 E	23000 ED	23000 D	7900 E	7300 D
Pyrene	100,000	6900 D	7800 D	17000 E	16000 D	16000 D	3800 E	3300 D
Total PAHs		71,210	77,120	96,760	98,470	94,900	51,210	45,110

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E (Inorganics) = The reported value is estimated because of the presence of interference.
µg/kg = micrograms per kilogram, or parts per billion (ppb).
DL = Diluted sample analyses.
Blank spaces indicate the given analysis was not performed.
*Criterion for xylene applies to m/p and o-xylenes.

TABLE 3
Soil Sample Analytical Results (ug/Kg)
Remedial Investigation
Herkimer (W. Smith St.) Former MGP Site

Parameters	NYSDEC Part 375 Restricted Residential Soil Cleanup	SB-23 DL2 8.8-9.2 5/19/2008	SB-24 5.0-5.5 5/20/2008	SB-24 DL 5.0-5.5 5/20/2008	SB-24 DL2 5.0-5.5 5/20/2008	SB-24 DL3 5.0-5.5 5/20/2008	SB-24 DL4 5.0-5.5 5/20/2008	SB-24 10.8-11.3 5/20/2008
VOCs - EPA Method 8260 (ug/Kg)								
Benzene	4,800		4.9 U	60 U				340
Toluene	100,000		30 J	27 U				85
Ethyl Benzene	41,000		7400 E	16000 D				8800 E
m/p-Xylenes	100,000*		9500 E	18000 D				5900 E
o-Xylene	100,000*		5400 E	10000 D				4900 E
Total BTEX			22330	44000				20025
SVOCs - EPA Method 8270 (ug/Kg)								
Acenaphthene	100,000	7100 D	74000 E	100000 ED	120000 ED	120000 D	130000 D	110000 E
Acenaphthylene	100,000	510 JD	7200 E	6900 D	6700 JD	7300 JD	1700 UD	11000 E
Anthracene	100,000	1800 JD	24000 E	33000 ED	32000 D	32000 JD	31000 JD	38000 E
Benzo(a)anthracene	1,000	760 JD	13000 E	14000 D	14000 D	14000 JD	14000 JD	20000 E
Benzo(a)pyrene	1,000	990 JD	12000 E	14000 D	13000 D	15000 JD	12000 JD	23000 E
Benzo(b)fluoranthene	1,000	650 JD	11000 E	11000 D	11000 JD	12000 JD	8100 UD	18000 E
Benzo(g,h,i)perylene	100,000	660 JD	7500 E	7500 D	7900 JD	7900 JD	8200 UD	15000 E
Benzo(k)fluoranthene	3,900	200 UD	2000	2900 D	2800 JD	2600 UD	5200 UD	3900
Chrysene	3,900	800 JD	10000 E	13000 D	13000 D	12000 JD	13000 JD	17000 E
Dibenz(a,h)anthracene	330	320 UD	1100	1400 JD	830 UD	4200 UD	8300 UD	1800
Fluoranthene	100,000	2500 JD	34000 E	43000 ED	46000 D	45000 JD	47000 JD	59000 E
Fluorene	100,000	2300 JD	7700 E	33000 ED	38000 D	39000 JD	37000 JD	41000 E
Indeno(1,2,3-cd)pyrene	500	110 UD	5300 E	5100 D	4700 JD	1400 UD	2900 UD	10000 E
Naphthalene	100,000	14000 D	170000 E	230000 ED	320000 ED	350000 ED	350000 D	190000 E
Phenanthrene	100,000	7000 D	70000 E	110000 ED	120000 ED	120000 D	130000 D	110000 E
Pyrene	100,000	3100 JD	43000 E	55000 ED	58000 D	60000 D	61000 JD	75000 E
Total PAHs		42,170	491,800	679,800	807,100	834,200	825,000	742,700

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E (Organics) = Indicates the analyte 's concentration exceeds the calibrated range of the instrument for that specific analysis.
E (Inorganics) = The reported value is estimated because of the presence of interference.
µg/kg = micrograms per kilogram, or parts per billion (ppb).
DL = Diluted sample analyses.
Blank spaces indicate the given analysis was not performed.
*Criterion for xylene applies to m/p and o-xylenes.

TABLE 3
Soil Sample Analytical Results (ug/Kg)
Remedial Investigation
Herkimer (W. Smith St.) Former MGP Site

Parameters	NYSDEC Part 375 Restricted Residential Soil Cleanup	SB-24 DL 10.8-11.3 5/20/2008	SB-24 DL2 10.8-11.3 5/20/2008	SB-24 DL3 10.8-11.3 5/20/2008	SB-25 9.0-9.5 5/20/2008	SB-25 DL 9.0-9.5 5/20/2008	SB-25 DL2 9.0-9.5 5/20/2008	SB-25 DL3 9.0-9.5 5/20/2008
VOCs - EPA Method 8260 (ug/Kg)								
Benzene	4,800	97 U			4.7 U			
Toluene	100,000	44 U			5.8 U			
Ethyl Benzene	41,000	**9000 D**			**140**			
m/p-Xylenes	100,000*	**5000 D**			**130**			
o-Xylene	100,000*	**4100 D**			**100**			
Total BTEX		**18100**			**370**			
SVOCs - EPA Method 8270 (ug/Kg)								
Acenaphthene	100,000	**110000 ED**	**130000 ED**	**130000 D**	**24000 E**	**29000 ED**	**30000 D**	**31000 D**
Acenaphthylene	100,000	**8400 D**	**8700 JD**	**9700 JD**	**3800 E**	**4900 D**	**3900 JD**	**3400 JD**
Anthracene	100,000	**39000 ED**	**40000 D**	**38000 JD**	**16000 E**	**19000 ED**	**18000 D**	**18000 JD**
Benzo(a)anthracene	1,000	**17000 D**	**18000 JD**	**18000 JD**	**8500 E**	**9500 D**	**8200 JD**	**8200 JD**
Benzo(a)pyrene	1,000	**22000 D**	**23000 D**	**23000 JD**	**9900 E**	**11000 D**	**10000 JD**	**11000 JD**
Benzo(b)fluoranthene	1,000	**16000 D**	**15000 JD**	**16000 JD**	**8000 E**	**8200 D**	**8000 JD**	**7600 JD**
Benzo(g,h,i)perylene	100,000	**15000 D**	**14000 JD**	**15000 JD**	**6800 E**	**6500 D**	**6800 JD**	**6600 JD**
Benzo(k)fluoranthene	3,900	**4100 D**	**5900 JD**	4200 UD	**1600**	**2100 JD**	**2300 JD**	**2700 JD**
Chrysene	3,900	**17000 D**	**17000 JD**	**17000 JD**	**7700 E**	**9400 D**	**9700 JD**	**11000 JD**
Dibenz(a,h)anthracene	330	**1900 JD**	**2000 JD**	6700 UD	**820**	**790 JD**	800 UD	1600 UD
Fluoranthene	100,000	**61000 ED**	**64000 D**	**63000 JD**	**27000 E**	**31000 ED**	**32000 D**	**35000 D**
Fluorene	100,000	**41000 ED**	**44000 D**	**45000 JD**	**14000 E**	**15000 D**	**17000 D**	**15000 JD**
Indeno(1,2,3-cd)pyrene	500	**9000 D**	**8300 JD**	2300 UD	**4200 E**	**4200 D**	**3800 JD**	**4300 JD**
Naphthalene	100,000	**240000 ED**	**290000 ED**	**310000 D**	**2500**	**2900 D**	**2400 JD**	**2500 JD**
Phenanthrene	100,000	**130000 ED**	**150000 ED**	**160000 D**	**48000 E**	**64000 ED**	**68000 ED**	**73000 D**
Pyrene	100,000	**78000 ED**	**82000 D**	**85000 JD**	**32000 E**	**42000 ED**	**42000 D**	**45000 D**
Total PAHs		**809,400**	**911,900**	**929,700**	**214,820**	**259,490**	**262,100**	**274,300**

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E (Organics) = Indicates the analyte 's concentration exceeds the calibrated range of the instrument for that specific analysis.
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µg/kg = micrograms per kilogram, or parts per billion (ppb).
DL = Diluted sample analyses.
Blank spaces indicate the given analysis was not performed.
*Criterion for xylene applies to m/p and o-xylenes.

TABLE 3
Soil Sample Analytical Results (ug/Kg)
Remedial Investigation
Herkimer (W. Smith St.) Former MGP Site

Parameters	NYSDEC Part 375 Restricted Residential Soil Cleanup	SB-25 12.0-12.5 5/20/2008	SB-26 6.6-7.1 5/20/2008	SB-26 DL 6.6-7.1 5/20/2008	SB-26D NA 5/20/2008	SB-26 9.0-9.5 5/20/2008	SB-26 DL 9.0-9.5 5/20/2008	SB-27 9.0-9.5 5/19/2008
VOCs - EPA Method 8260 (ug/Kg)								
Benzene	4,800	4.9 U	4.7 U		4.9 U	52 U		54 U
Toluene	100,000	6 U	5.7 U		6 U	24 U		25 U
Ethyl Benzene	41,000	**50**	5.2 U		5.4 U	**1500**		**2000**
m/p-Xylenes	100,000*	**40 J**	12 U		13 U	**700 J**		**1400 J**
o-Xylene	100,000*	**29 J**	4.9 U		5.2 U	**640 J**		**910**
Total BTEX		**119**	ND		ND	**2840**		**4310**
SVOCs - EPA Method 8270 (ug/Kg)								
Acenaphthene	100,000	**180 J**	**1000**	990 D	**990**	**3200 E**	**3200 D**	**5500 E**
Acenaphthylene	100,000	6.6 U	**420 J J**	350 JD J	**190 J J**	**200 J**	**170 JD**	**310 J**
Anthracene	100,000	**46 J**	**1100 J**	1000 D J	**810 J**	**1000**	**990 D**	**1800**
Benzo(a)anthracene	1,000	11 U	**980 J**	930 D J	**480 J**	**510**	**480 JD**	**910**
Benzo(a)pyrene	1,000	13 U	**1200 J**	**1200 D J**	**560 J**	**580**	**530 JD**	**870**
Benzo(b)fluoranthene	1,000	33 U	**970 J**	920 D J	**450 J**	**430**	**430 JD**	**760**
Benzo(g,h,i)perylene	100,000	33 U	**880 J**	770 JD J	**410 J J**	**340 J**	**300 JD**	**520**
Benzo(k)fluoranthene	3,900	21 U	**310 J J**	310 JD J	**140 J J**	**150 J**	**140 JD**	**240 J**
Chrysene	3,900	8.4 U	**1000 J**	**1000 D J**	**480 J**	**490**	**520 JD**	**840**
Dibenz(a,h)anthracene	330	33 U	**140 J J**	**100 JD J**	**59 J J**	**53 J**	58 UD	**52 J**
Fluoranthene	100,000	**110 J**	**2700 E J**	2600 D J	**1500 J**	**1500**	**1500 D**	**2500**
Fluorene	100,000	**67 J**	**500**	500 JD	**490**	**1100**	**1000 D**	**1800**
Indeno(1,2,3-cd)pyrene	500	11 U	**610 J**	530 JD J	**260 J J**	**230 J**	**190 JD**	**310 J**
Naphthalene	100,000	**210 J**	11 U	21 UD	11 U	**2000**	**1900 D**	**12000 E**
Phenanthrene	100,000	**200 J**	**2600**	2600 D	**2300**	**3700 E**	**3700 D**	**6100 E**
Pyrene	100,000	**150 J**	**3600 E J**	3600 D J	**2000 J**	**1900**	**1900 D**	**3500 E**
Total PAHs		**963**	**18,010**	**17,400**	**11,119**	**17,383**	**16,950**	**38,012**

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µg/kg = micrograms per kilogram, or parts per billion (ppb).
DL = Diluted sample analyses.
Blank spaces indicate the given analysis was not performed.
*Criterion for xylene applies to m/p and o-xylenes.

TABLE 3
Soil Sample Analytical Results (ug/Kg)
Remedial Investigation
Herkimer (W. Smith St.) Former MGP Site

Parameters	NYSDEC Part 375 Restricted Residential Soil Cleanup	SB-27 DL 9.0-9.5 5/19/2008	SB-27 DL2 9.0-9.5 5/19/2008	SB-28 9.0-9.5 5/20/2008	SB-29 7.0-7.5 5/21/2008	SB-29 DL 7.0-7.5 5/21/2008	SB-29 DL2 7.0-7.5 5/21/2008	SB-29D NA 5/21/2008
VOCs - EPA Method 8260 (ug/Kg)								
Benzene	4,800			4.7 U	5 U	62 U		5 U
Toluene	100,000			5.8 U	27 J J	28 U J		66 J
Ethyl Benzene	41,000			5.3 U	2100 E J	3300 D J		3800 E J
m/p-Xylenes	100,000*			12 U	3100 E J	5600 D J		5100 E J
o-Xylene	100,000*			5 U	1100 E J	1900 D J		1800 E J
Total BTEX				ND	6327	10800		10766
SVOCs - EPA Method 8270 (ug/Kg)								
Acenaphthene	100,000	5300 D	5400 D	9.4 U	11000 E	12000 D	12000 D	10000 E
Acenaphthylene	100,000	370 JD	60 UD	6.4 U	3900 E	4200 D	3900 JD	4400 E
Anthracene	100,000	1600 JD	1700 JD	15 U	6300 E	6400 D	7100 JD	6300 E
Benzo(a)anthracene	1,000	730 JD	790 JD	10 U	3000	3000 D	3000 JD	3000
Benzo(a)pyrene	1,000	880 JD	750 JD	13 U	3100	3200 D	2800 JD	3200
Benzo(b)fluoranthene	1,000	620 JD	690 JD	31 U	2500	2600 D	2200 JD	2500
Benzo(g,h,i)perylene	100,000	510 JD	490 JD	31 U	2000	2000 JD	1900 JD	2100
Benzo(k)fluoranthene	3,900	260 JD	190 UD	20 U	750	730 JD	1200 JD	750
Chrysene	3,900	820 JD	780 JD	8.1 U	2800	2800 D	3300 JD	2800
Dibenz(a,h)anthracene	330	150 UD	300 UD	32 U	210 J	250 JD	850 UD	220 J
Fluoranthene	100,000	2500 D	2400 JD	11 U	9100 E	9300 D	10000 JD	9100 E
Fluorene	100,000	1800 JD	1600 JD	12 U	6300 E	6600 D	6500 JD	6400 E
Indeno(1,2,3-cd)pyrene	500	300 JD	100 UD	11 U	1300	1300 JD	1500 JD	1300
Naphthalene	100,000	13000 ED	13000 D	10 U	49000 E	64000 ED	74000 D	49000 E
Phenanthrene	100,000	6000 D	6100 D	14 U	20000 E	23000 ED	25000 D	20000 E
Pyrene	100,000	3000 D	3000 JD	9.5 U	12000 E	12000 D	13000 D	12000 E
Total PAHs		37,690	36,700	ND	133,260	153,380	167,400	133,070

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TABLE 3
Soil Sample Analytical Results (ug/Kg)
Remedial Investigation
Herkimer (W. Smith St.) Former MGP Site

Parameters	NYSDEC Part 375 Restricted Residential Soil Cleanup	SB-29DDL NA 5/21/2008	SB-29DDL2 NA 5/21/2008	SB-29 8.0-8.5 5/21/2008	SB-29 DL 8.0-8.5 5/21/2008	SB-29 DL2 8.0-8.5 5/21/2008	SB-29 16.0-16.5 5/21/2008	SB-30 9.0-9.5 5/21/2008
VOCs - EPA Method 8260 (ug/Kg)								
Benzene	4,800	61 U		24 J	51 U		4.2 U J	4.9 U
Toluene	100,000	28 U		250	520 JD		5.2 U J	5.9 U
Ethyl Benzene	41,000	**6900 D**		**18000 E J**	**11000 D**		4.7 U J	**960 E**
m/p-Xylenes	100,000*	**12000 D**		**28000 E J**	**20000 D**		11 U J	**1600 E**
o-Xylene	100,000*	**3900 D**		**6800 E J**	**6100 D**		4.5 U J	**500**
Total BTEX		**22800**		**53074**	**37620**		ND	**3060**
SVOCs - EPA Method 8270 (ug/Kg)								
Acenaphthene	100,000	**11000 D**	**11000 JD**	**2200**	**2200 D**	**2400 JD**	8.4 U	**1600**
Acenaphthylene	100,000	**4600 D**	**4500 JD**	**2100**	**2100 D**	**2300 JD**	5.7 U	**110 J**
Anthracene	100,000	**6200 D**	**6200 JD**	**1700**	**1700 JD**	**1700 JD**	13 U	**280 J**
Benzo(a)anthracene	1,000	**2900 D**	**3100 JD**	**810**	**800 JD**	**860 JD**	9.4 U	**110 J**
Benzo(a)pyrene	1,000	**3100 D**	**2700 JD**	**870**	**760 JD**	**820 JD**	11 U	**130 J**
Benzo(b)fluoranthene	1,000	**2600 D**	**2400 JD**	**660**	**600 JD**	**690 JD**	28 U	**100 J**
Benzo(g,h,i)perylene	100,000	**2000 JD**	**1800 JD**	**520**	**510 JD**	**570 JD**	28 U	**100 J**
Benzo(k)fluoranthene	3,900	**710 JD**	530 UD	**240 J**	**260 JD**	180 UD	18 U	21 U
Chrysene	3,900	**2800 D**	**3100 JD**	**800**	**850 JD**	**780 JD**	7.2 U	**110 J**
Dibenz(a,h)anthracene	330	**240 JD**	840 UD	**48 J**	140 UD	290 UD	29 U	34 U
Fluoranthene	100,000	**9200 D**	**9600 JD**	**2500**	**2600 D**	**2700 JD**	9.4 U	**470**
Fluorene	100,000	**6400 D**	**6400 JD**	**1800**	**1700 JD**	**1900 JD**	10 U	**490**
Indeno(1,2,3-cd)pyrene	500	**1300 JD**	**1200 JD**	**320 J**	**310 JD**	98 UD	9.8 U	**56 J**
Naphthalene	100,000	**62000 ED**	**74000 D**	**16000 E**	**19000 ED**	**21000 D**	9.4 U	**3500 J**
Phenanthrene	100,000	**23000 ED**	**24000 D**	**6000 E**	**6400 D**	**7000 D**	12 U	**1200**
Pyrene	100,000	**13000 D**	**13000 D**	**3500 E**	**3500 D**	**3600 JD**	8.5 U	**600**
Total PAHs		**151,050**	**163,000**	**40,068**	**43,290**	**46,320**	ND	**8,856**

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TABLE 3
Soil Sample Analytical Results (ug/Kg)
Remedial Investigation
Herkimer (W. Smith St.) Former MGP Site

Parameters	NYSDEC Part 375 Restricted Residential Soil Cleanup	SB-30 DL 9.0-9.5 5/21/2008	SB-30 16.0-16.5 5/21/2008	SB-31B 8.0-8.5 5/21/2008	SB-31B 12.0-12.7 5/21/2008
VOCs - EPA Method 8260 (ug/Kg)					
Benzene	4,800	61 U	4.5 U	4.6 U	4.7 U
Toluene	100,000	28 U	5.5 U	5.7 U	5.7 U
Ethyl Benzene	41,000	**1100 D**	5 U	5.1 U	5.2 U
m/p-Xylenes	100,000*	**2300 D**	12 U	12 U	12 U
o-Xylene	100,000*	**850 JD**	4.7 U	4.9 U	4.9 U
Total BTEX		**4250**	ND	ND	ND
SVOCs - EPA Method 8270 (ug/Kg)					
Acenaphthene	100,000		9 U	9.3 U	9.5 U
Acenaphthylene	100,000		6.1 U	6.3 U	6.4 U
Anthracene	100,000		14 U	14 U	15 U
Benzo(a)anthracene	1,000		10 U	10 U	11 U
Benzo(a)pyrene	1,000		12 U	13 U	13 U
Benzo(b)fluoranthene	1,000		30 U	31 U	32 U
Benzo(g,h,i)perylene	100,000		30 U	31 U	32 U
Benzo(k)fluoranthene	3,900		19 U	20 U	20 U
Chrysene	3,900		7.8 U	8 U	8.2 U
Dibenz(a,h)anthracene	330		31 U	32 U	32 U
Fluoranthene	100,000		10 U	**57 J**	11 U
Fluorene	100,000		11 U	12 U	12 U
Indeno(1,2,3-cd)pyrene	500		11 U	11 U	11 U
Naphthalene	100,000		10 U	10 U	11 U
Phenanthrene	100,000		13 U	13 U	14 U
Pyrene	100,000		9.1 U	**88 J**	9.6 U
Total PAHs			ND	**145**	ND

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Blank spaces indicate the given analysis was not performed.
*Criterion for xylene applies to m/p and o-xylenes.

TABLE 3
Soil Sample Analytical Results (ug/Kg)
Remedial Investigation
Herkimer (W. Smith St.) Former MGP Site

Parameters	NYSDEC Part 375 Restricted Residential Soil Cleanup	SB-32B 6-6.5 5/22/2008	SB-32B DL 6-6.5 5/22/2008	SB-32B 11.0-11.5 5/22/2008	SB-32B DL 11.0-11.5 5/22/2008	SB-32B DL2 11.0-11.5 5/22/2008	SB-32B 13.7-14.2 5/22/2008	SB-33B 7.0-7.6 5/22/2008
VOCs - EPA Method 8260 (ug/Kg)								
Benzene	4,800	60 U		980			4.3 U	57 U
Toluene	100,000	27 U		6700			5.3 U	26 U
Ethyl Benzene	41,000	8.6 U		10000			4.8 U	**770 J**
m/p-Xylenes	100,000*	**620 J**		26000			11 U	**1400 J**
o-Xylene	100,000*	27 U		7600			4.6 U	26 U
Total BTEX		**620**		**51280**			ND	**2170**
SVOCs - EPA Method 8270 (ug/Kg)								
Acenaphthene	100,000	**680**	**660 JD**	**5200 E**	**6000 D**	**5800 JD**	8.6 U	**860**
Acenaphthylene	100,000	**220 J**	**260 JD**	**1600**	**1600 JD**	**1500 JD**	5.8 U	6.3 U
Anthracene	100,000	**820**	**730 JD**	**4600 E**	**5200 D**	**4800 JD**	13 U	**160 J**
Benzo(a)anthracene	1,000	**510**	**530 JD**	**2300**	**2300 D**	**2400 JD**	9.6 U	10 U
Benzo(a)pyrene	1,000	**540**	**530 JD**	**3000**	**3100 D**	**2300 JD**	12 U	**47 J**
Benzo(b)fluoranthene	1,000	**530**	**480 JD**	**2200**	**2000 JD**	**2000 JD**	29 U	31 U
Benzo(g,h,i)perylene	100,000	**390 J**	**440 JD**	**2200**	**2000 JD**	**1700 JD**	29 U	31 U
Benzo(k)fluoranthene	3,900	**160 J**	100 UD	**620**	**980 JD**	530 UD	18 U	20 U
Chrysene	3,900	**450 J**	**440 JD**	**2100**	**2400 D**	**2300 JD**	7.4 U	8 U
Dibenz(a,h)anthracene	330	33 U	170 UD	**140 J**	170 UD	840 UD	29 U	32 U
Fluoranthene	100,000	**1700**	**1600 JD**	**8200 E**	**9800 D**	**9200 JD**	9.6 U	**170 J**
Fluorene	100,000	**550**	61 UD	**3900 E**	**4300 D**	**4100 JD**	11 U	**230 J**
Indeno(1,2,3-cd)pyrene	500	**270 J**	**290 JD**	**1400**	**1100 JD**	290 UD	10 U	11 U
Naphthalene	100,000	**4200 E**	**4500 D**	**26000 E**	**34000 ED**	**36000 D**	9.6 U	**9300 E**
Phenanthrene	100,000	**2700**	**2600 D**	**16000 E**	**20000 ED**	**19000 D**	12 U	**740**
Pyrene	100,000	**1800**	**1700 JD**	**11000 E**	**11000 D**	**11000 JD**	8.7 U	**180 J**
Total PAHs		**15520**	**14760**	**90460**	**105780**	**102100**	ND	**11687**

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Parameters	NYSDEC Part 375 Restricted Residential Soil Cleanup	SB-33B DL 7.0-7.6 5/22/2008	SB-33B 11-11.5 5/22/2008	SB-34 5.3-5.7 5/21/2008	SB-34 DL 5.3-5.7 5/21/2008	SB-34 DL2 5.3-5.7 5/21/2008	SB-34 13.8-14.4 5/21/2008	SB-35 5.5-6.1 5/22/2008
VOCs - EPA Method 8260 (ug/Kg)								
Benzene	4,800		4.6 U	5.1 U			**61**	58 U
Toluene	100,000		5.6 U	6.2 U			5.4 U	27 U
Ethyl Benzene	41,000		5.1 U	5.6 U			**400**	**5300**
m/p-Xylenes	100,000*		12 U	13 U			**750**	**8300**
o-Xylene	100,000*		4.8 U	5.3 U			**230**	**3100**
Total BTEX			ND	ND			**1441**	**16700**
SVOCs - EPA Method 8270 (ug/Kg)								
Acenaphthene	100,000	**880 JD**	8.9 U	**2500**	**2500 D**	**2500 JD**	8.7 U	**7500 E**
Acenaphthylene	100,000	63 UD	6 U	**1700**	**1700 JD**	**1500 JD**	5.9 U	**1800**
Anthracene	100,000	140 UD	14 U	**1100**	**1100 JD**	**1000 JD**	14 U	**5500 E**
Benzo(a)anthracene	1,000	100 UD	**59 J**	**6400 E**	**6600 D**	**6400 D**	9.7 U	**2700**
Benzo(a)pyrene	1,000	130 UD	**76 J**	**6700 E**	**6700 D**	**6700 D**	12 U	**3800 E**
Benzo(b)fluoranthene	1,000	310 UD	**54 J**	**7100 E**	**7500 D**	**6800 D**	29 U	**2800**
Benzo(g,h,i)perylene	100,000	310 UD	**47 J**	**4600 E**	**4800 D**	**4500 JD**	29 U	**2600**
Benzo(k)fluoranthene	3,900	200 UD	19 U	**2100**	**2100 JD**	**2300 JD**	18 U	**780**
Chrysene	3,900	80 UD	**61 J**	**5600 E**	**5800 D**	**5400 D**	7.5 U	**2500**
Dibenz(a,h)anthracene	330	320 UD	30 U	**720**	**660 JD**	**480 JD**	30 U	**150 J**
Fluoranthene	100,000	100 UD	**200 J**	**18000 E**	**19000 ED**	**19000 D**	9.8 U	**10000 E**
Fluorene	100,000	120 UD	11 U	**2400**	**2400 D**	**2400 JD**	11 U	**5200 E**
Indeno(1,2,3-cd)pyrene	500	110 UD	10 U	**3800 E**	**3700 D**	**3400 JD**	10 U	**1600**
Naphthalene	100,000	**11000 D**	9.9 U	**270 J**	**250 JD**	110 UD	**140 J**	**20000 E**
Phenanthrene	100,000	**800 JD**	13 U	**1200**	**1300 JD**	**1200 JD**	13 U	**21000 E**
Pyrene	100,000	94 UD	**280 J**	**16000 E**	**18000 D**	**18000 D**	8.8 U	**13000 E**
Total PAHs		**12680**	**777**	**80190**	**84110**	**81580**	**140**	**100930**

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Remedial Investigation
Herkimer (W. Smith St.) Former MGP Site

Parameters	NYSDEC Part 375 Restricted Residential Soil Cleanup	SB-35 DL 5.5-6.1 5/22/2008	SB-35 DL2 5.5-6.1 5/22/2008	SB-35 13-14 5/22/2008	SB-36 8.3-8.8 5/21/2008	SB-36 12.4-12.9 5/21/2008	SB-37 6-6.5 5/21/2008	SB-37 8.4-9.0 5/21/2008
VOCs - EPA Method 8260 (ug/Kg)								
Benzene	4,800			**69**	4.5 U	4.6 U	4.6 U	4.5 U
Toluene	100,000			5.2 U	5.6 U	5.7 U	5.6 U	5.5 U
Ethyl Benzene	41,000			**20 J**	5.1 U	5.1 U	5.1 U	5 U
m/p-Xylenes	100,000*			**43 J**	12 U	12 U	12 U	12 U
o-Xylene	100,000*			**7.2 J**	4.8 U	4.9 U	**23 J**	**27 J**
Total BTEX				**139.2**	ND	ND	**23**	**27**
SVOCs - EPA Method 8270 (ug/Kg)								
Acenaphthene	100,000	**7300 D**	**7500 D**	8.6 U	**84 J**	9.3 U	**2300**	**1100**
Acenaphthylene	100,000	**1700 JD**	**1500 JD**	5.8 U	6 U	6.3 U	**150 J**	**43 J**
Anthracene	100,000	**5200 D**	**5300 D**	13 U	14 U	14 U	**900**	**380 J**
Benzo(a)anthracene	1,000	**2600 D**	**2600 JD**	9.6 U	9.9 U	10 U	**430**	**180 J**
Benzo(a)pyrene	1,000	**3300 D**	**2900 JD**	12 U	12 U	13 U	**380 J**	**150 J**
Benzo(b)fluoranthene	1,000	**2400 D**	**2200 JD**	29 U	30 U	31 U	**320 J**	**120 J**
Benzo(g,h,i)perylene	100,000	**2400 D**	**2200 JD**	29 U	30 U	31 U	**210 J**	**88 J**
Benzo(k)fluoranthene	3,900	**810 JD**	**1000 JD**	18 U	19 U	20 U	**90 J**	19 U
Chrysene	3,900	**2300 D**	**2600 JD**	7.4 U	7.7 U	8 U	**420**	**190 J**
Dibenz(a,h)anthracene	330	160 UD	320 UD	29 U	30 U	32 U	31 U	31 U
Fluoranthene	100,000	**10000 D**	**11000 D**	9.6 U	10 U	10 U	**1300**	**500**
Fluorene	100,000	**4900 D**	120 UD	11 U	**43 J**	12 U	**1000**	**400 J**
Indeno(1,2,3-cd)pyrene	500	**1500 JD**	**1000 JD**	10 U	10 U	11 U	**150 J**	**54 J**
Naphthalene	100,000	**22000 ED**	**23000 D**	**91 J**	10 U	10 U	**61 J**	10 U
Phenanthrene	100,000	**21000 ED**	**22000 D**	12 U	**160 J**	13 U	**3200**	**1400**
Pyrene	100,000	**13000 D**	**13000 D**	**45 J**	9 U	9.4 U	**1700**	**750**
Total PAHs		**100410**	**97800**	**136**	**287**	ND	**12611**	**5355**

NOTES:
Bold indicates the constituent was detected.
Numbers in bold and shaded indicate the constituent was detected above the NYSDEC Part 375 Criteria.
U = The compound was not detected above the method detection limit (MDL) indicated.
J = The listed concentration is estimated
B = The analyte was found in the laboratory blank as well as the sample.
D = The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
E (Organics) = Indicates the analyte 's concentration exceeds the calibrated range of the instrument for that specific analysis.
E (Inorganics) = The reported value is estimated because of the presence of interference.
µg/kg = micrograms per kilogram, or parts per billion (ppb).
DL = Diluted sample analyses.
Blank spaces indicate the given analysis was not performed.
*Criterion for xylene applies to m/p and o-xylenes.

TABLE 3
Soil Sample Analytical Results (ug/Kg)
Remedial Investigation
Herkimer (W. Smith St.) Former MGP Site

Parameters	NYSDEC Part 375 Restricted Residential Soil Cleanup	SB-37 14.0-14.5 5/21/2008	SB-38 5-5.5 5/22/2008	SB-38 DL 5-5.5 5/22/2008	SB-38 DL2 5-5.5 5/22/2008	SB-38 10.5-11.0 5/22/2008	SB-39 5.5-6.0 5/23/2008	SB-39 9.0-9.8 5/23/2008
VOCs - EPA Method 8260 (ug/Kg)								
Benzene	4,800	4.3 U	5.3 U			5 U	4.4 U	4.2 U
Toluene	100,000	5.2 U	6.5 U			6.1 U	5.4 U	5.2 U
Ethyl Benzene	41,000	4.8 U	5.9 U			5.5 U	4.9 U	4.7 U
m/p-Xylenes	100,000*	11 U	14 U			13 U	11 U	11 U
o-Xylene	100,000*	4.5 U	5.6 U			5.2 U	4.7 U	4.5 U
Total BTEX		ND	ND			ND	ND	ND
SVOCs - EPA Method 8270 (ug/Kg)								
Acenaphthene	100,000	8.6 U	**3300**	**3200 D**	**3200 JD**	9.9 U	8.7 U	8.2 U
Acenaphthylene	100,000	5.8 U	**870**	**880 JD**	**1300 JD**	6.7 U	5.9 U	5.6 U
Anthracene	100,000	13 U	**9500 E**	**9700 D**	**9200 JD**	15 U	14 U	13 U
Benzo(a)anthracene	1,000	9.6 U	**19000 E**	**18000 D**	**17000 D**	**110 J**	9.7 U	9.1 U
Benzo(a)pyrene	1,000	12 U	**17000 E**	**17000 D**	**17000 D**	**100 J**	12 U	11 U
Benzo(b)fluoranthene	1,000	29 U	**22000 E**	**21000 ED**	**19000 D**	**120 J**	29 U	27 U
Benzo(g,h,i)perylene	100,000	29 U	**11000 E**	**10000 D**	**11000 JD**	**60 J**	29 U	28 U
Benzo(k)fluoranthene	3,900	18 U	**5100 E**	**6800 D**	**7700 JD**	21 U	18 U	17 U
Chrysene	3,900	7.4 U	**15000 E**	**15000 D**	**15000 D**	**100 J**	7.5 U	7.1 U
Dibenz(a,h)anthracene	330	29 U	**2500**	**1900 JD**	**1700 JD**	34 U	30 U	28 U
Fluoranthene	100,000	9.7 U	**45000 E**	**48000 ED**	**47000 D**	**230 J**	9.8 U	9.2 U
Fluorene	100,000	11 U	**3300**	**3200 D**	**3000 JD**	12 U	11 U	10 U
Indeno(1,2,3-cd)pyrene	500	10 U	**11000 E**	**9800 D**	**8900 JD**	**60 J**	10 U	9.6 U
Naphthalene	100,000	9.6 U	**720**	**650 JD**	290 UD	11 U	**89 J**	9.2 U
Phenanthrene	100,000	12 U	**29000 E**	**30000 ED**	**31000 D**	**150 J**	**66 J**	12 U
Pyrene	100,000	8.7 U	**33000 E**	**36000 ED**	**36000 D**	**230 J**	**43 J**	8.3 U
Total PAHs		ND	**227290**	**231130**	**228000**	**1160**	**198**	ND

NOTES:
Bold indicates the constituent was detected.
Numbers in bold and shaded indicate the constituent was detected above the NYSDEC Part 375 Criteria.
U = The compound was not detected above the method detection limit (MDL) indicated.
J = The listed concentration is estimated
B = The analyte was found in the laboratory blank as well as the sample.
D = The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
E (Organics) = Indicates the analyte 's concentration exceeds the calibrated range of the instrument for that specific analysis.
E (Inorganics) = The reported value is estimated because of the presence of interference.
µg/kg = micrograms per kilogram, or parts per billion (ppb).
DL = Diluted sample analyses.
Blank spaces indicate the given analysis was not performed.
*Criterion for xylene applies to m/p and o-xylenes.

TABLE 3
Soil Sample Analytical Results (ug/Kg)
Remedial Investigation
Herkimer (W. Smith St.) Former MGP Site

Parameters	NYSDEC Part 375 Restricted Residential Soil Cleanup	SB-40 8-8.5 5/23/2008	SB-41 6-6.5 5/23/2008	SB-41 DL 6-6.5 5/23/2008	SB-41 9-10 5/23/2008	SB-41 DL 9-10 5/23/2008	SB-41 19.3-19.8 5/23/2008	FB052308-1 NA 5/23/2008	FB052308-2 NA 5/23/2008
VOCs - EPA Method 8260 (ug/Kg)									
Benzene	4,800	4.5 U	5.1 U		4.9 U	59 U	4 U	0.35 U	0.35 U
Toluene	100,000	5.5 U	6.3 U		5.9 U	27 U	4.8 U	0.16 U	0.16 U
Ethyl Benzene	41,000	5 U	**120**		**870 E**	**1500 D**	4.4 U	0.05 U	0.05 U
m/p-Xylenes	100,000*	12 U	**50 J**		**210**	**340 JD**	10 U	0.47 U	0.47 U
o-Xylene	100,000*	4.8 U	**66**		**340**	**670 JD J**	4.2 U	0.16 U	0.16 U
Total BTEX		ND	**236**		**1420**	**2510**	ND	ND	ND
SVOCs - EPA Method 8270 (ug/Kg)									
Acenaphthene	100,000	8.8 U	**11000 E**	**11000 D**	**3100 E J**	**2700 D J**	**120 J**	0.33 U	0.33 U
Acenaphthylene	100,000	6 U	**680**	**670 JD**	**350 J**	**350 JD**	5.4 U	0.36 U	0.36 U
Anthracene	100,000	14 U	**3300**	**2900 D**	**850**	**940 JD**	**42 J**	1.5 U	1.5 U
Benzo(a)anthracene	1,000	9.8 U	**1500**	**1400 JD**	**640**	**570 JD**	8.9 U	1.4 U	1.4 U
Benzo(a)pyrene	1,000	12 U	**1400**	**1200 JD**	**670**	**490 JD**	11 U	0.23 U	0.23 U
Benzo(b)fluoranthene	1,000	29 U	**990**	**880 JD**	**460**	**390 JD**	27 U	0.45 U	0.45 U
Benzo(g,h,i)perylene	100,000	30 U	**810**	**700 JD**	**330 J**	**240 JD**	27 U	0.41 U	0.41 U
Benzo(k)fluoranthene	3,900	19 U	**230 J**	**270 JD**	**110 J**	100 UD	17 U	0.31 U	0.31 U
Chrysene	3,900	7.6 U	**1700**	**1400 JD**	**740**	**670 JD**	6.9 U	0.27 U	0.27 U
Dibenz(a,h)anthracene	330	30 U	**150 J**	180 UD	**86 J**	160 UD	27 U	0.56 U	0.56 U
Fluoranthene	100,000	**62 J**	**3000**	**2800 D**	**640**	**600 JD**	**81 J**	0.21 U	0.21 U
Fluorene	100,000	11 U	**4000 E**	**3800 D**	**1300**	**1200 JD**	**40 J**	0.29 U	0.29 U
Indeno(1,2,3-cd)pyrene	500	10 U	**520**	**470 JD**	**200 J**	56 UD	9.4 U	0.69 U	0.69 U
Naphthalene	100,000	9.8 U	**7300 E**	**7600 D**	**9800 E**	**9200 D**	9 U	0.29 U	0.29 U
Phenanthrene	100,000	13 U	**11000 E**	**11000 D**	**3100 E J**	**2800 D J**	**190 J**	1.4 U	1.4 U
Pyrene	100,000	**64 J**	**5200 E**	**4600 D**	**1100**	**1100 JD**	**100 J**	1.5 U	1.5 U
Total PAHs		**126**	**52780**	**50690**	**23476**	**21250**	**573**	ND	ND

NOTES:
Bold indicates the constituent was detected.
Numbers in bold and shaded indicate the constituent was detected above the NYSDEC Part 375 Criteria.
U = The compound was not detected above the method detection limit (MDL) indicated.
J = The listed concentration is estimated
B = The analyte was found in the laboratory blank as well as the sample.
D = The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
E (Organics) = Indicates the analyte 's concentration exceeds the calibrated range of the instrument for that specific analysis.
E (Inorganics) = The reported value is estimated because of the presence of interference.
µg/kg = micrograms per kilogram, or parts per billion (ppb).
DL = Diluted sample analyses.
Blank spaces indicate the given analysis was not performed.
*Criterion for xylene applies to m/p and o-xylenes.

TABLE 4: WATER LEVEL MEASUREMENTS
Remedial Investigation
Herkimer (West Smith Street) Former MGP Site
Herkimer , NY

Well ID	Top of PVC Elevation [1]	Depth to Water [2]	Water Level Elevation [1]	Depth to Water [2]	Water Level Elevation [1]
		June 17, 2008		September 19, 2008	
MW-1	384.03	6.74	377.29	7.62	376.41
MW-2	384.08	6.79	377.29	7.68	376.40
MW-3	384.87	7.41	377.46	8.32	376.55
MW-4	384.83	7.52	377.31	8.43	376.40
RW-1	384.92	7.15	377.77	8.02	376.90

Notes:
[1] Feet above mean sea level (NAVD 88).
[2] Depth as measured from top of inner well casing.

TABLE 5
GROUND WATER SAMPLE ANALYSIS RESULTS (ug/L)
SUMMARY OF DETECTED CONSTITUENTS
Remedial Investigation
Herkimer (W. Smith St.) Former MGP Site

Parameters	NYSDEC TOGS 1.1.1 Standards	MW-1 6/17/2008 ug/l	MW-2 6/17/2008 ug/l	MW-3 6/17/2008 ug/l	MW-4 6/17/2008 ug/l	TRIPBLANK 6/12/2008 ug/l
Volatile Organic Compounds, EPA Method 8260						
Chloroform	7	0.45 U	0.45 U	**6.9**	0.45 U	0.45 U
Semi-Volatile Organic Compounds, EPA Method 8270						
Naphthalene	10	0.28 U	0.28 U	**1 J**	0.28 U	NA
Acenaphthene	20	0.32 U	0.32 U	**9.4 J**	0.32 U	NA
Fluorene	50	0.28 U	0.28 U	**2 J**	0.28 U	NA
Phenanthrene	50	1.4 U	1.4 U	**1.9 J**	1.4 U	NA
Fluoranthene	50	0.2 U	0.2 U	**1.5 J**	0.2 U	NA
Pyrene	50	1.4 U	1.4 U	**2.2 J**	1.4 U	NA

NOTES:

U = The compound was not detected above the method detection limit (MDL) indicated.
J = The listed concentration is estimated
B = The analyte was found in the laboratory blank as well as the sample.
D = The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.
E (Organics) = Indicates the analyte ‘s concentration exceeds the calibrated range of the instrument for that specific analysis.
E (Inorganics) = The reported value is estimated because of the presence of interference.
µg/l = micrograms per liter, or parts per million (ppm).
DL = Diluted sample analyses.
Blank spaces indicate the given analysis was not performed.
NA = Not Analyzed

TABLE 6A
Summary of Analytical Results for Soil Gas Samples - March 2009
Herkimer MGP RI
Herkimer, New York

Analyte	Sample ID: / Sample Date:	Units	SV-1 3/18/2009	SV-2 3/18/2009	SV-3B 3/27/2009	SV-5 3/18/2009	VA 3/18/2009	VA 3/18/2009 Field Dup
TO-15								
1,1,1-Trichloroethane		ug/m3	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U
1,1,2,2-Tetrachloroethane		ug/m3	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U	1.37 U
1,1,2-Trichloroethane		ug/m3	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U	1.09 U
1,1-Dichloroethane		ug/m3	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U
1,1-Dichloroethene		ug/m3	0.792 U	0.792 U	0.792 U	0.792 U	0.792 U	0.792 U
1,2,3-Trimethylbenzene		ug/m3	0.983 U	0.983 U	0.983 U	0.983 U	0.983 U	0.983 U
1,2,4-Trichlorobenzene		ug/m3	1.48 U	1.48 U	1.48 U	1.48 U	1.48 U	1.48 U
1,2,4-Trimethylbenzene		ug/m3	**0.772 J**	**0.768 J**	**0.823 J**	**1.10**	0.982 U	0.982 U
1,2,4,5-Tetramethylbenzene		ug/m3	13.7 U	13.7 U	13.7 U	13.7 U	13.7 U	13.7 U
1,2-Dibromoethane		ug/m3	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U	1.54 U
1,2-Dichlorobenzene		ug/m3	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U
1,2-Dichloroethane		ug/m3	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U	0.809 U
1,2-Dichloropropane		ug/m3	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U	0.924 U
1,3,5-Trimethylbenzene		ug/m3	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U
1,3-Butadiene		ug/m3	0.442 U	0.442 U	0.442 U	**0.30 J**	0.442 U	0.442 U
1,3-Dichlorobenzene		ug/m3	**39.6**	**22.1**	**10.3**	**37.8**	1.20 U	1.20 U
1,4-Dichlorobenzene		ug/m3	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U	1.20 U
1,4-Dioxane		ug/m3	0.720 U	0.720 U	0.720 U	0.720 U	0.720 U	0.720 U
2,2,4-Trimethylpentane		ug/m3	0.934 U	**1.86 J**	**1.11**	0.934 UJ	0.934 U	0.934 U
2-Butanone		ug/m3	**3.93**	**3.44**	**1.76**	**4.25**	**1.42**	**1.82**
o-Chlorotoluene		ug/m3	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U
2-Hexanone		ug/m3	**1.69**	0.819 U	**1.58**	0.819 U	0.819 U	0.819 U
3-Chloropropene		ug/m3	0.626 U	0.626 U	0.626 U	0.626 U	0.626 U	0.626 U
4-Ethyltoluene		ug/m3	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U	0.982 U
Acetone		ug/m3	**155**	**88.4 J**	**20.3 J**	**153**	**11.2 J**	**13.3 J**
Benzene		ug/m3	**0.980**	**3.66**	**1.26**	**2.14**	**1.47**	**1.32**
Benzyl chloride		ug/m3	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U	1.03 U
Bromodichloromethane		ug/m3	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U	1.34 U
Bromoform		ug/m3	2.06 U	2.06 U	2.06 U	2.06 U	2.06 U	2.06 U
Bromomethane		ug/m3	0.776 U	0.776 U	0.776 U	0.776 U	0.776 U	0.776 U
Carbon disulfide		ug/m3	0.806 U	**3.80**	0.622 U	1.35 U	0.622 U	0.622 U
Carbon tetrachloride		ug/m3	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U	1.26 U
Chlorobenzene		ug/m3	0.920 U	0.920 U	0.920 U	0.920 U	0.920 U	0.920 U
Chloroethane		ug/m3	0.527 U	0.527 U	0.527 U	0.527 U	0.527 U	0.527 U
Chloroform		ug/m3	0.976 U	0.976 U	0.976 U	0.976 U	0.976 U	0.976 U
Chloromethane		ug/m3	**0.436**	**0.348 J**	0.413 U	**0.419**	**1.04**	**1.08**
cis-1,2-Dichloroethene		ug/m3	0.792 U	0.792 U	0.792 U	0.792 U	0.792 U	0.792 U
cis-1,3-Dichloropropene		ug/m3	0.907 U	0.907 U	0.907 U	0.907 U	0.907 U	0.907 U
Cyclohexane		ug/m3	**0.394 J**	**5.12**	**0.804**	**1.72**	0.688 U	0.688 U
Dibromochloromethane		ug/m3	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U	1.70 U
Dichlorodifluoromethane		ug/m3	**2.93**	**2.66**	**2.42**	**2.64**	**2.36**	**2.47**
Ethylbenzene		ug/m3	**0.841 J**	**1.03**	**0.968**	**1.78**	0.868 U	0.868 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		ug/m3	**0.809 J**	**1.15 J**	1.53 U	**0.779 J**	1.53 U	1.53 U
1,2-Dichloro-1,1,2,2-tetrafluoroethane		ug/m3	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U	1.40 U
Heptane		ug/m3	**0.683 J**	**10.5**	**0.907**	**16.5**	0.819 U	0.819 U
Hexachlorobutadiene		ug/m3	2.13 U	2.13 U	2.13 U	2.13 U	2.13 U	2.13 U
n-Hexane		ug/m3	1.76 U	**16.6**	**1.83**	**4.74**	1.76 U	1.76 U

TABLE 6A
Summary of Analytical Results for Soil Gas Samples - March 2009
Herkimer MGP RI
Herkimer, New York

Analyte		Sample ID: SV-1 Sample Date: 3/18/2009		Sample ID: SV-2 Sample Date: 3/18/2009		Sample ID: SV-3B Sample Date: 3/27/2009		Sample ID: SV-5 Sample Date: 3/18/2009		Sample ID: VA Sample Date: 3/18/2009		Sample ID: VA Sample Date: 3/18/2009 Field Dup	
iso-Propyl Alcohol	ug/m^3	**48.5**		**54.2**		**8.0**		**62.3**		**0.758**	**J**	1.23	U
Methylene chloride	ug/m^3	1.74	U	**1.27**	**J**	**1.17**	**J**	**1.30**	**J**	1.74	U	**1.53**	**J**
4-Methyl-2-pentanone	ug/m^3	**0.966**		**0.896**		0.819	U	0.819	U	0.819	U	0.819	U
Methyl tert butyl ether	ug/m^3	0.720	U	0.720	U	0.720	U	0.720	U	0.720	U	0.720	U
p/m-Xylene	ug/m^3	**2.52**		**3.22**		**3.16**		**4.58**		**1.23**		**1.21**	
o-Xylene	ug/m^3	**1.07**		**1.16**		**1.04**		**1.57**		**0.456**	**J**	**0.436**	**J**
Naphthalene	ug/m^3	1.05	U	1.05	U	1.05	U	1.05	U	1.05	U	1.05	U
Styrene	ug/m^3	**0.633**	**J**	0.851	U	**0.742**	**J**	**0.612**	**J**	0.851	U	0.851	U
tert-Butyl Alcohol	ug/m^3	**5.50**		**4.04**		**0.957**		**5.56**		0.606	U	0.606	U
Tetrachloroethene	ug/m^3	1.36	U	1.36	U	1.36	U	1.36	U	1.36	U	1.36	U
Thiophene	ug/m^3	0.688	U	0.688	U	0.688	U	0.688	U	0.688	U	0.688	U
Toluene	ug/m^3	**76.2**		**55.3**		**10.4**		**105**		**2.77**		**2.76**	
trans-1,2-Dichloroethene	ug/m^3	0.792	U	0.792	U	0.792	U	0.792	U	0.792	U	0.792	U
trans-1,3-Dichloropropene	ug/m^3	0.907	U	0.907	U	0.907	U	0.907	U	0.907	U	0.907	U
Trichloroethene	ug/m^3	1.07	U	1.07	U	1.07	U	1.07	U	1.07	U	1.07	U
Trichlorofluoromethane	ug/m^3	**1.36**		**1.41**		**0.695**	**J**	**1.01**	**J**	**1.33**		**1.36**	
Vinyl bromide	ug/m^3	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U	0.874	U
Vinyl chloride	ug/m^3	0.511	U	0.511	U	0.511	U	0.511	U	0.511	U	0.511	U
Butane	ug/m^3	**24.5**		**12.0**		**7.02**		**20.9**		**6.27**		**6.12**	
Pentane	ug/m^3	**1.96**		**14.9**		**3.21**		**4.54**		**2.36**		**2.39**	
Octane	ug/m^3	**3.38**		**8.03**		**2.45**		**23.5**		0.934	U	0.934	U
Nonane (C9)	ug/m^3	**0.714**	**J**	**1.55**		1.05	U	**6.78**		1.05	U	1.05	U
Decane (C10)	ug/m^3	**1.19**		**1.25**		**1.14**	**J**	**1.97**		1.16	U	1.16	U
Dodecane (C12)	ug/m^3	3.48	U	3.48	U	3.48	U	3.48	U	3.48	U	3.48	U
Undecane	ug/m^3	**3.19**		**1.62**		**3.47**		**3.17**		1.28	U	1.28	U
Indane	ug/m^3	0.967	U	0.967	U	0.967	U	0.967	U	0.967	U	0.967	U
Indene	ug/m^3	0.950	U	0.950	U	0.950	U	0.950	U	0.950	U	0.950	U
1-Methylnaphthalene	ug/m^3	14.5	U	14.5	U	14.5	U	14.5	U	14.5	U	14.5	U
Ethyl Alcohol	ug/m^3	**113**		**127**		**38.3**		**136**		**5.08**		**6.99**	
Ethyl Acetate	ug/m^3	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U	0.721	U
Propylene	ug/m^3	0.344	U	**3.75**	**J**	**2.52**	**J**	**13.8**	**J**	0.344	U	0.344	U
Tetrahydrofuran	ug/m^3	**0.31**	**J**	0.590	U	0.590	U	**0.33**	**J**	0.590	U	0.590	U
Vinyl acetate	ug/m^3	0.704	U	0.704	U	0.704	U	0.704	U	0.704	U	0.704	U
Isopropylbenzene	ug/m^3	0.982	U	0.982	U	0.982	U	0.982	U	0.982	U	0.982	U
2-Methylbutane(*)	ug/m^3	ND		**9.32**	**J**	**3.48**	**J**	ND		**3.30**	**J**	**3.33**	**J**

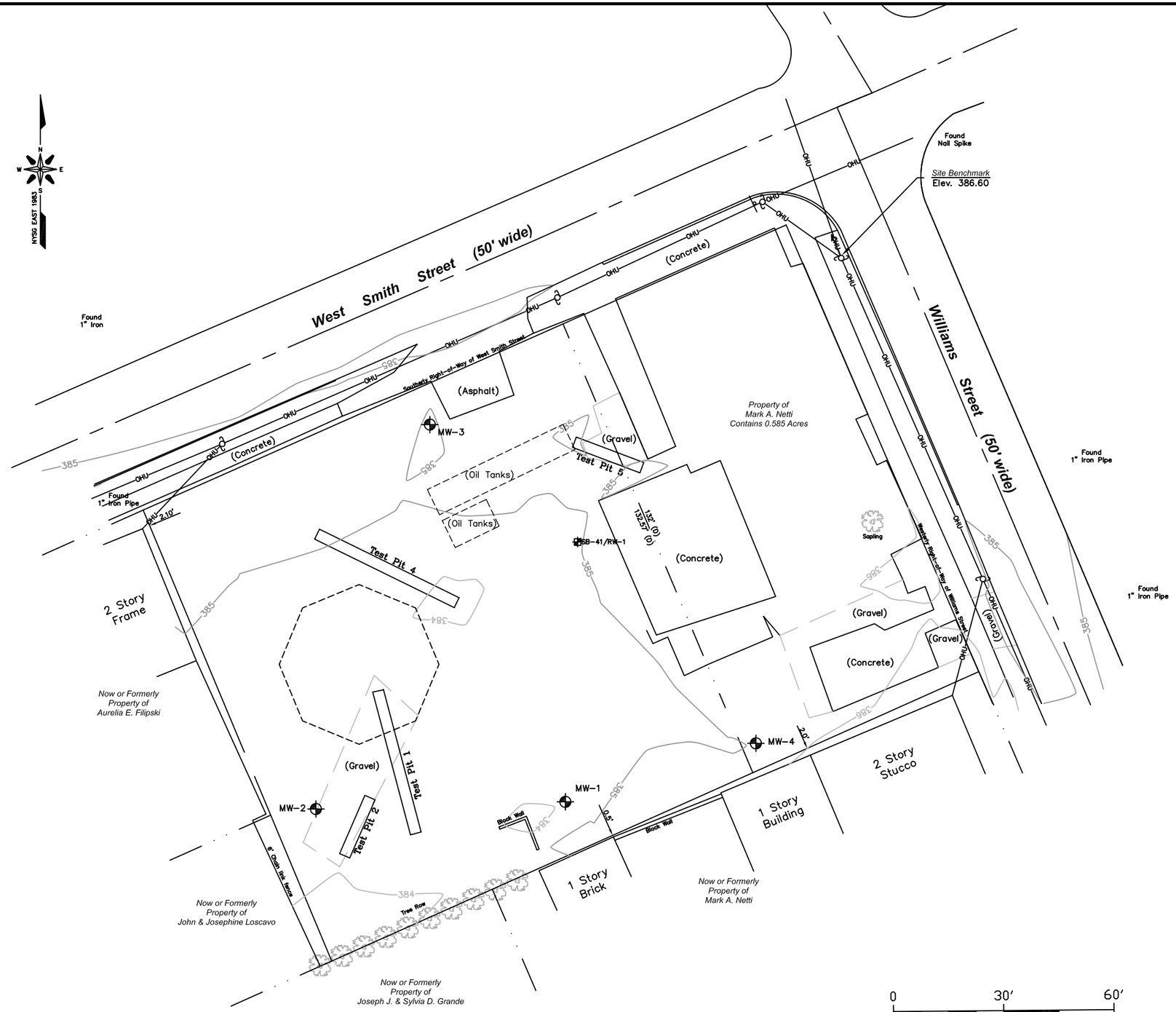
Notes:
Numbers in bold indicate that the constituent was detected above the method detection limits.
J = the concentration is estimated.
U = the compound was not detected above the laboratory quantitation limit.
ND = the compound was not detected and there is no laboratory quantitation limit.

TABLE 6B
Summary of Possible MGP-Related Contaminants in Soil Vapor - March 2009
Herkimer MGP RI
Herkimer, New York

Analyte		Sample ID: SV-1 Sample Date: 3/18/2009	SV-2 3/18/2009	SV-3B 3/27/2009	SV-5 3/18/2009	VA 3/18/2009	VA 3/18/2009 Field Dup	Typical Indoor Air Concentrations (µg/m^3)[1] Residential	Typical Indoor Air Concentrations (µg/m^3)[1] Non-Residential	USEPA OSWER Target Indoor Air Concentrations (µg/m^3)[2] Residential	USEPA OSWER Target Indoor Air Concentrations (µg/m^3)[2] Non-Residential
TO-15	**Units**										
1,2,4-Trimethylbenzene	ug/m^3	**0.772 J**	**0.768 J**	**0.823 J**	**1.10**	0.982 U	0.982 U	98	95	60	60
Benzene	ug/m^3	**0.980**	**3.66**	**1.26**	**2.14**	**1.47**	**1.32**	130	94	31	310
Ethylbenzene	ug/m^3	**0.841 J**	**1.03**	**0.968**	**1.78**	0.868 U	0.868 U	64	57	220	2,200
p/m-Xylene	ug/m^3	**2.52**	**3.22**	**3.16**	**4.58**	**1.23**	**1.21**	110	222	70,000	70,000
o-Xylene	ug/m^3	**1.07**	**1.16**	**1.04**	**1.57**	**0.456 J**	**0.436 J**	71	79	70,000	70,000
Toluene	ug/m^3	**76.2**	**55.3**	**10.4**	**105**	**2.77**	**2.76**	570	430	4,000	4,000
Nonane (C9)	ug/m^3	**0.714 J**	**1.55**	1.05 U	**6.78**	1.05 U	1.05 U	79	78	NA	NA
Decane (C10)	ug/m^3	**1.19**	**1.25**	**1.14 J**	**1.97**	1.16 U	1.16 U	150	175	NA	NA
Undecane	ug/m^3	**3.19**	**1.62**	**3.47**	**3.17**	1.28 U	1.28 U	120	226	NA	NA

Notes:
1) NYSDOH, 2005. "Guidance for Evaluating Soil Vapor Intrusion in the State of New York." As recommended by NYSDOH, typical indoor air concentrations in residential settings are the upper fence values from the NYSDOH 2003 Fuel Oil Study data. Typical concentrations in non-residential settings are the 90th percentile values from the USEPA BASE data.
2) USEPA, 2002. "Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils." R = 10-5 used for residential, R = 10-4 used for non-residential.
Numbers in bold indicate that the constituent was detected above the method detection limits.
J = the concentration is estimated.
U = the compound was not detected above the laboratory quantitation limit.
NA = Not available.

FIGURES



Legend:

- Parcel Line
- Historic MGP Structure
- Utility Pole
- OHU——OHU Overhead Utility Lines
- 384.01 MW-1 Monitor Well (Elevation, Designation)
- RW-1 Recovery Well (Elevation, Designation)

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NATIONAL GRID
FORMER MGP SITE
HERKIMER, NEW YORK

FIGURE 1
SITE PLAN

Date: 10/09/08 | **Project No. 105905-001000-000012**

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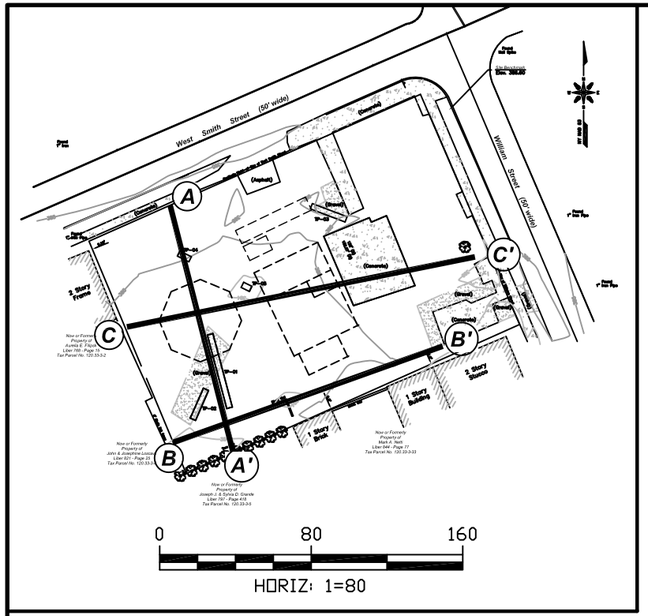
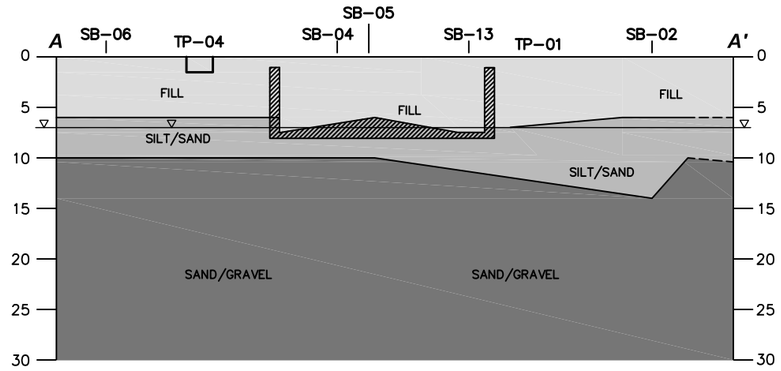
PLATE-2.dwg Layout:FIG-1 October 09, 2008-1:36PM Raloma

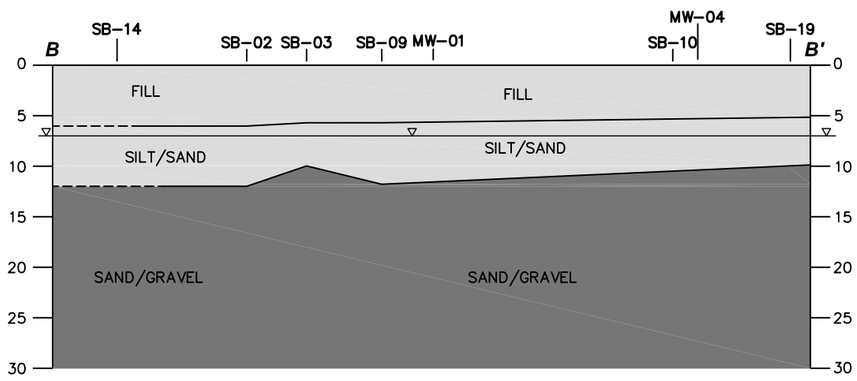




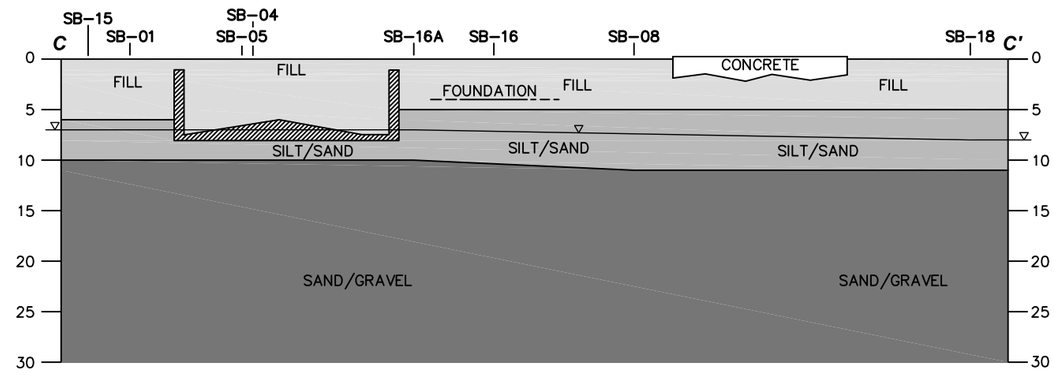
CROSS SECTION A-A'

Legend:

Historic MGP Structure



CROSS SECTION B-B'



CROSS SECTION C-C'

General Notes:

1) North arrow as shown indicates Grid North referenced to NAD83 and projected on the New York State Plane Coordinate System (East Zone).

2) This survey is referenced horizontally to the North American Datum of 1983 (NAD83) and projected on the New York State Plane Coordinate System (East Zone) and vertically to the North American Vertical Datum of 1988 (NAVD88).

3) Base information taken from drawing by Thew Associates, PLLC Title: "Map Showing Existing Topography Former MGP Facility Niagara Mohawk Power Corporation Herkimer, New York" Dated: 7/18/2003, Project Number CK2727B-06-03.

0 30 60
HORIZ: 1=30

0 25 50
VERT: 1=25
REFERENCE TO GRADE

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NATIONAL GRID
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FIGURE 2
GEOLOGIC CROSS-SECTIONS

Date: 10/09/08 | **Project No. 105905-001000-000012**

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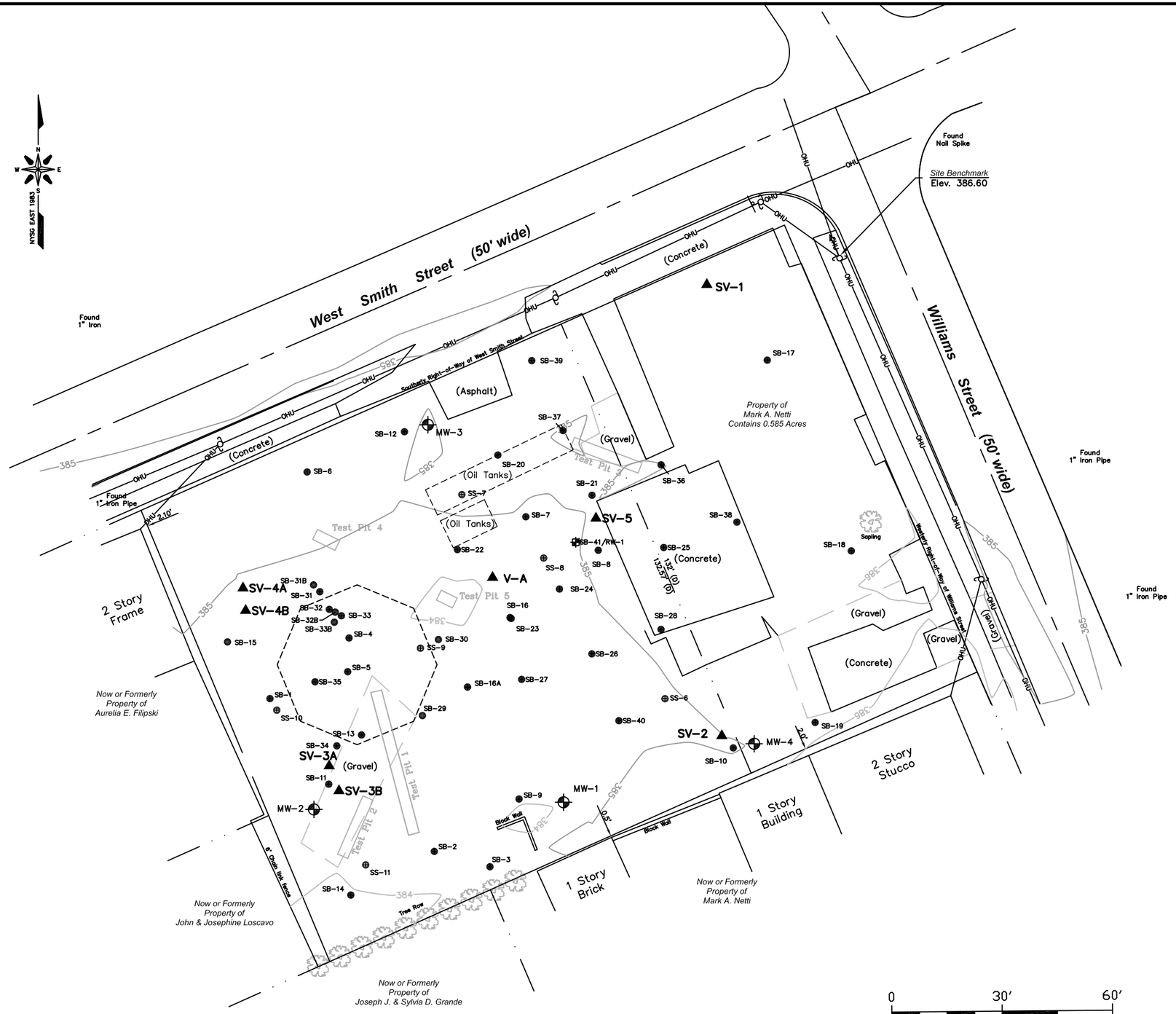
PLATE-3.dwg Layout:FIG 2 October 09, 2008-1:33PM Raloma



Legend:

- Parcel Line
- Historic MGP Structure
- Utility Pole
- OHU — OHU — Overhead Utility Lines
- MW–1 — Monitor Well
- RW–1 — Recovery Well
- SB–1 — Soil Boring
- SS–6 — Surface Sample
- SV–1 — Soil Vapor Probe Location
- V–A — Ambient Air Sample Location

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FIGURE 3
INVESTIGATION SAMPLE LOCATIONS

Date: 06/16/09 | **Project No. 105905-001000-000012**

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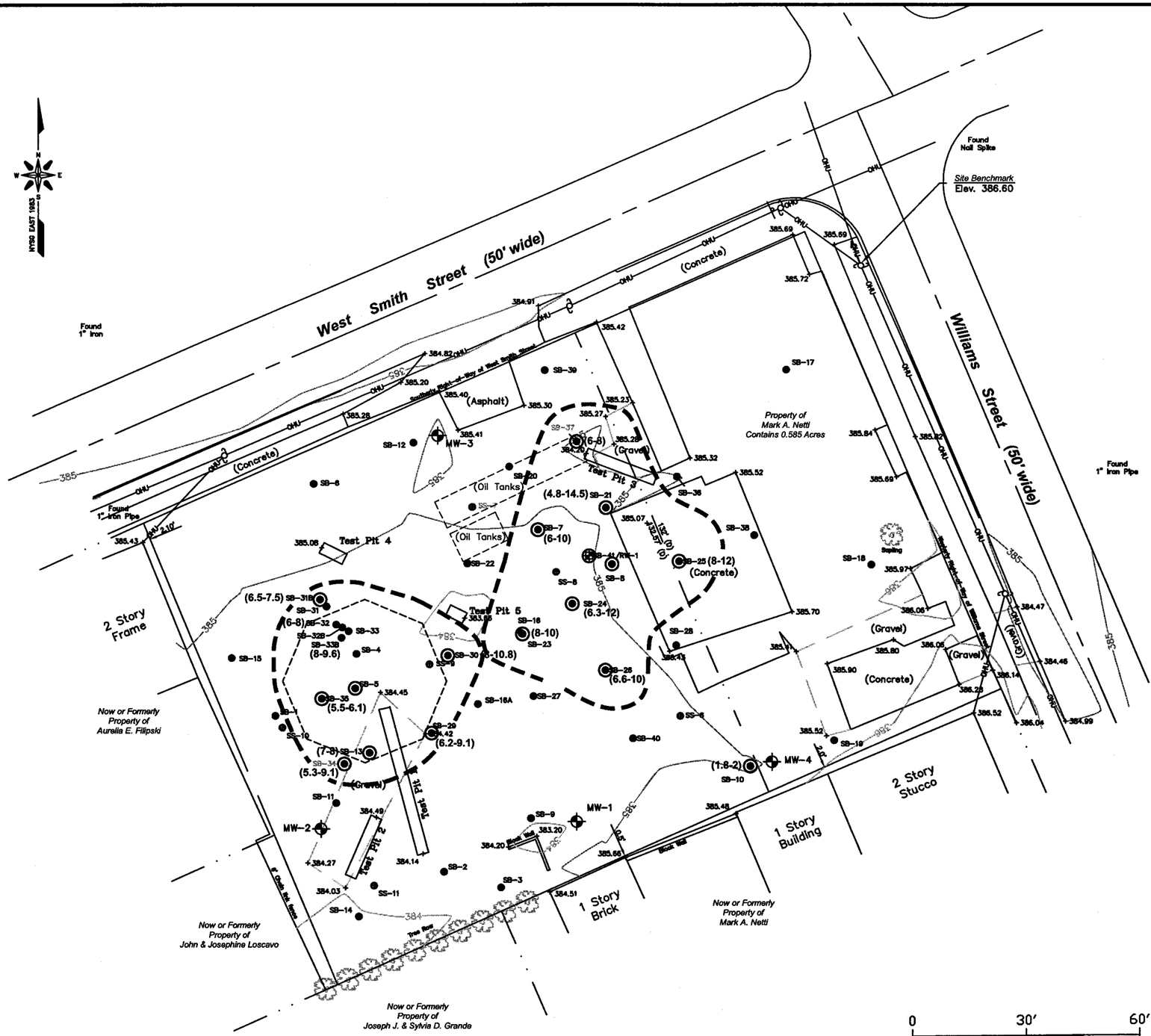
PLATE–2.dwg Layout:FIG 3 September 14, 2009–4:12PM Raloma



Legend:

- Parcel Line
- Historic MGP Structure
- Utility Pole
- OHU——OHU — Overhead Utility Lines
- 384.01 MW-1 — Monitor Well (Elevation, Designation)
- RW-1 — Recovery Well (Elevation, Designation)
- SB-1 — Soil Boring (Elevation, Designation)
- SS-6 — Surface Sample (Designation)
- Boring Where NAPL Impacts Were Observed
- (8-10) — Depth Interval of Observed NAPL (Feet Below Ground Surface)
- Approximate Delineation of NAPL

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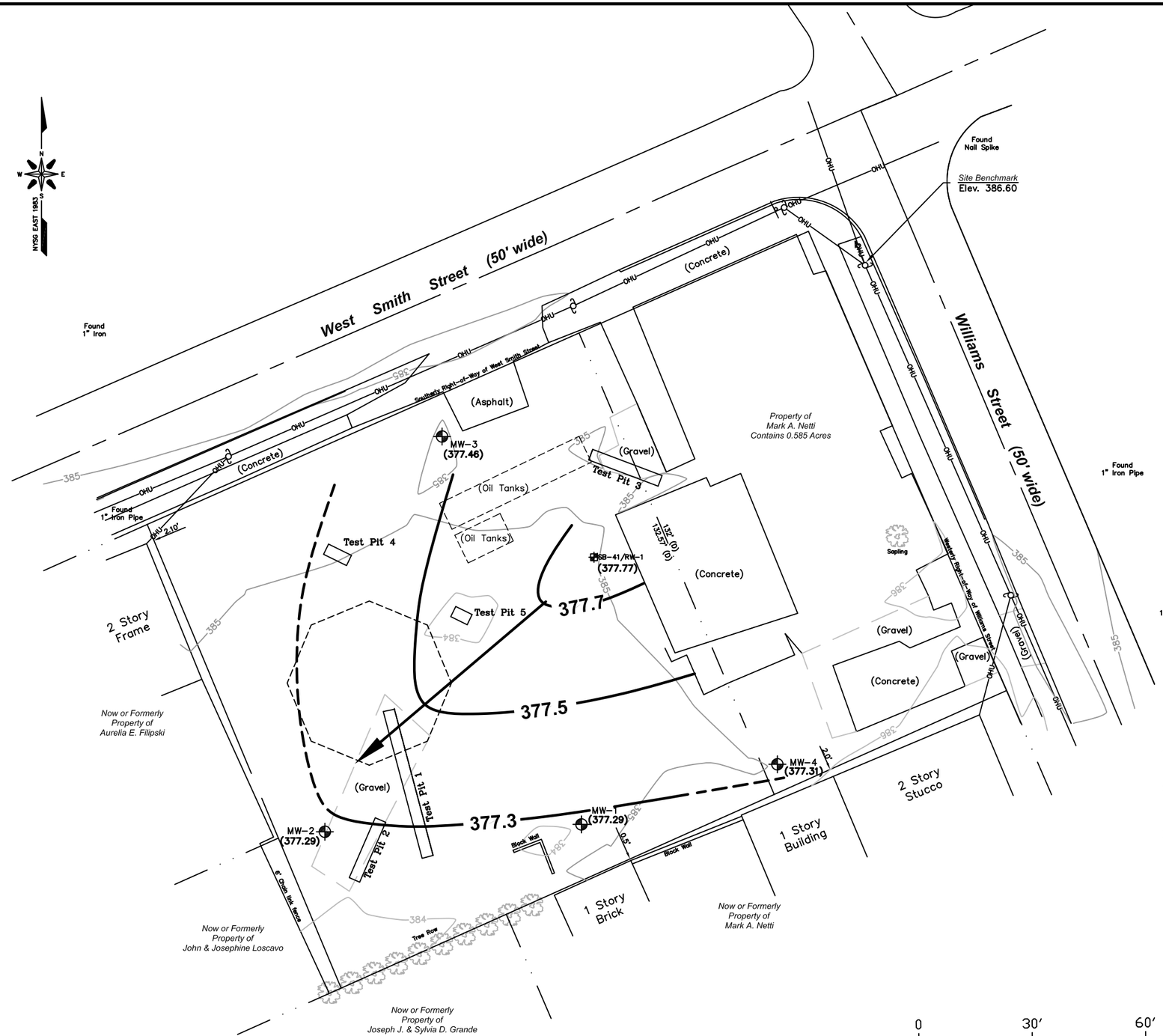
FIGURE 4
APPROXIMATE EXTENT OF NAPL IMPACTS

Date: 06/16/09 | Project No. 105905-001000-000012

J:\CAD\105905\001000\000012\PLATE-3.dwg Layout:FIG-4-REV 09-14-09 September 28, 2009-1:59PM Raloma

J:\CAD\105905\001000\000012\PLATE-3.dwg, FIG-4-REV 09-14-09, 9/28/2009 1:59:13 PM



Legend:

- Parcel Line
- Historic MGP Structure
- Utility Pole
- OHU — OHU — Overhead Utility Lines
- MW–1 (377.31) — Monitor Well (Elevation, Designation)
- RW–1 (377.77) — Recovery Well (Elevation, Designation)
- 377.7 — Shallow Groundwater Contour
- Estimated Direction of Flow

General Notes:

1) North arrow as shown indicates Grid North referenced to NAD83 and projected on the New York State Plane Coordinate System (East Zone).

2) This survey is referenced horizontally to the North American Datum of 1983 (NAD83) and projected on the New York State Plane Coordinate System (East Zone) and vertically to the North American Vertical Datum of 1988 (NAVD88).

3) Base information taken from drawing by Thew Associates, PLLC Title: "Map Showing Existing Topography Former MGP Facility Niagara Mohawk Power Corporation Herkimer, New York" Dated: 7/18/2003, Project Number CK2727B–06–03.

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FIGURE 5
SHALLOW GROUNDWATER CONTOURS
JUNE 17, 2008

Date: 06/16/09 | **Project No. 105905-001000-000012**

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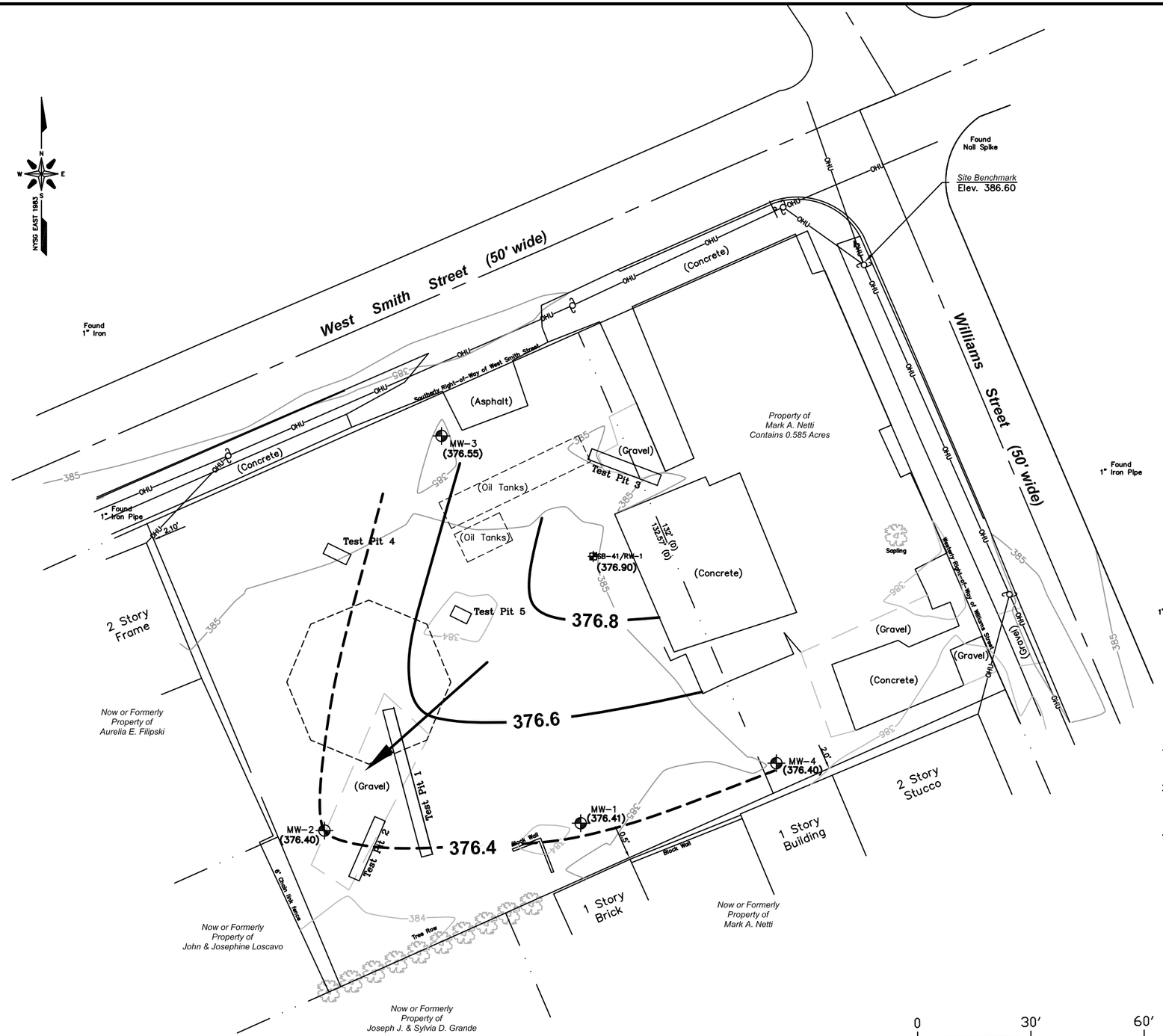
PLATE–3.dwg Layout:FIG–5 September 14, 2009–4:11PM Raloma



Legend:

- Parcel Line
- Historic MGP Structure
- Utility Pole
- OHU——OHU — Overhead Utility Lines
- MW-1 (376.41) — Monitor Well (Elevation, Designation)
- RW-1 (376.90) — Recovery Well (Elevation, Designation)
- 376.8 — Shallow Groundwater Contour
- Estimated Direction of Flow

General Notes:

1) North arrow as shown indicates Grid North referenced to NAD83 and projected on the New York State Plane Coordinate System (East Zone).

2) This survey is referenced horizontally to the North American Datum of 1983 (NAD83) and projected on the New York State Plane Coordinate System (East Zone) and vertically to the North American Vertical Datum of 1988 (NAVD88).

3) Base information taken from drawing by Thew Associates, PLLC Title: "Map Showing Existing Topography Former MGP Facility Niagara Mohawk Power Corporation Herkimer, New York" Dated: 7/18/2003, Project Number CK2727B-06-03.

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FIGURE 6
SHALLOW GROUNDWATER CONTOURS
SEPTEMBER 19, 2008

Date: 06/16/09 | **Project No. 105905-001000-000012**

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PLATE-3.dwg Layout:FIG-6 September 14, 2009-4:11PM Raloma

APPENDIX A

BORING LOGS

TRC 5 Waterside Crossing Windsor, CT 06095 (860) 298-9692 FAX (860) 298-6399	Site Id: SB-01
	Date(s): 06/12/03 - 06/13/03
Project Name: Herkimer	Total Depth: 30.00'
Project Number:	Borehole Dia.: 6.25in
Location:	Screens: No Well type: size: dia: fm: to:
Logged By: S. Fischer	
Contractor: Lyon Drilling	Blank Casing: No Well type: dia: fm: to:
Drilling Method: Hollow Stem Auger	Annular Fill: type: Grout fm: 0.00' to: 30.00' type: fm: to: type: fm: to:
Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.	Measuring Point: 0.00'
Ground Elevation: 384.79'	Static Water Level: NA

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
1		1	2 9 12 15		Dark brown, soft to medium stiff, SILT, trace sand, some tan coarse sand and angular gravel at ~0.8' to 1', no odor, no staining, slightly moist. (FILL)	0 ppm	
2 3 4		2	2 3 4 4		Brown, soft, SILT and coarse SAND, rounded and angular gravel, brick, no odor, no staining, slightly moist. (FILL) HERK-SB-01-24 collected.	0 ppm	
4 5 6		3	1 1 2 3		Dark brown, soft, SILT, some clay, coarse sand partings, slight odor, no staining, wet. (FILL/ML)	1.5 ppm	
6 7 8		4	1 2 3 3		Dark brown, soft, SILT, trace clay and fine sand, slight odor, tan mottling, coarse sand in last 3", wet. (ML) HERK-SB-01-68 collected.	1.3 ppm	
8 9 10		5	2 6 50 13		Dark brown, medium stiff, SILT and fine to coarse SAND, trace clay and angular gravel, no odor, no staining, wet. (ML)	0.3 ppm	
10 11		6	3 4 3 4		Dark brown, soft and watery, SAND, SILT and GRAVEL, no odor, no staining, saturated. (GM) HERK-SB-01-1012 collected.	0.3 ppm	

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5 Waterside Crossing
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FAX (860) 298-6399

Site Id: SB-01
Date(s): 06/12/03 - 06/13/03
Total Depth: 30.00'
Project Name: Herkimer
Location:
Logged By: S. Fischer

Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
13		7	2 3 4 5		Dark brown, soft and watery, SAND, SILT and GRAVEL, no odor, no staining. Bottom 0.5' has increasing rounded gravel with tan, fine sand, slight petroleum odor, no staining, saturated. (GM)	0.3 ppm	
14							
15		8	2 3 9 7		Medium brown, soft, fine to coarse GRAVEL, some coarse sand and silt, slight petroleum odor, no staining, saturated. (GP) HERK-SB-01-1418 collected. HERK-SB-01-2426 collected. (Duplicate)	0.3 ppm	
16							
17		9	1 2 3 4		Medium brown, fine to coarse GRAVEL, some coarse sand and silt, sligh odor, no staining, saturated. (GM)	0.3 ppm	
18							
19		10	11 11 17 14		Medium brown, fine to coarse GRAVEL, some coarse sand and silt, sligh odor, no staining, saturated. (GM)	0.3 ppm	
20							
21		11	12 6 4 5		Brown, medium stiff to stiff, fine to medium SAND, trace silt, no odor, no staining, saturated. (SW)	0.3 ppm	
22							
23		12	2 3 5 6		Brown, medium stiff, fine to medium SAND, trace silt, slight odor, no staining, saturated. (SW) HERK-SB-01-2224 collected.	0.3 ppm	
24							
25		13	12 5 6 15		Brown, medium stiff, fine to medium SAND, trace silt, slight odor, no staining, saturated. (SW)	0.3 ppm	
26							
		14	18 14 30		Brown, medium stiff to stiff, SAND and GRAVEL, slight odor, no staining, saturated. (SW)	0.3 ppm	

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Site Id: SB-01
Date(s): 06/12/03 - 06/13/03
Total Depth: 30.00'
Project Name: Herkimer
Location:
Logged By: S. Fischer

Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
28					HERK-SB-01-2628 collected.		
28		15	17 20 24 38		Brown, medium stiff to stiff, SAND and GRAVEL, slight odor, no staining, saturated. (SW)	0.3 ppm	
29							
					End of boring.		
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
41							

TRC 5 Waterside Crossing Windsor, CT 06095 (860) 298-9692 FAX (860) 298-6399	Site Id: SB-02
	Date(s): 06/16/03 - 06/16/03
Project Name: Herkimer	Total Depth: 30.00'
Project Number:	Borehole Dia.: 6.25in
Location:	Screens: No Well type: size: dia: fm: to:
Logged By: S. Fischer	Blank Casing: No Well type: dia: fm: to:
Contractor: Lyon Drilling	Annular Fill: type: Grout fm: 0.00' to: 30.00' type: fm: to: type: fm: to:
Drilling Method: Hollow Stem Auger	Measuring Point: 0.00'
Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.	Static Water Level:
Ground Elevation: 384.25'	

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
1		1	1 4 3 3		Dark brown, SILT, trace fine sand and fine to medium gravel, cinders, ash, coal fragments, brick fragments, slightly moist. (FILL)	0 ppm	
2		2	2 2 2 2		Black cinders, ash, coal fragments, some dark brown silt and fine sand, wood (roots), slight petroleum odor, black staining, moist. (FILL) HERK-SB-02-24 collected.	2 ppm	
4		3	1 1 4 2		4'-4.2': Black cinders, ash, coal fragments, some dark brown silt and fine sand, wood (roots), no odor, black staining, moist. (FILL) 4.2'-5.3': Medium brown, slightly plastic, SILT, trace clay and fine sand, trace organics, moist. (ML)	0 ppm	
6		4	5 5 6 7		6'-6.3': Trace fine gravel, ash and coal fragments. (FILL) 6.3'-7.7': Medium brown, plastic, SILT and CLAY, tan and gray mottling, no odor, no staining, moist. (ML) HERK-SB-02-68 collected.	0 ppm	
8		5	WOR 1 WOR 1		8'-8.7': Light brown/tan, very fine SAND and SILT, tree roots, trace organics, wet. (SM) 8.7'-9.7': Dark gray, very fine SAND and SILT, trace fine, rounded gravel, tree roots, trace organics, no odor, no staining, wet. (SM)	0 ppm	
10		6	1 1 4 7		Dark gray, very fine SAND and SILT, trace fine, rounded gravel, tree roots, trace organics, no odor, no staining. Tan, fine sand partings ~1/32" in diam. at 11.2' to 11.4' bgs, wet. (SM) HERK-SB-02-1012 collected.	0 ppm	

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Site Id: SB-02
Date(s): 06/16/03 - 06/16/03
Total Depth: 30.00'
Project Name: Herkimer
Location:
Logged By: S. Fischer

Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
13		7	1 2 4 9		12'-12.5': Dark gray, very fine SAND and SILT, trace fine, rounded gravel, tree roots, trace organics, no odor, no staining. (SM) 12.5'-13': Brown, fine to coarse SAND and GRAVEL, some silt, grades back to very fine sand and silt in last 2" of spoon, no odor, no staining, saturated. (GP)	0 ppm	
14 15 16		8	4 5 5 5		Brown, fine to coarse SAND and rounded GRAVEL up to 2" diam., silt, trace clay, no odor, no staining, saturated. (GP)	0 ppm	
17 18		9	3 4 3 4		Brown, fine to coarse SAND and GRAVEL, some silt, trace clay, no odor, no staining, saturated. (GP)	0 ppm	
19 20		10	2 4 4 6		Brown, fine to coarse SAND, trace rounded gravel up to 1" diam., trace silt, no odor, no staining, saturated. (SP) HERK-SB-02-1820 collected.	0 ppm	
21 22		11	3 3 9 12		Brown, fine to coarse SAND and rounded GRAVEL up to 2" diam., trace silt, no odor, no staining, saturated. (GP)	0 ppm	
23 24		12	14 12 10 9		Brown, fine to coarse SAND and rounded GRAVEL up to 2" diam., trace silt, no odor, no staining, saturated. (SP)	0 ppm	
25 26		13	14 12 9 16		Brown, fine to coarse SAND, some gravel and silt, trace clay, no odor, no staining, saturated. (SP) HERK-SB-02-2426 collected.	0 ppm	
		14	10 15 14 17		Brown, fine to coarse SAND, some gravel and silt, trace clay, no odor, no staining, saturated. (SP)	0 ppm	

TRC
5 Waterside Crossing
Windsor, CT 06095
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Site Id: SB-02
Date(s): 06/16/03 - 06/16/03
Total Depth: 30.00'
Project Name: Herkimer
Location:
Logged By: S. Fischer

Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
28		15	10 17 15 14		Brown, fine to coarse SAND, some gravel and silt, trace clay, no odor, no staining, saturated. (SP)	0 ppm	
29					End of Boring.		
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
41							

TRC 5 Waterside Crossing Windsor, CT 06095 (860) 298-9692 FAX (860) 298-6399	Site Id: SB-03
	Date(s): 06/17/03 - 06/17/03
Project Name: Herkimer	Total Depth: 30.00'
Project Number:	Borehole Dia.: 6.25in
Location:	Screens: No Well type: size: dia: fm: to:
Logged By: S. Fischer	
Contractor: Lyon Drilling	Blank Casing: No Well type: dia: fm: to:
Drilling Method: Hollow Stem Auger	Annular Fill: type: Grout fm: 0.00' to: 30.00' type: fm: to: type: fm: to:
Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.	Measuring Point: 0.00'
Ground Elevation: 384.16'	Static Water Level:

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
1		1	8 4 3 3		Dark brown, SILT and very fine SAND, angular gravel, grass roots, brick, concrete, cinders, ash, coal, fragments, slight odor of coal tar, some black staining, slightly moist. (FILL)	0 ppm	
2 3		2	1 2 WOR 1		Dark brown, SILT and very fine SAND, angular gravel, grass roots, ash, cinder and coal fragment layer at ~3' bgs, slight coal tar odor, some staining. Apparent brick footer and stone at 2.1', moist. (FILL)	0.2 ppm	
4 5		3	3 4 5 7		4'-5.7': Dark brown, SILT, trace fine sand, coal fragments, brick, no staining, no odor, moist. (FILL) 5.7'-5.9': Light brown, fine SAND, wet. (SW) HERK-SB-03-46 collected.	0.2 ppm	
6 7		4	1 2 3 1		6'-7':Tan, very fine SAND, orange mottling, saturated. (SW) 7'-7.9: Medium gray, very fine SAND, trace silt and clay, strong coal tar odor, black staining, saturated. (SW) HERK-SB-03-68 collected.	18 ppm	
8 9		5	1 WOR 1 1		Gray/brown, very fine SAND, some silt, trace clay, no odor, orange staining, saturated. (SM)	0 ppm	
10 11		6	WOR 1 4 2		Gray, fine to coarse GRAVEL, SAND and SILT, trace clay, no odor, no staining, saturated. (GM)	0 ppm	

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Site Id: SB-03
Date(s): 06/17/03 - 06/17/03
Total Depth: 30.00'
Project Name: Herkimer
Location:
Logged By: S. Fischer

Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
13		7	12 14 34 33		Gray, fine to coarse GRAVEL, SAND and SILT, trace clay, no odor, no staining, saturated. (GM)	0 ppm	
14		8	3 5 4 7		Fine to coarse GRAVEL, trace silt and fine to coarse sand, no odor, no staining, saturated. (GP)	0 ppm	
16		9	4 7 8 6		Fine to coarse GRAVEL, SAND and SILT, no odor, no staining, saturated. (GM)	0 ppm	
18		10	4 6 4 5		Fine to coarse GRAVEL, SAND and SILT, no odor, no staining, saturated. (GM) HERK-SB-03-1820 collected. HERK-SB-03-3032 collected. (Duplicate)	0 ppm	
20		11	11 12 16 17		Fine to coarse SAND and GRAVEL, some silt, no odor, no staining, saturated. (GM)	0 ppm	
22		12	10 9 7 7		Fine to medium SAND, trace silt and fine rounded gravel, no odor, no staining, (SP) HERK-SB-03-2224 collected.	0 ppm	
24		13	17 21 9 9		Fine to medium SAND, trace silt and fine rounded gravel, no odor, no staining, saturated. (SW)	0 ppm	
26		14	11 10 9 10		Fine to medium SAND, trace fine rounded gravel, silt and clay, no odor, no staining, saturated. (SW)	0 ppm	

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Site Id: SB-03
Date(s): 06/17/03 - 06/17/03
Total Depth: 30.00'
Project Name: Herkimer
Location:
Logged By: S. Fischer

Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
28					HERK-SB-03-2628 collected.		
28		15	7 10 9 10		Fine to medium SAND, trace fine rounded gravel, silt and clay, no odor, no staining. (SW)	0 ppm	
29					Poorly sorted gravel and fines in last 0.2, saturated'. (GP)		
					End of Boring.		
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
41							

TRC	5 Waterside Crossing Windsor, CT 06095 (860) 298-9692 FAX (860) 298-6399	Site Id: SB-04
		Date(s): 06/16/03 - 06/16/03
Project Name: Herkimer		Total Depth: 10.00'
Project Number:		Borehole Dia.: 6.25in
Location:		Screens: No Well type: size: dia: fm: to:
Logged By: S. Fischer		
Contractor: Lyon Drilling		Blank Casing: No Well type: dia: fm: to:
Drilling Method: Hollow Stem Auger		Annular Fill: type: Grout fm: 0.00' to: 10.00' type: fm: to: type: fm: to:
Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.		Measuring Point: 0.00'
Ground Elevation: 384.48'		Static Water Level:

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
1		1	4 3 4 4		Dark brown, SILT and GRAVEL, cinders, ash, brick, no odor, no stain, slightly moist. (FILL/ML)	0 ppm	
2		2	4 7 3 3		Dark brown, SILT and GRAVEL, cinders, ash, brick, no odor, no stain, slightly moist. (FILL/ML) HERK-SB-04-24 collected. HERK-SB-04-02 collected. (Duplicate)	0 ppm	
4		3	3 2 3 3		SILT and GRAVEL, brick fragments up to 1" diam., petroleum odor, some staining, saturated. (FILL)	7 ppm	
6		4	1 4 2 3		6'-6.5': GRAVEL and SILT, brick, cinders, 2" concrete. (FILL) 6.5'-7.4: Red/brown, SILT, followed by dark brown, slightly plastic, SILT, some clay, trace very fine sand, strong petroleum odor, black staining, saturated/wet. (FILL/ML) HERK-SB-04-6B collected.	35 ppm	
8		5	2 3 3 3		Dark brown, SILT, trace organics(roots), trace very fine sand and fine rounded gravel, strong petroleum odor, black staining, tan/yellow and gray mottling, moist. (ML) HERK-SB-04-810 collected.	35 ppm	
10					End of Boring.		
11							

TRC 5 Waterside Crossing Windsor, CT 06095 (860) 298-9692 FAX (860) 298-6399	Site Id: SB-05
	Date(s): 06/16/03 - 06/16/03
Project Name: Herkimer	Total Depth: 5.90'
Project Number:	Borehole Dia.: 6.25in
Location:	Screens: No Well type: size: dia: fm: to:
Logged By: S. Fischer	Blank Casing: No Well type: dia: fm: to:
Contractor: Lyon Drilling	Annular Fill: type: Grout fm: 0.00' to: 5.90' type: fm: to: type: fm: to:
Drilling Method: Hollow Stem Auger	Measuring Point: 0.00'
Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.	Static Water Level:
Ground Elevation: 384.49'	

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
1		1	4 3 3 3		Dark brown, SILT and GRAVEL, brick, concrete, ash, cinders, coal fragments, no odor, some black staining, slightly moist. (FILL) HERK-SB-05-02 collected.	0 ppm	
2		2	2 3 2 6		Dark brown, SILT and GRAVEL, ash, black cinders, no odor, some black staining, slightly moist. Augers advance through concrete at 3.2' bgs. (FILL)	0 ppm	
4		3	1 4 6		Dark brown, SILT, trace gravel and sand, concrete and brick in last 2" of spoon, wet. (FILL) HERK-SB-05-46 collected. Driller advances 2" spoon ~1'. After 3 blows the spoon encounters solid rock/brick. Upon retrieval the spoon was saturated. The GW table is at ~9' bgs so the holder bottom has most likely been located, saturated. Brick removed with mortar, ~1/4" of tar material on brick surface. (FILL/ML)	0 ppm	
5		4	5 R/2"			7.1 ppm	
6					End of Boring.		
7							
8							
9							
10							
11							

TRC	5 Waterside Crossing Windsor, CT 06095 (860) 298-9692 FAX (860) 298-6399	Site Id: SB-06
		Date(s): 06/12/03 - 06/12/03
Project Name: Herkimer		Total Depth: 15.50'
Project Number:		Borehole Dia.: 6.25in
Location:		Screens: No Well type: size: dia: fm: to:
Logged By: S. Fischer		Blank Casing: No Well type: dia: fm: to:
Contractor: Lyon Drilling		Annular Fill: type: Grout fm: 0.00' to: 15.50' type: fm: to: type: fm: to:
Drilling Method: Hollow Stem Auger		Measuring Point: 0.00'
Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.		Static Water Level:
Ground Elevation: 385.33'		

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
1		1	2 4 6 14		Dark brown to medium brown, soft to medium stiff, fine SAND and SILT, grass roots, trace organics, brick, ash, cinders, slightly moist. (FILL)	0 ppm	
2		2	3 1 1 1		Dark brown to medium brown, soft, fine SAND and SILT, grass roots, trace organics, brick, increasing amount of ash and cinders, moist. (FILL)	0 ppm	
4		3	WOR 1 1 4		Dark brown, very soft, SILT, trace fine sand and organics, ash, cinders, coal fragments, no staining, no odor, moist. (FILL/ML) HERK-SB-06-45 collected.	0 ppm	
6		4	2 2 3 4		Light brown, soft, SILT and CLAY, trace very fine sand, orange and gray mottling, no odor, no staining, wet. (FILL/ML)	0 ppm	
8		5	1 1 4 2		Tan, soft, fine to medium SAND, trace rounded gravel 1" diam., no odor, no staining, saturated. (FILL/SW)	0 ppm	
10		6	2 2 2 6		Medium brown, soft, poorly sorted GRAVEL, rounded gravel up to 2" diam., brick fragements, saturated. (FILL/GP)	0 ppm	

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Site Id: SB-06

Date(s): 06/12/03 - 06/12/03

Total Depth: 15.50'

Project Name: Herkimer

Location:

Logged By: S. Fischer

Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
13		7	31 12 16 28		Medium brown, stiff, poorly sorted GRAVEL, rounded gravel up to 2" diam., brick fragements. Sheen spot ~1/16" diam. at ~12' bgs, saturated. (FILL/GP) HERK-SB-06-1213 collected. Advanced augers to 14.5' to pass gravel.	0 ppm	
14		8	50 R/4"		Medium brown, soft, poorly sorted GRAVEL, rounded gravel up to 2" diam., brick fragements, saturated. (GP) Instruct driller to auger to 16' bgs. Auger refusal at 15.5'.		
15							
16					End of Boring.		
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							

TRC 5 Waterside Crossing Windsor, CT 06095 (860) 298-9692 FAX (860) 298-6399	Site Id: SB-07
	Date(s): 06/13/03 - 06/13/03
Project Name: Herkimer	Total Depth: 30.00'
Project Number:	Borehole Dia.: 6.25in
Location:	Screens: No Well type: size: dia: fm: to:
Logged By: S. Fischer	
Contractor: Lyon Drilling	Blank Casing: No Well type: dia: fm: to:
Drilling Method: Hollow Stem Auger	Annular Fill: type: Grout fm: 0.00' to: 30.00' type: fm: to: type: fm: to:
Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.	Measuring Point: 0.00'
Ground Elevation: 384.92'	Static Water Level:

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
1		1	3 5 5 5		Dark brown, soft, SILT, some fine sand and clay, ash, cinders brick, no odor, no staining, slightly moist. (FILL)	0.3 ppm	
2 3		2	3 3 3 3		Dark brown, soft, SILT, some fine sand and clay, ash, cinders brick, no odor, no staining, slightly moist. (FILL)	0.3 ppm	
4 5		3	2 1 2 3		Dark brown, soft, SILT, trace clay and organics, no odor, no staining, moist. (ML) HERK-SB-07-46 collected.	0.3 ppm	
6 7		4	9 3 3 4		Dark brown, soft, SILT, trace clay and organics, strong petroleum odor, black staining, sheen and visible product, moist. (ML) HERK-SB-07-68 collected.	25 ppm	
8 9		5	WOR 1 1 2		Dark brown, soft, SILT, trace gravel, trace clay and organics, strong petroleum odor, black staining, sheen and visible product, wet. (ML)	28 ppm	
10 11		6	2 1 2 4		Brown, SILT, SAND, and GRAVEL, petroleum odor, strong sheen, saturated. (GP) Rougher drilling at ~11.5' at gravel layer.	5 ppm	

TRC
5 Waterside Crossing
Windsor, CT 06095
(860) 298-9692
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Site Id: SB-07
Date(s): 06/13/03 - 06/13/03
Total Depth: 30.00'
Project Name: Herkimer
Location:
Logged By: S. Fischer

Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
13	7	7	1 2 2 1		Brown, SILT, SAND, and GRAVEL, strong petroleum odor, strong sheen, staining, saturated. (GP) HERK-SB-07-1214 collected.	4 ppm	
14	8	8	3 8 10 16		Brown, SILT, SAND, and GRAVEL, moderate petroleum odor, no staining, saturated. (GP)	2 ppm	
16	9	9	12 3 10 50 R/4"		Brown, SILT, SAND, and GRAVEL, some tan silt, moderate petroleum odor, sheen, no staining, saturated. (GP)	4 ppm	
18	10	10	45 46 16 12		Brown, SILT, SAND, and GRAVEL, slight petroleum odor, small spots of sheen, no staining, saturated. (GP) HERK-SB-07-1820 collected.	1.5 ppm	
20	11	11	50 R/2"		Large gravel lodged in spoon.	1.2 ppm	
22	12	12	17 15 15 12		Brown, coarse to medium GRAVEL, sand, silt, slight odor, 1/16" sheen spots, saturated. (GP)	0.3 ppm	
24	13	13	9 3 11 15		Medium brown, well sorted, fine SAND, trace medium to coarse sand and silt, slight petroleum odor, several sheen spots, saturated. (SP) HERK-SB-07-2426 collected.	0.8 ppm	
26	14	14	14 15 12 12		Medium brown, well sorted, fine SAND, trace medium to coarse sand and silt, slight petroleum odor, several sheen spots, saturated. (SP) Last 4" (GP)	0.5 ppm	

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Site Id: SB-07

Date(s): 06/13/03 - 06/13/03

Total Depth: 30.00'

Project Name: Herkimer

Location:

Logged By: S. Fischer

Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
28					HERK-SB-01-46 collected.		
29		15	5 4 2 2		Medium brown, well sorted, fine SAND, trace medium to coarse sand and silt, slight petroleum odor, several sheen spots, saturated. (SP)	5 ppm	
					End of Boring.		

TRC 5 Waterside Crossing Windsor, CT 06095 (860) 298-9692 FAX (860) 298-6399	Site Id: SB-08
	Date(s): 06/19/03 - 06/19/03
Project Name: Herkimer	Total Depth: 30.00'
Project Number:	Borehole Dia.: 6.25in
Location:	Screens: No Well type: size: dia: fm: to:
Logged By: S. Fischer	Blank Casing: No Well type: dia: fm: to:
Contractor: Lyon Drilling	Annular Fill: type: Grout fm: 0.00' to: 30.00' type: fm: to: type: fm: to:
Drilling Method: Hollow Stem Auger	Measuring Point: 0.00'
Remarks: Field screening conducted using a colibrated Mini RAE Photo-ionization Detector.	Static Water Level:
Ground Elevation: 385.12'	

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
1		1	5 7 8 6		Dark brown, SILT and SAND, trace gravel, cinders, ash, brick, roots, no odor, no staining, slightly moist. (FILL)	0 ppm	
2 3		2	5 3 2 4		Dark brown, SILT and SAND, trace gravel, cinders, ash, brick, roots, coal fragments, slight odor, black staining, moist. (FILL) HERK-SB-08-24 collected.	0.3 ppm	
4 5 6		3	4 5 5 7		4'-4.2': Dark brown, SILT and SAND, trace gravel, cinders, ash, brick, roots, coal fragments, slight odor, black staining, moist. (FILL) 4.2'-4.8': Dark brown, SILT, trace fine sand and clay, no odor, orange staining. (ML)	0 ppm	
6 7		4	5 6 6 5		Gray/brown, SILT and CLAY, orange mottling, degraded weathered coal tar odor, coal tar blebs, moist. (ML) HERK-SB-08-68 collected.	7.3 ppm	
8 9		5	2 3 3 4		Gray, plastic, CLAY, some silt, tree roots and dark brown silt in bottom 0.2' of spoon, petroleum odor, several seams of brown petroleum staining, moist. (CL)	21 ppm	
10 11		6	3 5 6 7		Gray, plastic, CLAY, some silt, tree roots, strong petroleum odor, black/brown ubiquitous staining and sheen, saturated. (CL) HERK-SB-08-1012 collected.	35 ppm	

TRC
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Site Id: SB-08
Date(s): 06/19/03 - 06/19/03
Total Depth: 30.00'
Project Name: Herkimer
Location:
Logged By: S. Fischer

Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
13		7	5 2 2 3		Gray, fine to coarse GRAVEL and SAND, some silt, trace clay, strong petroleum odor, heavy sheen, stained throughout, saturated. (GP)	21 ppm	
14		8	2 2 3 6		Brown, fine to coarse GRAVEL and SAND, some silt, trace clay, strong petroleum odor, heavy sheen, stained throughout, saturated. (GP) Hard drilling at 16.5' bgs. Augers advance.	6.5 ppm	
15							
16		9	4 6 16 21		Gray, fine to coarse GRAVEL and SAND, some silt, trace clay, strong petroleum odor, heavy sheen, stained throughout, black/brown spots of product, saturated. (GP)	7.9 ppm	
17							
18		10	6 16 24 27		Brown, fine to coarse SAND, some gravel to 1" diam., trace silt and clay, strong petroleum odor and sheen, saturated. (SP) HERK-SB-08-1820 collected.	3.5 ppm	
19							
20		11	14 10 10 10		Brown, fine to coarse GRAVEL and SAND, trace silt and clay, strong petroleum odor and sheen from water drained from sample at center of spoon, saturated. (GM)	5.9 ppm	
21							
22		12	20 20 50 R/2"		Brown, fine to coarse GRAVEL and SAND, trace silt and clay, strong petroleum odor and sheen from water drained from sample at center of spoon. No sheen noted in the gravel at the bottom of the spoon, saturated.(GM)	1.9 ppm	
23							
24		13	39 41 40 35		Rough drilling/grinding at 22.5' to 24'. Augers advance.	3 ppm	
25					24'-24.5: Gray, fine to coarse SAND, trace silt and clay. (SP) 24.5'-25.5: Brown, fine to coarse GRAVEL and SAND, some silt, trace		
26		14	23 23 28 13		clay, petroleum odor, slight sheen, looks clean within sample, saturated. (GM) HERK-SB-08-2426 collected.	0.8 ppm	
27							

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Site Id: SB-08
Date(s): 06/19/03 - 06/19/03
Total Depth: 30.00'
Project Name: Herkimer
Location:
Logged By: S. Fischer

Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
27					Brown, fine to coarse SAND and GRAVEL, some silt and trace clay, petroleum odor, slight sheen, saturated. (GM)		
28		15	11 14 10 10		Brown, fine to coarse SAND and GRAVEL, some silt and trace clay, petroleum odor, slight sheen, saturated. (GM)	1.9 ppm	
29							
					End of Boring.		
31							
32							
33							
34							
35							
36							
37							
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42							

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Site Id: SB-09	
Date(s): 06/17/03 - 06/17/03	
Project Name: Herkimer	Total Depth: 27.50'
Project Number:	Borehole Dia.: 6.25in
Location:	Screens: No Well type: size: dia: fm: to:
Logged By: S. Fischer	Blank Casing: No Well type: dia: fm: to:
Contractor: Lyon Drilling	Annular Fill: type: Grout fm: 0.00' to: 27.50' type: fm: to: type: fm: to:
Drilling Method: Hollow Stem Auger	Measuring Point: 0.00'
Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.	
Ground Elevation: 384.39'	Static Water Level:

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
1		1	7 11 13		Dark brown, SILT, trace fine sand and clay, brick, ash, cinders, coal fragments, roots, no odor, no staining, slightly moist. (FILL)	0 ppm	
2		2	1 1 1 2		Dark brown, SILT, trace fine sand and clay, brick, ash, cinders, coal fragments, roots, no odor, no staining. 3" coal fragments and ash at 2'-2.3', slightly moist. (FILL) HERK-SB-09-02 collected.	0 ppm	
4		3	3 3 5 7		Brown, slightly plastic, SILT, trace very fine sand and clay, roots and organic matter, no odor, orange and gray mottling, moist. (FILL/ML) HERK-SB-09-46 collected.	0 ppm	
6		4			Shelby Tube collected from 6'-8'. No soil description. HERK-SB-09-68 collected.	ppm	
8		5			Shelby Tube collected from 8'-10'. No soil description.	ppm	
10		6	2 4 6 4		Tan and gray, very fine SAND and SILT, slight coal tar odor, no staining, rounded gravel up to 1" diam. in last 1" of spoon, saturated. (SM)	0.1 ppm	

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Site Id: SB-09
Date(s): 06/17/03 - 06/17/03
Total Depth: 27.50'
Project Name: Herkimer
Location:
Logged By: S. Fischer

Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
13		7	5 5 6 9		Fine to medium SAND, some silt, trace clay and rounded gravel up to 1" diam., no odor, no staining, saturated. (SP)	0 ppm	
14		8	8 8 8 4		Fine to medium SAND, some silt, trace clay and fine rounded gravel, no odor, no staining, saturated. (SP) HERK-SB-09-1416 collected.	0 ppm	
16		9	4 5 5 5		Fine to coarse SAND, some silt, trace clay, gravel up to 1.5" diam. in last 2" of spoon, saturated. (SP)	0 ppm	
18		10	6 4 2 2		Fine to coarse SAND, some fine to medium rounded gravel, trace silt and clay, no odor, no staining, saturated. (SP) HERK-SB-09-1820 collected.	0 ppm	
20		11	5 3 3 5		Rounded GRAVEL up to 1.5" diam., trace silt and sand, no odor, no staining, saturated. (GP)	0 ppm	
22		12	5 11 6 7		Rounded GRAVEL up to 1.5" diam., trace silt and sand, no odor, no staining, saturated. (GP)	0 ppm	
24		13	6 6 21 14		Brown, fine to coarse GRAVEL, some fine to coarse sand, trace silt and clay, no odor, no staining, saturated. (GP)	0 ppm	
26		14	28 41 14 11		Brown, fine to medium SAND, some coarse sand and fine to medium rounded gravel, trace silt and clay, no odor, no staining, saturated. (SP)	0 ppm	

TRC
5 Waterside Crossing
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Site Id: SB-09

Date(s): 06/17/03 - 06/17/03

Total Depth: 27.50'

Project Name: Herkimer

Location:

Logged By: S. Fischer

Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
27					HERK-SB-09-68 collected.		
28					Auger refusal at 27.5' bgs due to large cobble or boulder. End of Boring.		
29							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
41							
42							

TRC 5 Waterside Crossing Windsor, CT 06095 (860) 298-9692 FAX (860) 298-6399	Site Id: SB-10
	Date(s): 06/18/03 - 06/18/03
Project Name: Herkimer	Total Depth: 30.00'
Project Number:	Borehole Dia.: 6.25in
Location:	Screens: No Well type: size: dia: fm: to:
Logged By: S. Fischer	Blank Casing: No Well type: dia: fm: to:
Contractor: Lyon Drilling	Annular Fill: type: Grout fm: 0.00' to: 30.00' type: fm: to: type: fm: to:
Drilling Method: Hollow Stem Auger	Measuring Point: 0.00'
Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.	Static Water Level:
Ground Elevation: 384.93'	

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
1		1	2 3 4 5		Dark brown, SILT, trace sand and clay, roots, trace organics, cinders, ash, brick, coal tar odor, black staining, trace coal tar in last 1" of spoon, moist. (FILL) HERK-SB-10-02 collected. Rough drilling/grinding at 2' bgs. Augers advance.	6.8 ppm	
2		2	2 2 1 1		Dark brown, SILT, trace sand and clay, roots, trace organics, cinders, ash, brick, slight coal tar odor, no staining, moist. (FILL)	0.2 ppm	
4		3	4 3 2 2		4'-4.3': Dark brown, SILT, trace sand and clay, roots, trace organics, cinders, ash, brick, slight coal tar odor, no staining. (FILL) 4.3'-4.8': Dark brown SILT, trace fine sand and clay, organics, orange mottling, wet. (ML)	0 ppm	
6		4	2 3 5 5		Brown, slightly plastic, SILT, some very fine sand and clay, orange mottling, no odor, no staining, saturated. (ML) HERK-SB-10-68 collected.	0 ppm	
8		5			Shelby Tube collected, not enough recovery.	0 ppm	
10		6	3 5 6 5		Brown, very fine to fine SAND and SILT, trace clay, no odor, no staining, orange and gray mottling, saturated. (SM)	0 ppm	

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Site Id: SB-10
Date(s): 06/18/03 - 06/18/03
Total Depth: 30.00'
Project Name: Herkimer
Location:
Logged By: S. Fischer

Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
13		7	5 7 10 2		Brown, SAND, SILT, and CLAY, trace fine rounded gravel, orange mottling, no odor, no staining, saturated. (SM) HERK-SB-10-1214 collected.	0 ppm	
14		8	3 3 3 4		Brown, fine to coarse rounded GRAVEL, some sand and silt, trace clay, no odor, no staining, saturated. (GM)	0 ppm	
16		9	5 14 6 7		Brown, fine to coarse rounded GRAVEL, SAND and SILT, no odor, no staining, saturated. (GM)	0 ppm	
18		10	20 16 6 8		Dark brown, fine to coarse SAND, some silt, trace clay, no odor, no staining, saturated. (SP) HERK-SB-10-1820 collected.	0 ppm	
20		11	6 14 16 11		20'-21': Dark brown, fine to coarse SAND, some silt, trace clay, no odor, no staining, saturated. (SP) 21'-21.5': Brown, fine to coarse rounded GRAVEL, SAND and SILT, saturated. (GM) HERK-SB-10-2022 collected.	0 ppm	
22		12	3 13 12 10		Brown, fine to coarse rounded GRAVEL, SAND and SILT, saturated. (GM) Rough drilling/grinding from 22.5' to 23.5'. Augers advance.	0 ppm	
24		13	1 4 6 7		Brown, fine to coarse SAND, some fine to coarse rounded gravel and silt, trace clay, no odor, no staining, saturated. (SW)	0 ppm	
26		14	4 6 7 8		Brown, fine to coarse SAND, some fine rounded gravel and silt, trace clay, no odor, no staining, saturated. (SW)	0 ppm	

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Site Id: SB-10
Date(s): 06/18/03 - 06/18/03
Total Depth: 30.00'
Project Name: Herkimer
Location:
Logged By: S. Fischer

Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
28					HERK-SB-10-2628 collected.		
28		15	8 5 6 5		Brown, fine to coarse SAND, some fine rounded gravel and silt, trace clay, no odor, no staining, saturated. (SW)	0 ppm	
29							
					End of Boring.		
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
41							

TRC 5 Waterside Crossing Windsor, CT 06095 (860) 298-9692 FAX (860) 298-6399	Site Id: SB-11
	Date(s): 06/19/03 - 06/19/03
Project Name: Herkimer	Total Depth: 30.00'
Project Number:	Borehole Dia.: 6.25in
Location:	Screens: No Well type: size: dia: fm: to:
Logged By: S. Fischer	
Contractor: Lyon Drilling	Blank Casing: No Well type: dia: fm: to:
Drilling Method: Hollow Stem Auger	Annular Fill: type: Grout fm: 0.00' to: 30.00' type: fm: to: type: fm: to:
Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.	Measuring Point: 0.00'
Ground Elevation: 384.44'	Static Water Level:

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
1		1	3 3 3 5		0'-0.2': Dark brown SILT, trace very fine sand, trace organics, roots, moist. (FILL) 0.2'-1.1': Light brown, very fine SAND, orange mottling, no odor, no staining, moist. (SW)	0 ppm	
2		2	3 4 3 4		2'-3': Light brown, very fine SAND, orange mottling, no odor, no staining, wet. (SW) 3'-3.3': Medium brown SILT, some very fine sand and clay, no odor, no staining, wet. (ML) HERK-SB-11-24 collected.	0 ppm	
4		3	2 5 6 7		Dark brown, SILT, some very fine sand and clay, trace organics and roots, rusty mottling, no odor, no staining, moist. (ML)	0 ppm	
6		4	4 5 6 7		Medium brown, CLAY, trace silt and very fine sand, orange and gray mottling, trace organics, no odor, no staining, moist. (CL)	0 ppm	
8		5	1 2 3 3		8'-9.2': Medium brown, CLAY, trace silt and very fine sand, orange and gray mottling, trace organics, petroleum odor, strong weathered coal tar odor, black/brown staining, wet. (CL) HERK-SB-11-810 collected. 9.2'-9.9': Gray /brown, very fine SAND, trace silt and clay, odor, staining, wet. (SW)	100 ppm	
10		6	1 2 3 5		10'-11.3': Brown, SILT, some very fine sand and clay, tree roots, strong coal tar odor, black staining throughout sample, saturated. (ML) 11.3'-11.5': Dark brown, fine SAND, some silt, saturated. (SW) HERK-SB-11-1012 collected.	135 ppm	

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Site Id: SB-11
Date(s): 06/19/03 - 06/19/03
Total Depth: 30.00'
Project Name: Herkimer
Location:
Logged By: S. Fischer

Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
13		7	2 4 5 5		Brown, GRAVEL up to 1" diam., some fine to coarse sand and silt, slight coal tar odor, no staining, saturated. (GP)	0.5 ppm	
14		8	1 1 3 4		Brown, GRAVEL up to 1" diam., some fine to coarse sand and silt, slight coal tar odor, no staining, saturated. (GP)	0.5 ppm	
15							
16		9	5 3 3 5		Brown, GRAVEL up to 1.5" diam. and fine to coarse SAND, some silt, slight coal tar odor, no staining, saturated. (GP)	1 ppm	
17							
18		10	3 4 9 4		Fine to coarse fluvial GRAVEL, trace sand, sample looks clean, slight odor, likely washed into spoon from contaminated interval, saturated. (GP)	1.1 ppm	
19							
20		11	3 4 10 30		Fine to coarse GRAVEL, some fine to coarse sand, trace silt, slight odor, no staining, saturated. (GP)	0.2 ppm	
21							
22		12	13 24 24 11		Fine to coarse GRAVEL, some fine to coarse sand, trace silt, slight odor, no staining, saturated. (GP) HERK-SB-11-2224 collected.	0.2 ppm	
23							
24		13	3 3 3 4		24'-25': Brown, fine to coarse SAND, trace silt, no odor, no staining, saturated. (SP) 25'-26': Brown, fine SAND, no odor, no staining, saturated. (SW)	0 ppm	
25							
26		14	3 4 5 6		Brown, fine SAND, no odor, no staining, saturated. (SW) HERK-SB-11-2628 collected.	0 ppm	

TRC
5 Waterside Crossing
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Site Id: SB-11
Date(s): 06/19/03 - 06/19/03
Total Depth: 30.00'
Project Name: Herkimer
Location:
Logged By: S. Fischer

Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
27							
28		15	4 12 24 14		Brown, fine SAND, no odor, no staining. Large 0.2" diam. gravel in last 0.1" of spoon, saturated. (SW)	0 ppm	
29							
					End of boring.		
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
41							
42							

TRC
5 Waterside Crossing
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Site Id: SB-12

Date(s): 06/20/03 - 06/20/03

Project Name: Herkimer

Total Depth: 30.00'

Project Number:

Borehole Dia.: 6.25in

Location:

Screens: No Well
type: size: dia: fm: to:

Logged By: S. Fischer

Blank Casing: No Well
type: dia: fm: to:

Contractor: Lyon Drilling

Drilling Method: Hollow Stem Auger

Annular Fill:
type: Grout fm: 0.00' to: 30.00'
type: fm: to:
type: fm: to:

Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.

Measuring Point: 0.00'

Ground Elevation: 385.33'

Static Water Level:

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
1		1	6 7 12 8		Dark brown, SILT and fine SAND, trace gravel up to 1" diam., cinders, ash, coal fragments, roots, trace organics, no odor, no staining, slightly moist. (FILL)	0 ppm	
2							
3		2	4 3 2 2		Dark brown, SILT and fine SAND, trace gravel up to 1" diam., cinders, ash, coal fragments, roots, trace organics, no odor, some black staining, moist. (FILL) HERK-SB-12-24 collected.	0 ppm	
4							
5		3			Shelby Tube collected. No soil description.	ppm	
6							
7		4	1 2 2 1		Gray/brown, SILT and CLAY, trace fine sand and rounded gravel, strong petroleum odor, black staining, wet. (ML) HERK-SB-12-68 collected.	195 ppm	
8							
9		5	2 3 3 3		Gray, fine SAND, some fine to coarse gravel and silt, strong petroleum odor, black staining and sheen, saturated. (ML)	97 ppm	
10							
11		6	8 12 16 9		Brown, fine to coarse GRAVEL and SAND, trace silt, strong petroleum odor, no staining, saturated. (GM)	3.8 ppm	

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Site Id: SB-12
Date(s): 06/20/03 - 06/20/03
Total Depth: 30.00'
Project Name: Herkimer
Location:
Logged By: S. Fischer

Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
13		7	5 5 25 30		Brown, fine SAND, trace medium to coarse sand and fine rounded gravel, strong petroleum odor, no staining, saturated. (SW) HERK-SB-12-1214 collected.	35 ppm	
14		8	15 23 10 10		14'-15': Brown, fine to coarse SAND and GRAVEL, trace silt. (SW) 15'-15.5': Brown, fine SAND, trace silt, petroleum odor, no staining, saturated. (SP)	0.8 ppm	
16		9	8 14 22 16		Brown, fine SAND, trace medium to coarse sand, gravel up to 1" diam. in the bottom of the spoon, saturated. (SP) HERK-SB-12-1618 collected.	0.3 ppm	
18		10	3 2 2 3		Brown, fine to coarse SAND, trace fine rounded gravel, moderate petroleum odor, likely from GW washing into the spoon from above, saturated. (SW)	3 ppm	
20		11	6 20 12 12		Brown, fine to coarse SAND, some fine to coarse rounded gravel, slight odor, no staining, saturated. (SW) HERK-SB-12-2022 collected.	2 ppm	
22		12	8 14 9 8		Brown, fine to coarse SAND, some fine to coarse rounded gravel, very slight petroleum odor, no staining, saturated. (SW)	0.2 ppm	
24		13	6 6 9 7		Brown, fine to coarse SAND, trace fine rounded gravel in bottom of spoon, very slight petroleum odor, no staining, saturated. (SW)	0.1 ppm	
26		14	5 7 12 17		Brown, fine to medium SAND, trace silt, no odor, no staining, saturated. (SP) HERK-SB-12-2628 collected.	0.1 ppm	

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Site Id: SB-12

Date(s): 06/20/03 - 06/20/03

Total Depth: 30.00'

Project Name: Herkimer

Location:

Logged By: S. Fischer

Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
28		15	12 8 13 25		Brown, fine to medium SAND, trace silt, trace fine to medium rounded gravel, no odor, no staining. Gravel up to 1" diam. in last 2" of spoon, saturated. (SW)	0.1 ppm	
29							
					End of boring.		
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							
41							

TRC 5 Waterside Crossing Windsor, CT 06095 (860) 298-9692 FAX (860) 298-6399	Site Id: SB-13
	Date(s): 06/20/03 - 06/20/03
Project Name: Herkimer	Total Depth: 12.00'
Project Number:	Borehole Dia.: 6.25in
Location:	Screens: No Well type: size: dia: fm: to:
Logged By: S. Fischer	
Contractor: Lyon Drilling	Blank Casing: No Well type: dia: fm: to:
Drilling Method: Hollow Stem Auger	Annular Fill: type: Grout fm: 0.00' to: 8.00' type: fm: to: type: fm: to:
Remarks: Field screening conducted using a calibrated Mini RAE Photo-ionization Detector.	Measuring Point: 0.00'
Ground Elevation: 384.62'	Static Water Level:

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
1					Auger to 2' bgs.		
2		1	2 4 2 2		Brown, silty SAND, brick, ash, coal fragments, no odor, no staining, wet. (FILL)	0.3 ppm	
3							
4		2			Brown, silty SAND, increasing silt, brick, ash, coal fragments, slight coal tar odor, no staining, saturated. (FILL)	0.6 ppm	
5							
6		3			Brown, silty SAND, increasing silt, brick, ash, coal fragments, concrete, slight coal tar odor, no staining, coal tar in last 2" of spoon, wet. (FILL) Holder bottom encountered at 7.2" (mortor and brick). Hard drilling. HERK-SB-13-68 collected.	350 ppm	
7							
8		4			Brown, fine SAND and SILT, trace clay and medium sand, heavy sheen, black staining, and strong coal tar odor throughout interval. 3" coal tar seam at 9.2' bgs. Coal tar throughout 10'-12' interval (no seam), saturated. (SM) HERK-SB-13-810 collected.	150 ppm	
9							
10		5			HERK-SB-13-1012 collected.	85 ppm	
11					End of boring.		

PROJECT: Herkimer Former MGP Site
Herkimer, NY

TRC Customer-Focused Solutions

BORING NUMBER: SB-14

BORING LOCATION:

GROUND SURFACE ELEVATION AND DATUM:

DRILLING CONTRACTOR: Lyon Drilling

DATE STARTED: 8/8/05

DATE FINISHED: 8/8/05

DRILLING METHOD: Hollow-stem auger

TOTAL DEPTH (ft.): 16

MEASURING POINT: Ground Surface

DRILLING EQUIPMENT: Mobil Drill B-61

DEPTH TO WATER: FIRST: 8 COMPL.: NA

SAMPLING METHOD: 24" Split Spoon

LOGGED BY: Liam Bane

HAMMER WEIGHT: 140 lbs. DROP: 30 in.

RESPONSIBLE PROFESSIONAL: Doug Martin

REG. NO. xxxx

DEPTH (feet)	Lithology	Recovery (feet)	Blow Counts	PID/FID (ppm)	DESCRIPTION	REMARKS
0–1		0.8	3,5, 4,3	0	0-0.6' Dark brown SILT, little m-c sand, trace f-gravel, clinkers, brick, bottom ash 0.6-0.7' Light brown/tan Silt and vf-Sand 0.7-0.8' Dark brown SILT, little coal fragments, brick fragments	
2–3		1	2,1, 1,2	0	0-0.1' Dark brown SILT, trace m-c sand 0.1-1.0' Ash-like matter, light gray to dark gray, clinkers, coal fragments, N/O, dry	
4–5		1	3,4, 4,5	0	0-0.4' Medium brown Silt and vf-Sand, little m-sand, trace c-sand and f-gravel, brick, coal and ash like material 0.4-0.6' Dark gray ash, coal fragments, clinkers 0.6-1.0' Medium brown SILT, very dense, N/O, N/S, dry	
6–7		0.4	3,5, 5,6	0	0-0.4' Medium brown Silt, little f-sand and clay, very slightly moist, dense, N/O, N/S	
8–9		0.7	1,2	0	0-0.3'Light brown/tan SILT, little clayand f-sand, wet, dense, N/O, N/S 0.3-0.5' Litht brown/tan F-SAND, some Silt, trace m-sand, wet, dense, N/O 0.5-0.7' Dark brown F-Sand and Silt, trace clay, wet, N/O	Collect sample for BTEX, PAHs (HERK-SB-14(8-10)
10–11		0.7	1,1, 1,2	0	0-0.3' Light/medium brown F-Sand and Silt, trace m-sand and f-gravel, slightly dense, N/O, N/S 0.3-0.7' Light/medium brown SILT, little f-sand, loose, N/O, N/S	
12–13		0.4	30,20, 21,15	0	F-C GRAVEL	
14–15		2	4,7, 6	0	0-1.5' Light/medium brown Silt and F-Sand, little f-c gravel, loose, saturated 1.5-2.0' Light/medium brown F-M SAND, some Silt, little c-sand and f-c gravel, slightly cohesive, N/O, N/S	Collect Sample for BTEX, PAHs HERK-SB-14(14-16)
16–17						

PROJECT: Herkimer Former MGP Site
Herkimer, NY

TRC Customer-Focused Solutions

BORING NUMBER: SB-15

BORING LOCATION:

GROUND SURFACE ELEVATION AND DATUM:

DRILLING CONTRACTOR: Lyon Drilling

DATE STARTED: 8/9/05

DATE FINISHED: 8/9/05

DRILLING METHOD: Hollow-stem auger

TOTAL DEPTH (ft.): 16

MEASURING POINT: Ground Surface

DRILLING EQUIPMENT: Mobil Drill B-61

DEPTH TO WATER: FIRST: 8 COMPL.: NA

SAMPLING METHOD: 24" Split Spoon

LOGGED BY: Liam Bane

HAMMER WEIGHT: 140 lbs. DROP: 30 in.

RESPONSIBLE PROFESSIONAL: Doug Martin

REG. NO. xxxx

DEPTH (feet)	Lithology	Recovery (feet)	Blow Counts	PID/FID (ppm)	DESCRIPTION	REMARKS
0–1		0.8	3,4, 7,2	0	0-0.7' Dark brown SILT, trace m-c gravel, little f-sand, trace brick and f-gravel 0.7-0.8' Pulverized coal and ash-like material, dry, N/O	
2–3		1.1	2,2, 3,5	0	0-0-1.1' Medium brown Silt and f-Sand, trace m-c sand, dry, N/O, trace brick fragments on outside of sample - drag down	
4–5		0.7	3,4, 5,6	0	0-0.7' Medium brown SILT, little f-sand, trace clay, very slightly moist, N/O, N/S, very dense	
6–7		1.3	3,3, 3,4	0	0-1.3' Light brown SILT, little clay and f-sand, dense, slightly moist, N/O, N/S	
8–9		0.8	1,1, 1,2	0	0-0.8' Light brown SILT, little clay, trace vf-sand, wet, dense, N/O, N/S	Collect sample for BTEX, PAHs HERK-SB-15(8-10)
10–11		0.5	2,1, 2,3	0	0-0-0.5' Light brown Silt and f-Sand, some m-c Sand and f-Gravel, cohesive, N/O, N/S	
12–13		1	1,1, 2,2	0	0-1.0' SILT with f-c Gravel, no real volume for sample, N/O, N/S, catcher intact	
14–15		0.7	1,1, 1,2	0	0-0.7 Medium brown F-M SAND, some c-Sand, little f-gravel, N/O, N/S	Collect sample for BTEX, PAHs HERK-SB-15(14-16)
16–17						

PROJECT: Herkimer Former MGP Site
Herkimer, NY

TRC Customer-Focused Solutions

BORING NUMBER: SB-16

BORING LOCATION:

GROUND SURFACE ELEVATION AND DATUM:

DRILLING CONTRACTOR: Lyon Drilling

DATE STARTED: 8/8/05

DATE FINISHED: 8/8/05

DRILLING METHOD: Hollow-stem auger

TOTAL DEPTH (ft.): 16

MEASURING POINT: Ground Surface

DRILLING EQUIPMENT: Mobil Drill B-61

DEPTH TO WATER: FIRST: 9 COMPL.: NA

SAMPLING METHOD: 24" Split Spoon

LOGGED BY: Liam Bane

HAMMER WEIGHT: 140 lbs. DROP: 30 in.

RESPONSIBLE PROFESSIONAL: Doug Martin

REG. NO. XXXX

DEPTH (feet)	Lithology	Recovery (feet)	Blow Counts	PID/FID (ppm)	DESCRIPTION	REMARKS
0–1		1.4	7,10, 7,5	0	0-0.4' Dark brown SILT, little m-c sand, trace f-c gravel, dry, N/O 0.4-1.0' Orange brick debris 1.0-1.4' Light brown Silt and vf Sand, N/O, N/S	
2–3		0.8	4,4, 5,6	0	0-0.4' Fall in mix of brick debris and dark brown Silt, some f-gravel, and clinkers	
4–5		1.1	3,3, 3,5	0	0-0.2' Medium brown F-SAND, little silt and m-c sand, trace f-gravel and brick, wet, N/O 0.2-0.5' Medium brown SILT, little m-c sand, trace f-gravel, brick, dry 0.5-1.1' Dark brown SILT, some Clay, trace f-m sand and organics, moist, very slight odor	Refusal at 3.8'. Move boring 10' SW and auger to 4'. Collect Sample for BTEX, PAHs: HERK-SB-16A(4-6)
6–7		1.0	1,2, 3,3	207	0-0-1.0' Mottled brown/gray SILT, some Clay, slight petroleum (gasoline-like degraded) odor	Collect sample for BTEX, PAHs: HERK-SB-16A(6-8)
8–9		0.9	1,1, 2,3	147	0-0.6' Mottled brown/gray SILT, some Clay, little f-sand, very slight petroleum (gas-like) odor, moist, tight. 0.6-0.9' Dark brown/black f-m SAND, little c-sand, trace f-gravel, wet, sheen, petroleum (gas-like) odor, loose	
10–11		0.3	2,3, 2,4	0	0-0.3' Dark brown/black f-m SAND, some c-Sand and f-Gravel, loose, wet, sheen, very slight odor	
12–13		2.0	1,1, 3,5	0	0-0-2.0' Dark brown Silt and f-Sand, some m-Sand, little c-sand and f-gravel, very loose, wet, very slight odor, sheen bursts at the top	
14–15		1.3	3,5, 3,6	0	0-1.3' Dark brown f-m SAND, little silt, c-sand and f-c gravel, wet, N/O	
16–17						

PROJECT: Herkimer Former MGP Site
Herkimer, NY

TRC Customer-Focused Solutions

BORING NUMBER: SB-17

BORING LOCATION:		GROUND SURFACE ELEVATION AND DATUM:	
DRILLING CONTRACTOR:	Lyon Drilling	DATE STARTED: 8/9/05	DATE FINISHED: 8/9/05
DRILLING METHOD:	Hollow-stem auger	TOTAL DEPTH (ft.): 16	MEASURING POINT: Ground Surface
DRILLING EQUIPMENT:	Mobil Drill B-61	DEPTH TO WATER: FIRST: 8	COMPL.: NA
SAMPLING METHOD:	24" Split Spoon	LOGGED BY: Liam Bane	
HAMMER WEIGHT: 140 lbs.	DROP: 30 in.	RESPONSIBLE PROFESSIONAL: Doug Martin	REG. NO.: XXXX

DEPTH (feet)	Lithology	Recovery (feet)	Blow Counts	PID/FID (ppm)	DESCRIPTION	REMARKS
0–1		1	3,9, 11,11	0	0-0.9' Dark brown Silt with vf Sand, some f-c Gravel, trace m-c sand, brick fragments, coal fragments, N/O, N/S 0.9-1.0' Light brown Silt and vf Sand, dry N/O, N/S	
2–3		0.2	6,3, 1,1	0	0-0.2' Medium brown SILT, some f-c Sand and f-c Gravel, trace brickand clinkers, dry, N/O	
4–5		0.9	3,5, 6,6	0	0-0.9' Medium/dark brown SILT, little f-sand and f-gravel, trace m-c sand, c-gravel and ash (white)-like matter, slightly moist, N/O	
6–7		0.15	1,1, 2,4	0	0-1.5' Light brown Silt and vf Sand, little clay, very moist, N/O, N/S	
8–9		0.9	7,16, 9,25	0	0-0.2' Light/medium brown F-Sand and Silt, wet, N/O 0.2-0.6' Medium brown F-Sand and Silt, some f-c Gravel, trace m-c sand, wet, N/O, N/S 0.6-0.8' Medium brown F-SAND, little f-c gravel, wet, N/O, N/S 0.8-0.9' Tan F-C SAND, little f-gravel, wet, N/O, N/S	Collect sample for BTEX, PAHs: HERK-SB-17(8-10)
10–11		0.5	18,28, 18,8	0	0-0.5' Light brown SILT, some f-Sand, c-Sand and angular Gravel, slightly cohesive, N/O, N/S	
12–13		1.1	8,9, 8,20	0	0-0.2' Fall in (light brown Silt and angular Gravel) 0.2-0.5' Light gray F-M SAND with dark spots of mica, wet, N/O, N/S 0.5-1.1' Medium brown F-SAND, little silt, trace m-sand, wet, N/O, N/S	
14–15		1.5	6,15, 16,16	0	0-0.5' Fall in (0-0.2' Light brown Silt and vf Sand, loose; 0.2-0.5' F-M SAND) 0.5-1.0' Medium brown F-SAND, trace silt and m-sand, wet, N/O, N/S 1.0-1.5' Medium brown SILT, some f-m Sand and angular Gravel	Collect sample for BTEX, PAHs HERK-SB-17(14-16)
16–17						

PROJECT: Herkimer Former MGP Site
Herkimer, NY

TRC Customer-Focused Solutions

BORING NUMBER: SB-18

BORING LOCATION:

GROUND SURFACE ELEVATION AND DATUM:

DRILLING CONTRACTOR: Lyon Drilling

DATE STARTED: 8/9/05

DATE FINISHED: 8/9/05

DRILLING METHOD: Hollow-stem auger

TOTAL DEPTH (ft.): 16

MEASURING POINT: Ground Surface

DRILLING EQUIPMENT: Mobil Drill B-61

DEPTH TO WATER: FIRST: 11 COMPL.: NA

SAMPLING METHOD: 24" Split Spoon

LOGGED BY: Liam Bane

HAMMER WEIGHT: 140 lbs.

DROP: 30 in.

RESPONSIBLE PROFESSIONAL: Doug Martin

REG. NO.: XXXX

DEPTH (feet)	Lithology	Recovery (feet)	Blow Counts	PID/FID (ppm)	DESCRIPTION	REMARKS
0–2		1.1	3,6, 11,5	0	0-0-1.1' Dark brown SILT, little c-sand and f-c gravel - angular, N/O	
2–4		0.6	4,4, 5,6	0	0-0.6' Dark brown SILT, little c-sand and f-gravel, brick fragments - ash like material with clinkers, dry, N/O	
4–6		0.2	3,2, 3,4	0	0-0.2' Large angular rock (fragmented), dark brown silt with vf sand, moist, N/O	
6–8		0	1,3, 2,3	0	No recovery	
8–10		1.6	1,2, 2,3	21.5	0-0.4' Medium brown SILT, some Clay, trace f-m sand, very moist, N/O 0.4-0.7' Medium brown SILT, some clay, trace f-m sand, very moist, slight petroleum (fuel oil-like) odor 0.7-1.6' Gray/brown SILT, some clay, slight petroleum odor, (fuel oil-like) odor	Collect sample for BTEX, PAHs HERK-SB-18(8-10)
10–12		1.4	1,1, 3,6	0	0-1.1' Medium brown SILT, little clay and f-sand, mottled gray, very moist, N/O 1.1-1.4' Medium brown/gray Silt and f-Sand, little c-sand and f-gravel, wet, N/O	
12–14		Trace	7,7, 7,6	0	Medium brown Silt and m-Sand, trace f-gravel, wet, N/O	
14–16		0.5	14,2, 1,1	0	0-0.5' Medium brwon F-SAND, little silt, N/O, N/S, wet, loose, (shoe cup intact)	Collect sample for BTEX, PAHs HERK-SB-18(14-16)
16–17						

PROJECT: Herkimer Former MGP Site
Herkimer, NY

TRC Customer-Focused Solutions

BORING NUMBER: SB-19

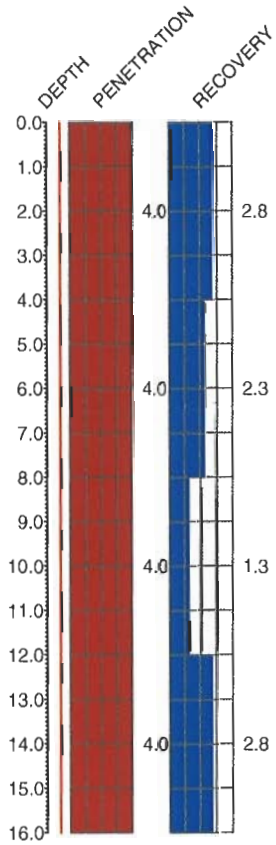
BORING LOCATION:	GROUND SURFACE ELEVATION AND DATUM:
DRILLING CONTRACTOR: Lyon Drilling	DATE STARTED: 8/9/05 / DATE FINISHED: 8/9/05
DRILLING METHOD: Hollow-stem auger	TOTAL DEPTH (ft.): 16 / MEASURING POINT: Ground Surface
DRILLING EQUIPMENT: Mobil Drill B-61	DEPTH TO WATER: FIRST: 11 / COMPL.: NA
SAMPLING METHOD: 24" Split Spoon	LOGGED BY: Liam Bane
HAMMER WEIGHT: 140 lbs. / DROP: 30 in.	RESPONSIBLE PROFESSIONAL: Doug Martin / REG. NO.: XXXX

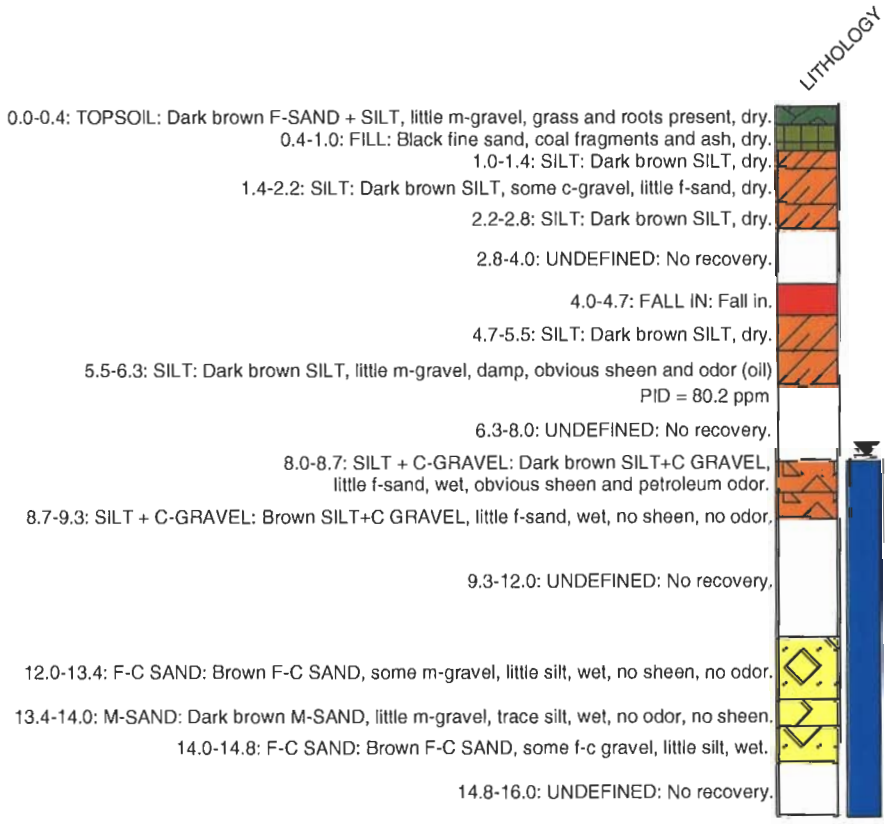
DEPTH (feet)	Lithology	Recovery (feet)	Blow Counts	PID/FID (ppm)	DESCRIPTION	REMARKS
0–1		0.8	5,5, 4,5	0	0-0.8' Dark brown SILT, some f-Gravel, trace m-c sand and concrete fragments, coal fragments, dry, N/O	
2–3		0.8	6,5, 5,6	0	0-0.8' Medium brown SILT, ltiile f-c sand, trace f-gravel, brick, coal and ash-like material, N/O, slightly moist	
4–5		0.6	1,2, 2,3	0	0-0.6' Medium brown Silt and f-Sand, some f-Gravel, trace clinkers with ash-like material adhered, plug of silt, very moist in tip, N/O	
6–7		0.8	3,3, 4,4	0	0-0.3' Fall in (medium brown Silt and f-Sand, little gravel, trace brick) 0.3-0.8' Light brown/gray (mottled) SILT, some Clay, little vf sand, very moist, N/O	
8–9		1.9	1,1, 2,2	0	0-1.9' Medium brown/orange/gray brown (mottled) Silt and vf Sand, little clay, very moist, N/O, dense	Collect sample for BTEX, PAHs HERK-SB-19(8-10)
10–11		1.1	1,1, 5,3	0	0-0.2' Medium brown/orange brown/gray brown (mottled) dense Silt and vf Sand, little clay, very moist, N/O 0.2-1.1' Medium brown Silt and vf Sand, trace f-gravel, slightly loose, N/O, N/S, wet	
12–13		0.8	6,3, 4,4	0	0-0.5' Medium brown F-M SAND, little silt and f-c gravel, wet, N/O, N/S 0.5-0.8' Cobble and f-c Gravel, wet, N/O	Collect sample for BTEX, PAHs HERK-SB-19(12-14)
14–15		Soupy	2,3, 4,4	0	Soupy SILT with f-c Gravel, N/O, N/S	
16–17						

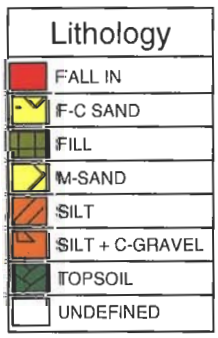
SOIL BORING / MONITORING WELL CONSTRUCTION LOG

Boring / Well ID: SB-20	Project: Herkimer MGP Site, RI	Drilling Contractor: Lyon Drilling
Dates (Started & Completed): 5/19/08	Project Location: Herkimer, NY	Drillers: Harry & Jeff Lyon
Horizontal Coordinates (NAD 83): NA	Project Number: 105905.001000.000011	Drilling / Sampling Equipment: NA
Ground Elevation (ftmsl): NA Inner Casing Elevation (ftmsl): NA	TRC Inspector: Richard Gille	Depth to Water (ftbgs): 8

SB-20





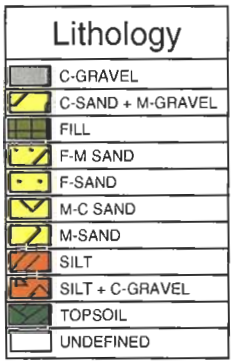


NOTES:
ftbgs - feet below ground surface

SOIL BORING / MONITORING WELL CONSTRUCTION LOG

Boring / Well ID: SB-21	Project: Herkimer MGP Site, RI	Drilling Contractor: Lyon Drilling
Dates (Started & Completed): 5/19/08	Project Location: Herkimer, NY	Drillers: Harry & Jeff Lyon
Horizontal Coordinates (NAD 83): NA	Project Number: 105905.001000.000011	Drilling / Sampling Equipment: NA
Ground Elevation (ftmsl): NA Inner Casing Elevation (ftmsl): NA	TRC Inspector: Richard Gille	Depth to Water (ftbgs): ~5

SB-21

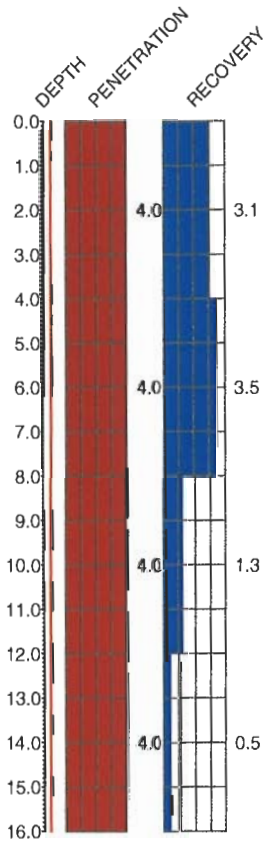


NOTES:
ftbgs - feet below ground surface

SOIL BORING / MONITORING WELL CONSTRUCTION LOG

Boring / Well ID: SB-22	Project: Herkimer MGP Site, RI	Drilling Contractor: Lyon Drilling
Dates (Started & Completed): 5/19/08	Project Location: Herkimer, NY	Drillers: Harry & Jeff Lyon
Horizontal Coordinates (NAD 83): NA	Project Number: 105905.001000.000011	Drilling / Sampling Equipment: NA
Ground Elevation (ftmsl): NA Inner Casing Elevation (ftmsl): NA	TRC Inspector: Richard Gille	Depth to Water (ftbgs): 7.4

SB-22



LITHOLOGY

0.0-0.3: TOPSOIL: Dark brown F-SAND + SILT, some f-gravel, trace c-sand, dry, grass and roots present.
0.3-0.7: FILL: Black to dark brown F-SAND, little silt, little c-sand, dry, coal pieces and ash present.
0.7-1.5: FILL: Brown silt, little m-gravel, little c-sand, brick pieces and ash, dry.

1.5-3.1: FILL: Brown silt, little m-gravel, little c-sand, brick pieces and ash, dry.

3.1-4.0: UNDEFINED: No recovery.

4.0-6.0: SILT: Dark brown SILT, little c-sand, little f-gravel, dry, no odors, no stains.

6.0-7.5: SILT + CLAY: Brown SILT + CLAY, course gravel in tip, obvious staining and sheen in tip, PID 0.0

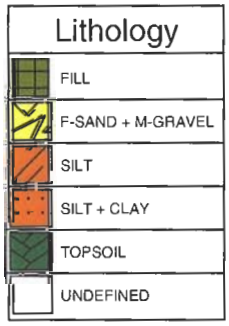
7.5-8.0: UNDEFINED: No recovery.

8.0-9.3: SILT: Dark brown SILT, some c-gravel, some f-m sand, wet, sheen and odor.

9.3-12.0: UNDEFINED: No recovery.

12.0-12.5: F-SAND + M-GRAVEL: Brown F-SAND + M-GRAVEL, little silt, wet, no discernable odor, no staining or sheen.

12.5-16.0: UNDEFINED: No recovery.

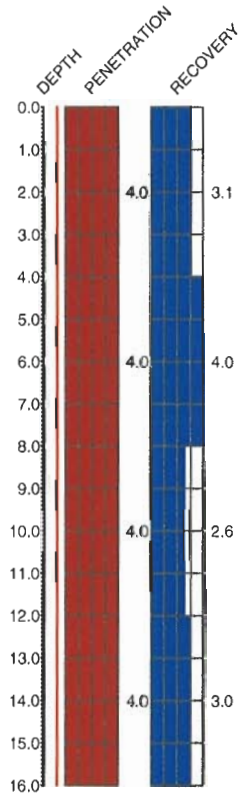


NOTES:
ftbgs - feet below ground surface

SOIL BORING / MONITORING WELL CONSTRUCTION LOG

Boring / Well ID: SB-23	Project: Herkimer MGP Site, RI	Drilling Contractor: Lyon Drilling
Dates (Started & Completed): 5/19/08	Project Location: Herkimer, NY	Drillers: Harry & Jeff Lyon
Horizontal Coordinates (NAD 83): NA	Project Number: 105905.001000.000011	Drilling / Sampling Equipment: NA
Ground Elevation (ftmsl): NA Inner Casing Elevation (ftmsl): NA	TRC Inspector: Richard Gille	Depth to Water (ftbgs): 9.91

SB-23



LITHOLOGY

0.1-0.2: TOPSOIL: Dark brown SILT, dry, grass and roots present.

0.2-1.5: FILL: Dark brown fine SAND, some m-gravel, dry, coal pieces, brick and concrete pieces present, coal ash present.

1.5-1.9: FILL: Coal pieces and ash, dry.

1.9-3.1: SILT: Brown SILT, some clay, dry.

3.1-4.0: UNDEFINED: No recovery.

4.0-8.0: SILT + CLAY: Dark brown SILT + CLAY, dry, slight odor at 7.5-8.0 ft. bgs.

8.0-10.5: CLAY: Brown to gray CLAY, little silt, dry, obvious oil "blebs" and smears along soil core, oil present in clay, wet, PID = 7-14 ppm.

10.5-10.6: SILT: Dark brown SILT, trace m-gravel, obvious sheen in tip, wet.

10.6-12.0: UNDEFINED: No recovery.

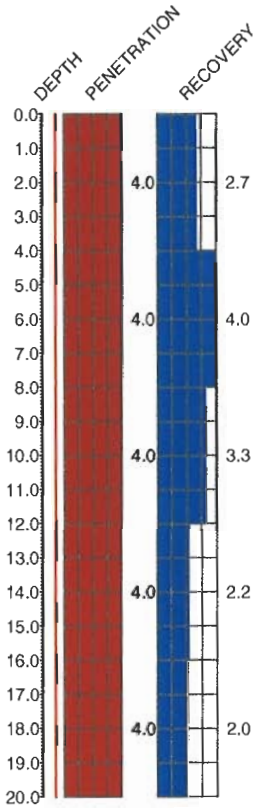
12.0-16.0: M-C SAND: Black M-C SAND, some m-gravel, trace silt, petro odor, wet

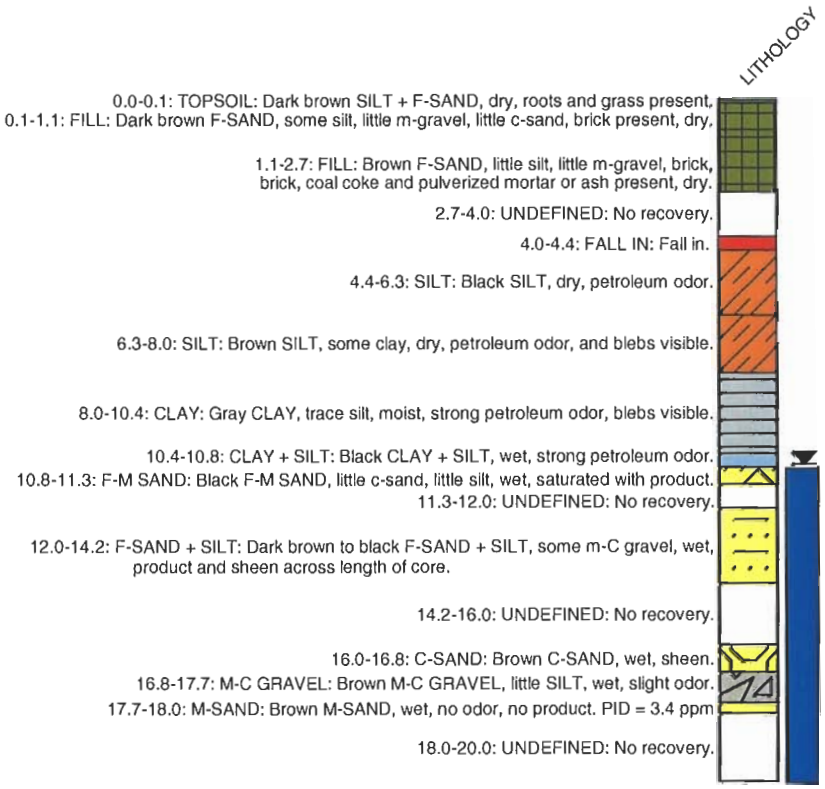
NOTES:
ftbgs - feet below ground surface

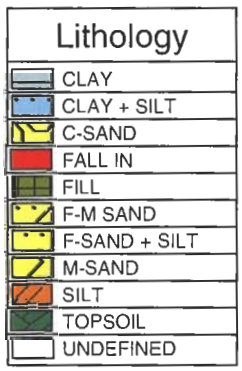
SOIL BORING / MONITORING WELL CONSTRUCTION LOG

Boring / Well ID: SB-24	Project: Herkimer MGP Site, RI	Drilling Contractor: Lyon Drilling
Dates (Started & Completed): 5/20/08	Project Location: Herkimer, NY	Drillers: Harry & Jeff Lyon
Horizontal Coordinates (NAD 83): NA	Project Number: 105905.001000.000011	Drilling / Sampling Equipment: NA
Ground Elevation (ftmsl): NA Inner Casing Elevation (ftmsl): NA	TRC Inspector: Richard Gille	Depth to Water (ftbgs): 10.8

SB-24





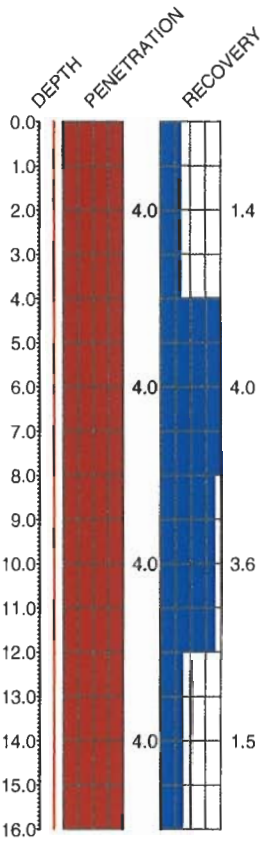


NOTES:
ftbgs - feet below ground surface

SOIL BORING / MONITORING WELL CONSTRUCTION LOG

Boring / Well ID: SB-25	Project: Herkimer MGP Site, RI	Drilling Contractor: Lyon Drilling
Dates (Started & Completed): 5/20/08	Project Location: Herkimer, NY	Drillers: Harry & Jeff Lyon
Horizontal Coordinates (NAD 83): NA	Project Number: 105905.001000.000011	Drilling / Sampling Equipment: NA
Ground Elevation (ftmsl): NA Inner Casing Elevation (ftmsl): NA	TRC Inspector: Richard Gille	Depth to Water (ftbgs): 11.6

SB-25



LITHOLOGY

0.0-0.5: CONCRETE: Concrete

0.5-1.4: FILL: Brown F-M SAND, some f-gravel, little silt, coal pieces, coal coke, brick pieces and ash present, dry.

1.4-4.0: UNDEFINED: No recovery.

4.0-5.5: SILT: Dark brown SILT, little clay, dry.

5.5-8.0: SILT + CLAY: Brown SILT + CLAY, dry, slight odor in tip.

8.0-11.1: CLAY: Dark brown to gray CLAY, little silt, dry, product present. Strong petroleum odor.

11.1-11.6: SILT: Dark brown SILT, some clay, trace m-gravel, dry, petroleum odor.

11.6-12.0: F-SAND + SILT: Dark brown to black F-SAND + SILT, some m-c gravel, wet at 11.6, product present in bottom.

12.0-12.7: M-C SAND: Brown M-C SAND, little f-gravel, little silt, wet, floating product in top of liner.

12.7-16.0: UNDEFINED: No recovery.

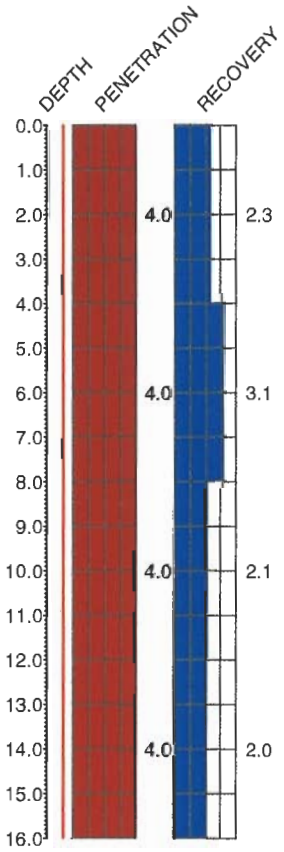
Lithology
CLAY
CLAY + SILT
C-SAND
FALL IN
FILL
F-M SAND
F-SAND + SILT
M-SAND
SILT
TOPSOIL
UNDEFINED

NOTES:
ftbgs - feet below ground surface

SOIL BORING / MONITORING WELL CONSTRUCTION LOG

Boring / Well ID: SB-26	Project: Herkimer MGP Site, RI	Drilling Contractor: Lyon Drilling
Dates (Started & Completed): 5/20/08	Project Location: Herkimer, NY	Drillers: Harry & Jeff Lyon
Horizontal Coordinates (NAD 83): NA	Project Number: 105905.001000.000011	Drilling / Sampling Equipment: NA
Ground Elevation (ftmsl): NA Inner Casing Elevation (ftmsl): NA	TRC Inspector: Richard Gille	Depth to Water (ftbgs): 8.4

SB-26



LITHOLOGY

0.0-0.3: TOPSOIL: Brown F-SAND, some silt, dry, grass and roots present.

0.3-2.0: FILL: Brown F-SAND, brick and pulverized mortar, dry.

2.0-2.3: SILT: Dark brown SILT, little clay, dry

2.3-4.0: UNDEFINED: No recovery.

4.0-4.5: SILT: Dark brown SILT, little clay, dry

4.5-5.7: SILT: Brown SILT, some clay, dry, no odors, no stains.

5.7-6.6: CLAY: Brown to gray CLAY, dry, no odors, no stains.

6.6-7.1: CLAY: Brown to gray CLAY, dry, oil "blebs" and petroleum odor present.

7.1-8.0: UNDEFINED: No recovery.

8.0-8.2: FALL IN: Fall in.

8.2-8.4: SILT: Brown SILT, some clay, little f-sand, dry.

8.4-10.1: F-M SAND: Brown to black M-F SAND, some m-c gravel, little silt, wet, product present, strong petro odor.

10.1-12.0: UNDEFINED: No recovery.

12.0-12.8: M-C SAND: Brown M-C SAND, wet, no odors, no sheen.

12.8-14.0: M-SAND: Brown M-SAND, some m-c gravel, little silt, little c-sand, wet, wet, no odors, no sheen.

14.0-16.0: UNDEFINED: No recovery.

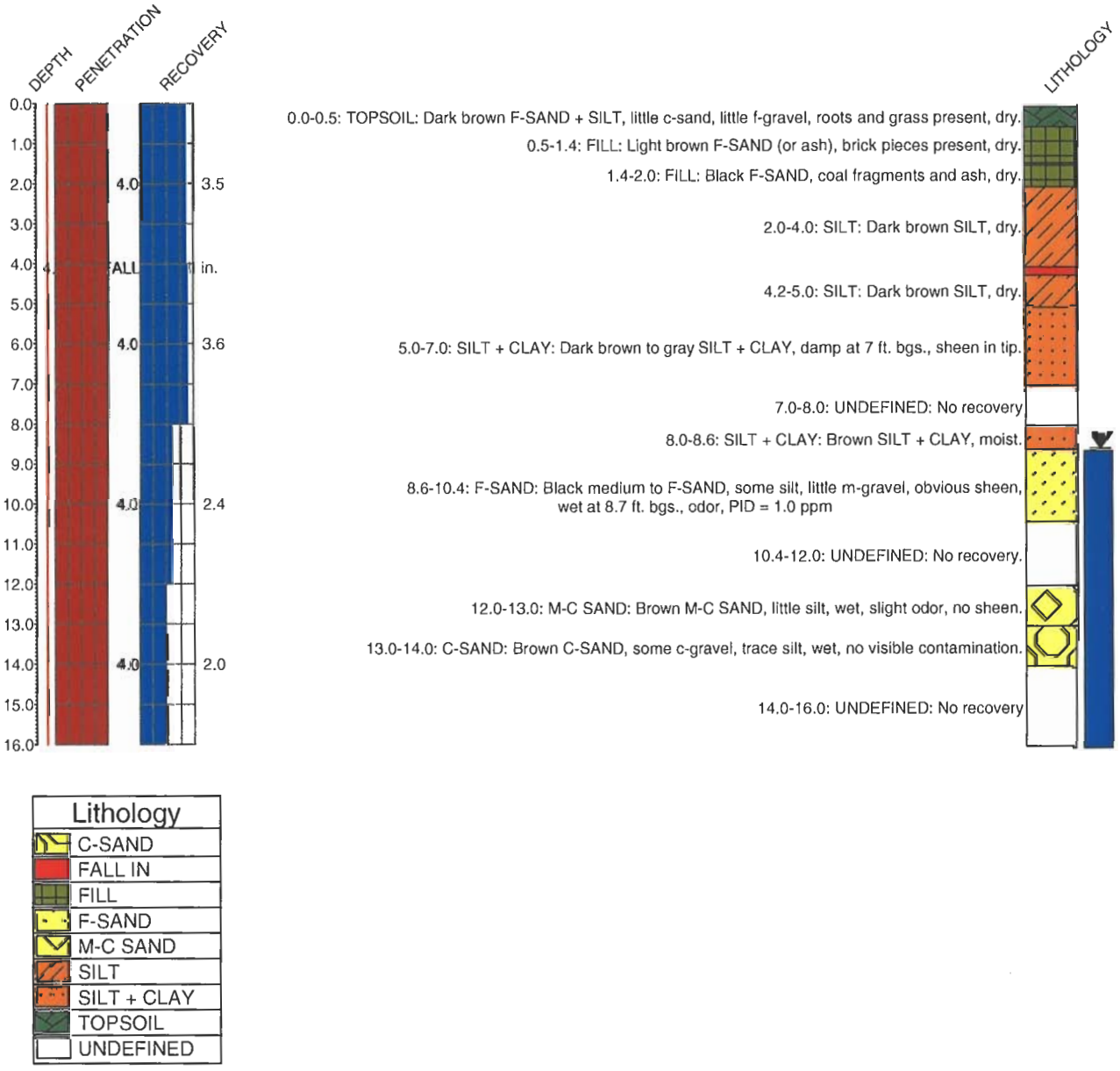
Lithology
CLAY
FALL IN
FILL
F-M SAND
M-C SAND
M-SAND
SILT
TOPSOIL
UNDEFINED

NOTES:
ftbgs - feet below ground surface

SOIL BORING / MONITORING WELL CONSTRUCTION LOG

Boring / Well ID: SB-27	Project: Herkimer MGP Site, RI	Drilling Contractor: Lyon Drilling
Dates (Started & Completed): 5/19/08	Project Location: Herkimer, NY	Drillers: Harry & Jeff Lyon
Horizontal Coordinates (NAD 83): NA	Project Number: 105905.001000.000011	Drilling / Sampling Equipment: NA
Ground Elevation (ftmsl): NA Inner Casing Elevation (ftmsl): NA	TRC Inspector: Richard Gille	Depth to Water (ftbgs): 8.7

SB-27

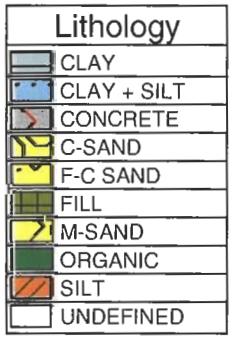


NOTES:
ftbgs - feet below ground surface

SOIL BORING / MONITORING WELL CONSTRUCTION LOG

Boring / Well ID: SB-28	Project: Herkimer MGP Site, RI	Drilling Contractor: Lyon Drilling
Dates (Started & Completed): 5/20/08	Project Location: Herkimer, NY	Drillers: Harry & Jeff Lyon
Horizontal Coordinates (NAD 83): NA	Project Number: 105905.001000.000011	Drilling / Sampling Equipment: NA
Ground Elevation (ftmsl): NA Inner Casing Elevation (ftmsl): NA	TRC Inspector: Richard Gille	Depth to Water (ftbgs): 10.8

SB-28

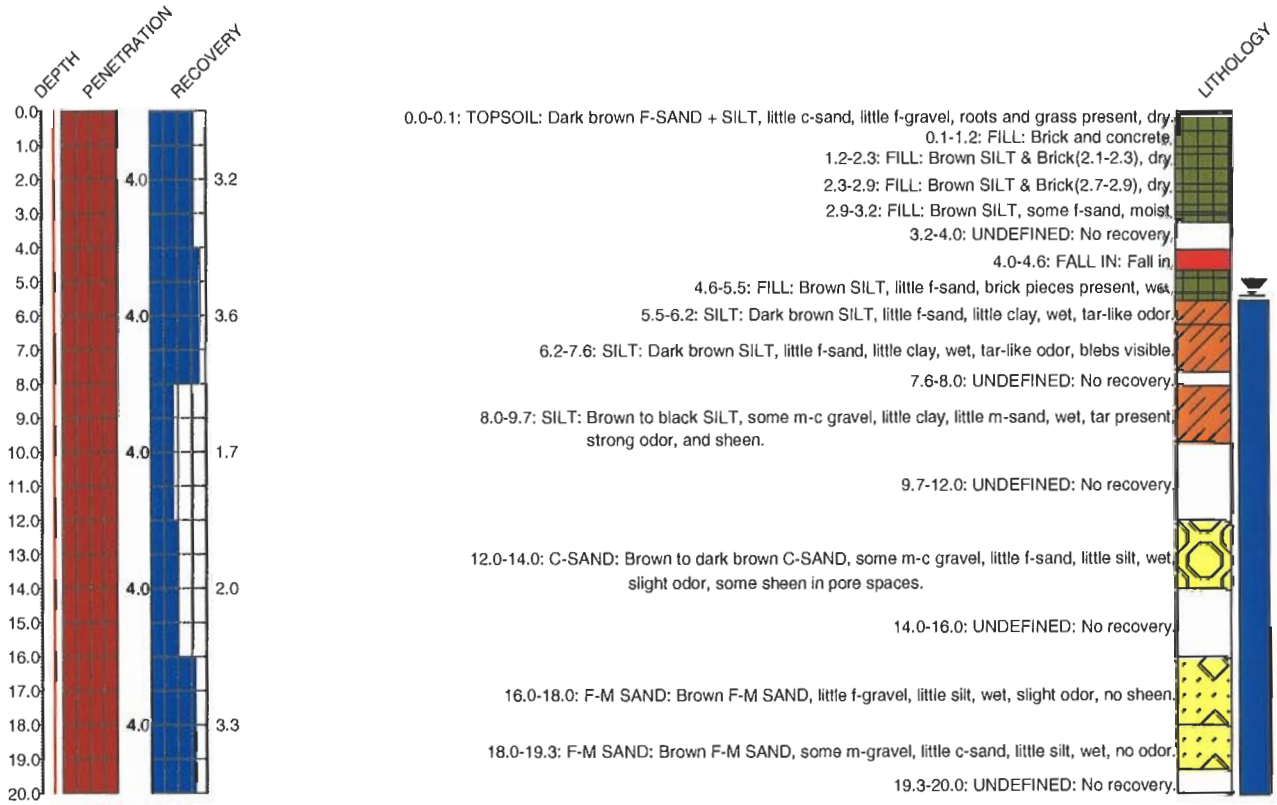


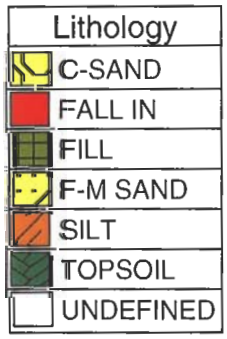
NOTES:
ftbgs - feet below ground surface

SOIL BORING / MONITORING WELL CONSTRUCTION LOG

Boring / Well ID: SB-29	Project: Herkimer MGP Site, RI	Drilling Contractor: Lyon Drilling
Dates (Started & Completed): 5/21/08	Project Location: Herkimer, NY	Drillers: Harry & Jeff Lyon
Horizontal Coordinates (NAD 83): NA	Project Number: 105905.001000.000011	Drilling / Sampling Equipment: NA
Ground Elevation (ftmsl): NA Inner Casing Elevation (ftmsl): NA	TRC Inspector: Richard Gille	Depth to Water (ftbgs): 4.6

SB-29



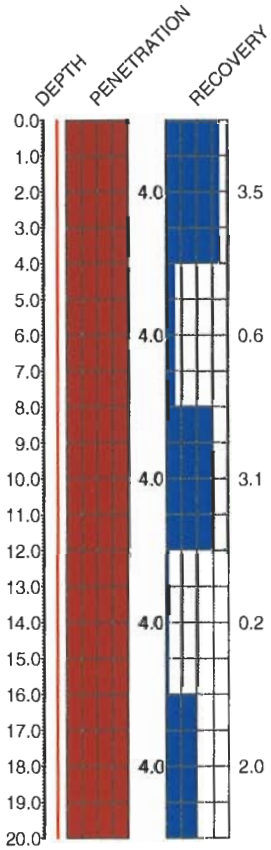


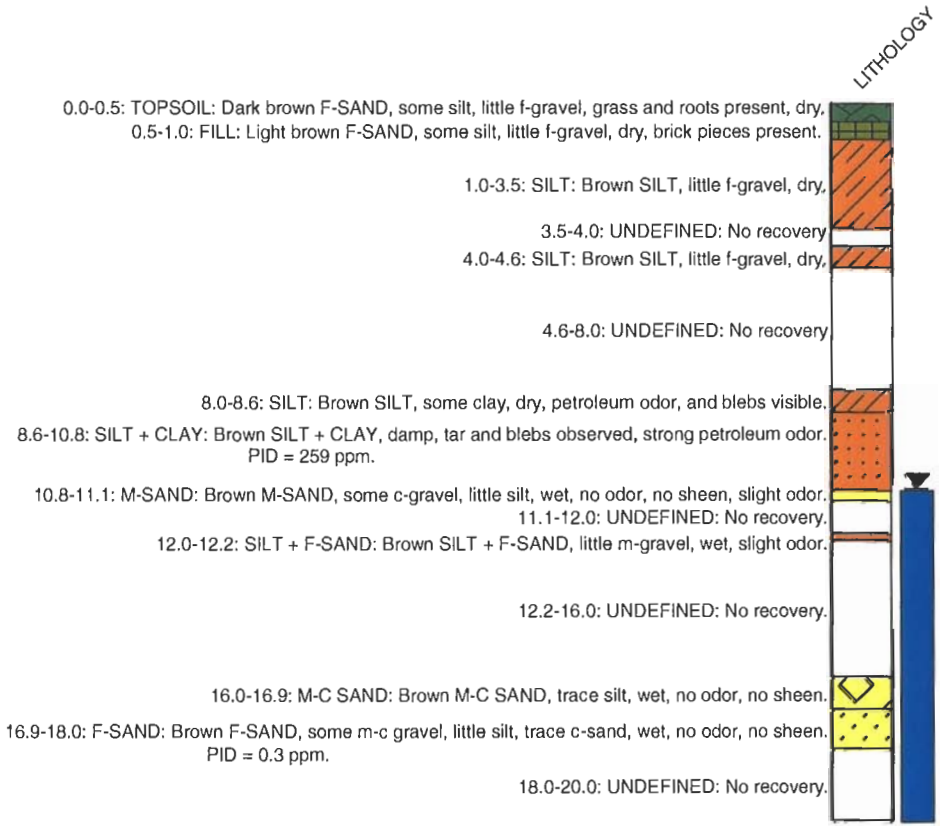
NOTES:
ftbgs - feet below ground surface

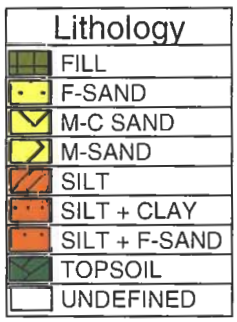
SOIL BORING / MONITORING WELL CONSTRUCTION LOG

Boring / Well ID: SB-30	Project: Herkimer MGP Site, RI	Drilling Contractor: Lyon Drilling
Dates (Started & Completed): 5/21/08	Project Location: Herkimer, NY	Drillers: Harry & Jeff Lyon
Horizontal Coordinates (NAD 83): NA	Project Number: 105905.001000.000011	Drilling / Sampling Equipment: NA
Ground Elevation (ftmsl): NA Inner Casing Elevation (ftmsl): NA	TRC Inspector: Richard Gille	Depth to Water (ftbgs): 10.8

SB-30





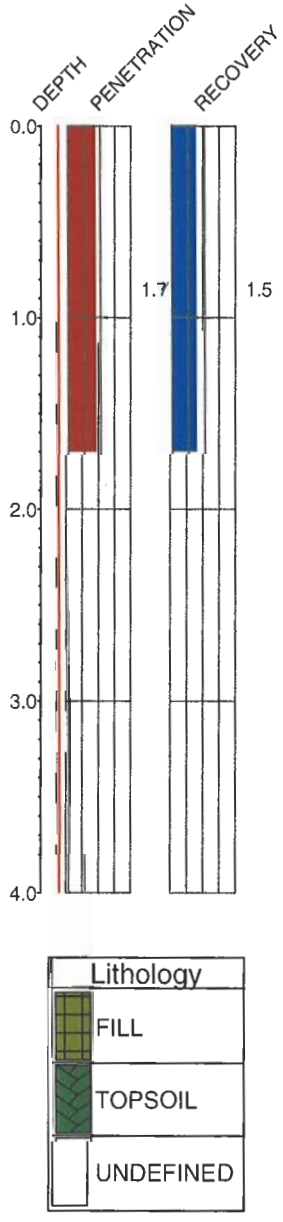


NOTES:
ftbgs - feet below ground surface

SOIL BORING / MONITORING WELL CONSTRUCTION LOG

Boring / Well ID: SB-31	Project: Herkimer MGP Site, RI	Drilling Contractor: Lyon Drilling
Dates (Started & Completed): 5/21/08	Project Location: Herkimer, NY	Drillers: Harry & Jeff Lyon
Horizontal Coordinates (NAD 83): NA	Project Number: 105905.001000.000011	Drilling / Sampling Equipment: NA
Ground Elevation (ftmsl): NA Inner Casing Elevation (ftmsl): NA	TRC Inspector: Richard Gille	Depth to Water (ftbgs):

SB-31



LITHOLOGY

0.0-0.2: TOPSOIL: Dark brown F-SAND + SILT, little c-sand, little f-gravel, roots and grass present, dry.

0.2-0.7: FILL: Coal pieces, dry.

0.7-1.5: FILL: Brown SILT, brick pieces, dry.

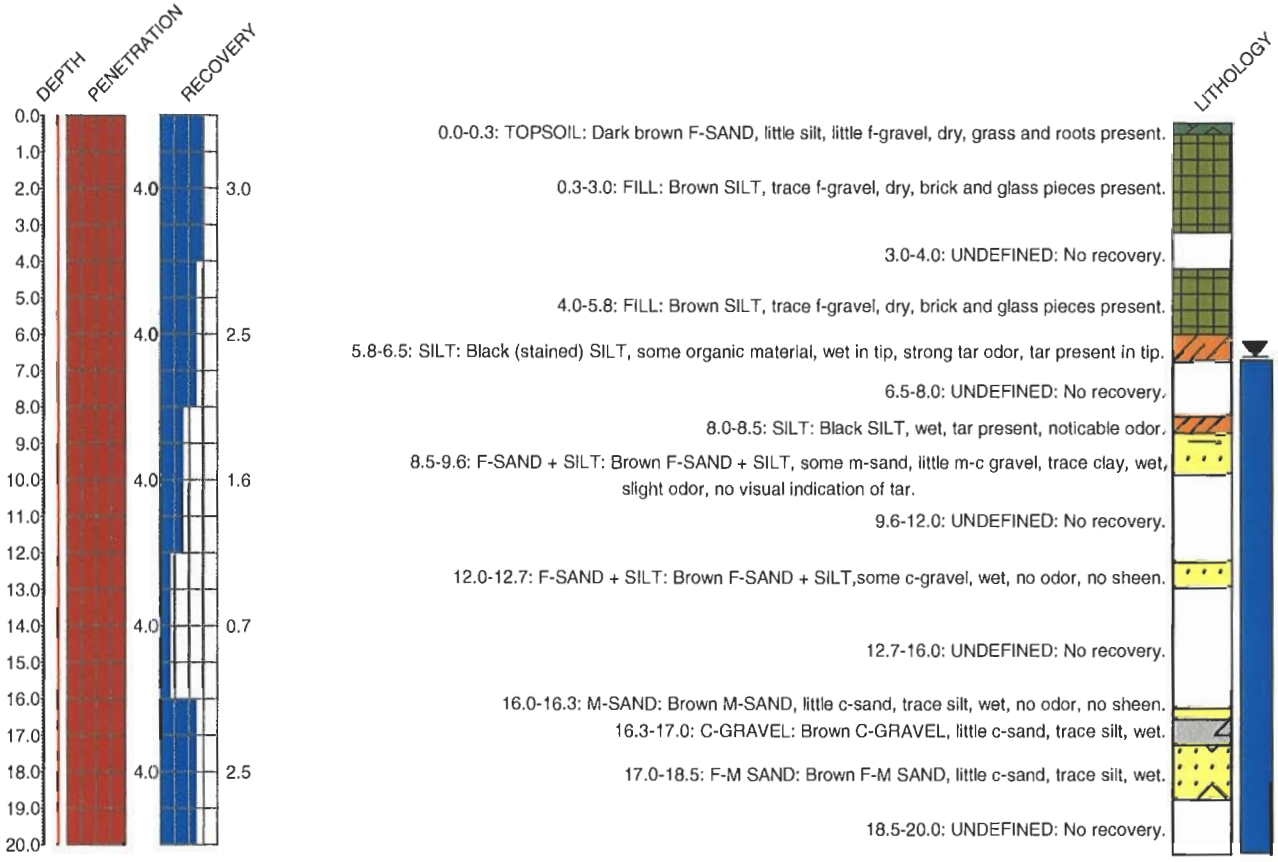
1.5-4.0: UNDEFINED: Refusal at 1.7.
Re-located boring approximately 1 ft. to the North, identified as SB-31B.

NOTES:
ftbgs - feet below ground surface

SOIL BORING / MONITORING WELL CONSTRUCTION LOG

Boring / Well ID: SB-31B	Project: Herkimer MGP Site, RI	Drilling Contractor: Lyon Drilling
Dates (Started & Completed): 5/21/08	Project Location: Herkimer, NY	Drillers: Harry & Jeff Lyon
Horizontal Coordinates (NAD 83): NA	Project Number: 105905.001000.000011	Drilling / Sampling Equipment: NA
Ground Elevation (ftmsl): NA Inner Casing Elevation (ftmsl): NA	TRC Inspector: Richard Gille	Depth to Water (ftbgs): 6.5

SB-31B



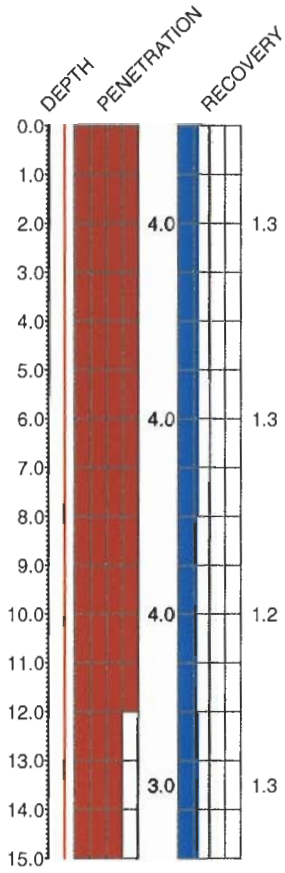
Lithology
C-GRAVEL
FILL
F-M SAND
F-SAND + SILT
M-SAND
SILT
TOPSOIL
UNDEFINED

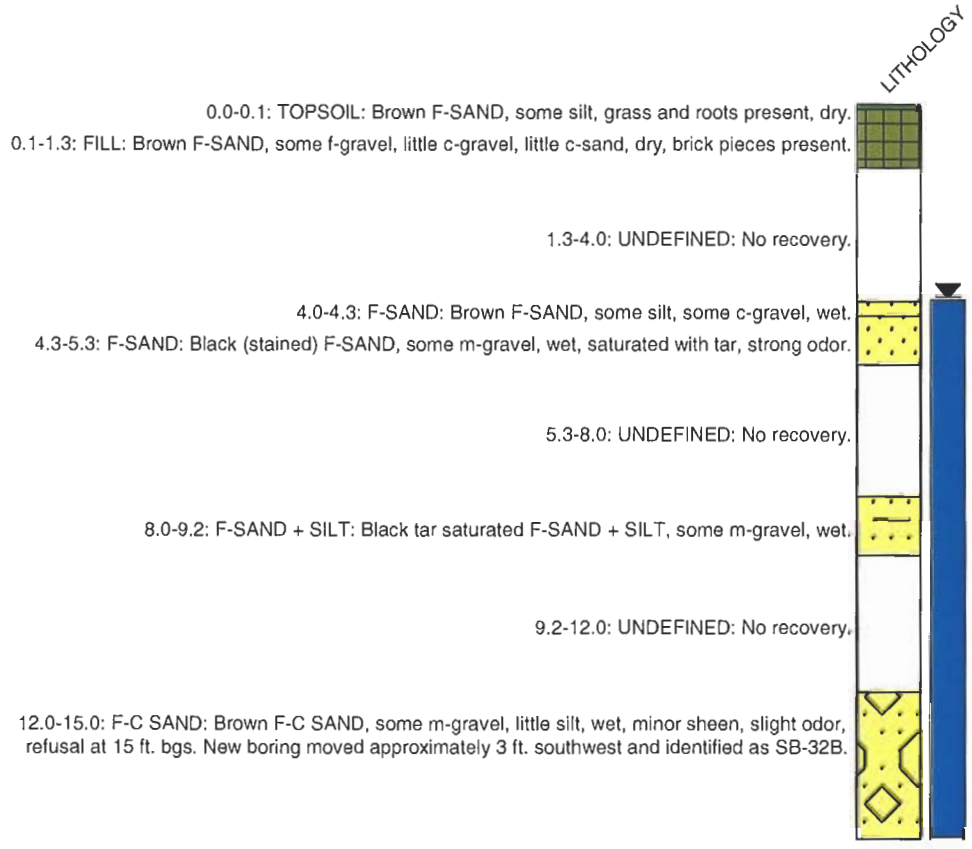
NOTES:
ftbgs - feet below ground surface

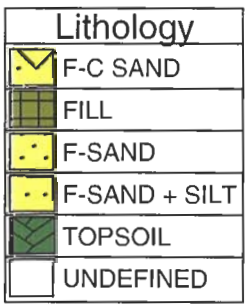
SOIL BORING / MONITORING WELL CONSTRUCTION LOG

Boring / Well ID: SB-32	Project: Herkimer MGP Site, RI	Drilling Contractor: Lyon Drilling
Dates (Started & Completed): 5/22/08	Project Location: Herkimer, NY	Drillers: Harry & Jeff Lyon
Horizontal Coordinates (NAD 83): NA	Project Number: 105905.001000.000011	Drilling / Sampling Equipment: NA
Ground Elevation (ftmsl): NA Inner Casing Elevation (ftmsl): NA	TRC Inspector: Richard Gille	Depth to Water (ftbgs): 4.3

SB-32





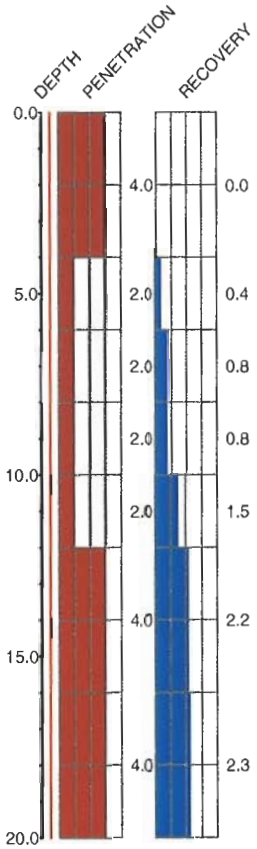


NOTES:
ftbgs - feet below ground surface

SOIL BORING / MONITORING WELL CONSTRUCTION LOG

Boring / Well ID: SB-32B	Project: Herkimer MGP Site, RI	Drilling Contractor: Lyon Drilling
Dates (Started & Completed): 5/22/08	Project Location: Herkimer, NY	Drillers: Harry & Jeff Lyon
Horizontal Coordinates (NAD 83): NA	Project Number: 105905.001000.000011	Drilling / Sampling Equipment: NA
Ground Elevation (ftmsl): NA Inner Casing Elevation (ftmsl): NA	TRC Inspector: Richard Gille	Depth to Water (ftbgs): 10

SB-32B



0.0-4.0: UNDEFINED: Augered to 4 ft. bgs.

4.0-4.4: F-SAND + SILT: Brown F-SAND + SILT, little m-c gravel, moist, brick pieces present, no odor, no product, no blebs or sheen.

4.4-6.0: UNDEFINED: No recovery.

6.0-6.6: F-SAND + SILT: Brown F-SAND + SILT, little m-c gravel, wet, brick pieces present, slight amount of tar in tip of core.

6.6-8.0: UNDEFINED: No recovery.

8.0-8.2: CONCRETE: Concrete or brick. Suspected gas holder bottom.

8.2-8.8: CLAY: Brown CLAY, little silt, wet, blebs and product in tip.

8.8-10.0: UNDEFINED: No recovery.

10.0-11.5: F-SAND + SILT: Black F-SAND + SILT, some f-gravel, trace clay, very wet, saturated with tar sheens and blebs throughout.

11.5-12.0: UNDEFINED: No recovery.

12.0-14.2: SILT: Brown SILT, some f-c sand, little m-gravel, wet, very slight odor, no visible product.

14.2-16.0: UNDEFINED: No recovery.

16.0-17.0: C-GRAVEL: C-GRAVEL, some brown silt, little f-c sand, wet, no odor or sheen.

17.0-18.3: F-M SAND: Brown F-M SAND, little m-gravel, trace silt, wet, no odors, no sheens.

18.3-20.0: UNDEFINED: No recovery.

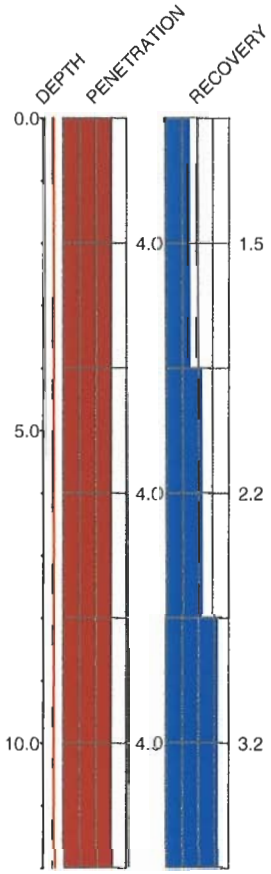
Lithology
C-GRAVEL
CLAY
CONCRETE
F-M SAND
F-SAND + SILT
SILT
UNDEFINED

NOTES:
ftbgs - feet below ground surface

SOIL BORING / MONITORING WELL CONSTRUCTION LOG

Boring / Well ID: SB-33	Project: Herkimer MGP Site, RI	Drilling Contractor: Lyon Drilling
Dates (Started & Completed): 5/22/08	Project Location: Herkimer, NY	Drillers: Harry & Jeff Lyon
Horizontal Coordinates (NAD 83): NA	Project Number: 105905.001000.000011	Drilling / Sampling Equipment: NA
Ground Elevation (ftmsl): NA Inner Casing Elevation (ftmsl): NA	TRC Inspector: Richard Gille	Depth to Water (ftbgs):

SB-33



0.0-0.2: TOPSOIL: Dark brown F-SAND + SILT, little f-gravel, dry, grass and roots present.

0.2-1.1: FILL: Dark brown/black F-SAND + SILT, dry, coal and brick pieces present.

1.1-1.5: UNDEFINED: No recovery; piece of wood in tip of core.

1.5-4.0: UNDEFINED: No recovery.

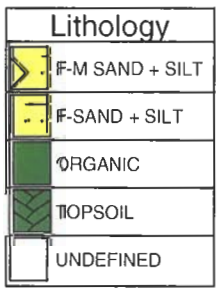
4.0-8.0: UNDEFINED: No recovery; tar-soaked wood in tip of core.

8.0-8.6: F-M SAND + SILT: Black F-M SAND + SILT, little m-gravel, wet, brick pieces present, saturated with tar.

8.6-9.6: ORGANIC: Brown Peat, wet, oil blebs present.

9.6-11.2: F-SAND + SILT: Brown F-SAND + SILT, little f-gravel, wet, slight sheen, no odor.

11.2-12.0: UNDEFINED: No recovery. Boring moved approximately 3 ft. to the west and identified as SB-33B.

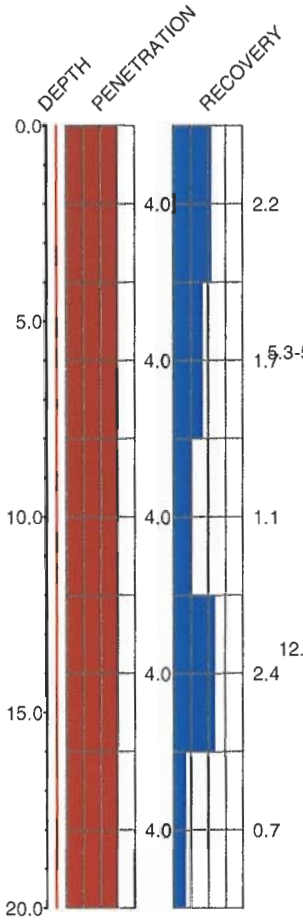


NOTES:
ftbgs - feet below ground surface

SOIL BORING / MONITORING WELL CONSTRUCTION LOG

Boring / Well ID: SB-34	Project: Herkimer MGP Site, RI	Drilling Contractor: Lyon Drilling
Dates (Started & Completed): 5/21/08	Project Location: Herkimer, NY	Drillers: Harry & Jeff Lyon
Horizontal Coordinates (NAD 83): NA	Project Number: 105905.001000.000011	Drilling / Sampling Equipment: NA
Ground Elevation (ftmsl): NA Inner Casing Elevation (ftmsl): NA	TRC Inspector: Richard Gille	Depth to Water (ftbgs): 4.8

SB-34



0.0-0.4: TOPSOIL: Dark brown SAND, little silt, little c-sand, dry, grass and roots present.

0.4-2.2: FILL: Brown F-SAND, some silt, little f-gravel, dry, brick pieces present.

2.2-4.0: UNDEFINED: No recovery.

4.0-4.8: FILL: Brown F-SAND, some silt, little f-gravel, dry, brick pieces present.

4.8-5.3: F-SAND: Brown F-SAND, some silt, little clay, wet.

5.3-5.7: F-M SAND: Brown to black (stained) F-M SAND, some silt, little c-gravel, wet, tar and odors present.

5.7-8.0: UNDEFINED: No recovery

8.0-8.3: F-M SAND: Brown to black (stained) F-M SAND, some silt, little c-gravel, tar and odors present.

8.3-9.1: FILL: Brick, sheen, slight odor.

9.1-12.0: UNDEFINED: No recovery.

12.0-14.4: F-M SAND: Brown F-M SAND, some m-c gravel, little silt, wet, slight odor, no sheen, no product.

14.4-16.7: UNDEFINED: No recovery.

16.7-20.0: UNDEFINED: No recovery.

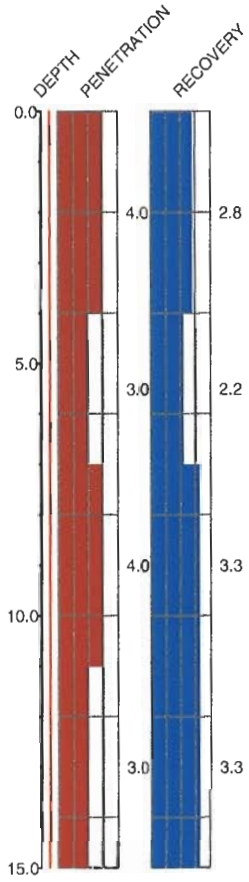
Lithology
FILL
F-M SAND
F-SAND
TOPSOIL
UNDEFINED

NOTES:
ftbgs - feet below ground surface

SOIL BORING / MONITORING WELL CONSTRUCTION LOG

Boring / Well ID: SB-35	Project: Herkimer MGP Site, RI	Drilling Contractor: Lyon Drilling
Dates (Started & Completed): 5/22/08	Project Location: Herkimer, NY	Drillers: Harry & Jeff Lyon
Horizontal Coordinates (NAD 83): NA	Project Number: 105905.001000.000011	Drilling / Sampling Equipment: NA
Ground Elevation (ftmsl): NA Inner Casing Elevation (ftmsl): NA	TRC Inspector: Richard Gille	Depth to Water (ftbgs): 4.5

SB-35



0.0-0.5: TOPSOIL: Dark brown F-SAND + SILT, trace c-sand, dry, grass and roots present.

0.5-1.7: FILL: Dark brown F-M SAND, some f-gravel, little silt, dry, brick and slag pieces present.

1.7-2.3: FILL: Brown F-SAND + SILT, dry, brick pieces present.

2.3-2.7: FILL: Brick fragments and cobbles in sleeve, dry.

2.7-4.0: UNDEFINED: No recovery.

4.0-4.7: FILL: Brick fragments and cobbles in sleeve, wet at 4.5 ft. bgs.

4.7-5.2: F-SAND + SILT: Brown F-SAND + SILT, trace c-sand, wet.

5.2-5.5: CONCRETE: Concrete; suspected bottom of gas holder.

5.5-6.1: F-M SAND: Black F-M SAND, little silt, wet, brick pieces present, wet tar oozing from soil. PID = 157 ppm.

6.1-7.0: UNDEFINED: No recovery.

7.0-9.0: CLAY: Gray CLAY, moist, slight sheen, slight odor.

9.0-9.6: UNDEFINED: Wood piece in tip of sleeve, no further recovery.

9.6-10.1: CLAY: Gray CLAY, moist, slight odor.

10.1-11.0: UNDEFINED: No recovery.

11.0-14.3: F-SAND + SILT: Brown F-SAND + SILT, some m-c gravel, trace clay, wet, very small amount of sheen, no odor.

14.3-15.0: UNDEFINED: No recovery.

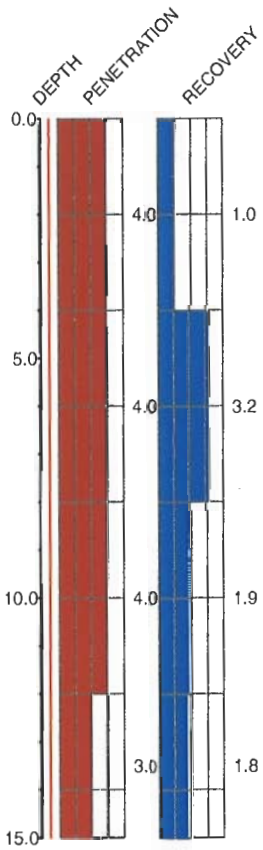
Lithology
CLAY
CONCRETE
FILL
F-M SAND
F-SAND + SILT
TOPSOIL
UNDEFINED

NOTES:
ftbgs - feet below ground surface

SOIL BORING / MONITORING WELL CONSTRUCTION LOG

Boring / Well ID: SB-36	Project: Herkimer MGP Site, RI	Drilling Contractor: Lyon Drilling
Dates (Started & Completed): 5/21/08	Project Location: Herkimer, NY	Drillers: Harry & Jeff Lyon
Horizontal Coordinates (NAD 83): NA	Project Number: 105905.001000.000011	Drilling / Sampling Equipment: NA
Ground Elevation (ftmsl): NA Inner Casing Elevation (ftmsl): NA	TRC Inspector: Richard Gille	Depth to Water (ftbgs): 8.0

SB-36



0.0-0.4: CONCRETE: Concrete,

0.4-4.0: CONCRETE: Concrete or cobble in tip of sleeve, no further recovery,

4.0-4.8: FILL: Black F-SAND + SILT, dry, coal slag, ash and coke present, brick pieces present, no odor, no product,

4.8-5.6: F-SAND + SILT: Dark brown F-SAND + SILT, dry,

5.6-7.2: SILT + CLAY: Brown SILT + CLAY, dry,

7.2-8.0: UNDEFINED: No recovery,

8.0-8.3: FALL IN: Black SILT, little c-sand, ash and coal pieces, fall in, wet at 8.0 fbg,

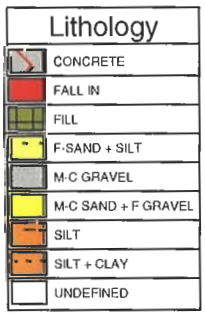
8.3-9.9: SILT: Brown SILT, wet, slight sheen from 8.3-8.5 ft. bgs., slight odor,

9.9-12.0: UNDEFINED: No recovery.

12.0-12.3: M-C GRAVEL: Brown M-C GRAVEL, little silt, wet, no odor, no sheen.
12.3-12.8: F-SAND + SILT: Brown F-SAND + SILT, wet, no odor, no sheen.

12.8-13.8: M-C SAND + F GRAVEL: Brown M-C SAND + F-GRAVEL, little silt, wet, no odor, no sheen.

13.8-15.0: UNDEFINED: No recovery/Refusal at 15 ft. bgs.

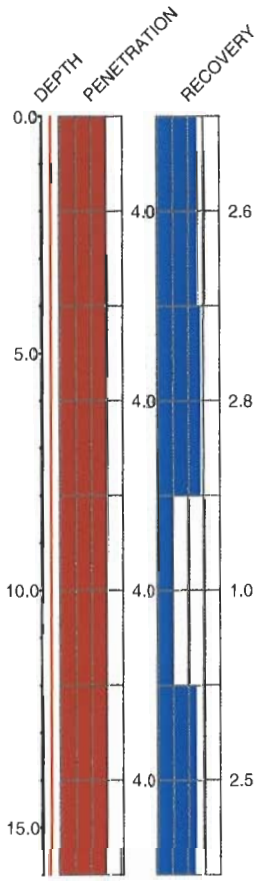


NOTES:
ftbgs - feet below ground surface

SOIL BORING / MONITORING WELL CONSTRUCTION LOG

Boring / Well ID: SB-37	Project: Herkimer MGP Site, RI	Drilling Contractor: Lyon Drilling
Dates (Started & Completed): 5/21/08	Project Location: Herkimer, NY	Drillers: Harry & Jeff Lyon
Horizontal Coordinates (NAD 83): NA	Project Number: 105905.001000.000011	Drilling / Sampling Equipment: NA
Ground Elevation (ftmsl): NA Inner Casing Elevation (ftmsl): NA	TRC Inspector: Richard Gille	Depth to Water (ftbgs): 8.0

SB-37



0.0-0.1: TOPSOIL: Dark brown F-SAND + SILT, little f-gravel, dry, grass and roots present.

0.1-1.5: FILL: Dark brown F-SAND, little silt, dry, ash, coal and brick pieces present.

1.5-2.0: FILL: Multi-colored SILT, some blue (light blue) banding, dry.

2.0-2.6: FILL: Dark brown F-SAND, some silt, dry, brick pieces present.

2.6-4.0: UNDEFINED: No recovery

4.0-4.5: F-SAND: Dark brown F-SAND, little silt, little f-gravel, trace c-sand, dry, no odors, no sheen.

4.5-5.3: SILT: Dark brown SILT, little clay, dry, no odor, no sheen.

5.3-6.7: SILT: Dark brown SILT, some clay, stong petroleum odor, blebs and sheen present. PID = 11.3 ppm.

6.7-8.0: UNDEFINED: No recovery.

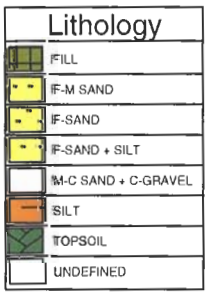
8.0-9.0: F-SAND + SILT: Black F-SAND + SILT, some c-gravel, wet, obvious sheen and petroleum odor. PID = 258 ppm.

9.0-12.0: UNDEFINED: No recovery.

12.0-14.0: M-C SAND + C-GRAVEL: Brown M-C SAND and C-GRAVEL, wet, slight odor.

14.0-14.5: F-M SAND: Brown F-M SAND, little silt, wet, no odor, no sheen.

14.5-16.0: UNDEFINED: No recovery.

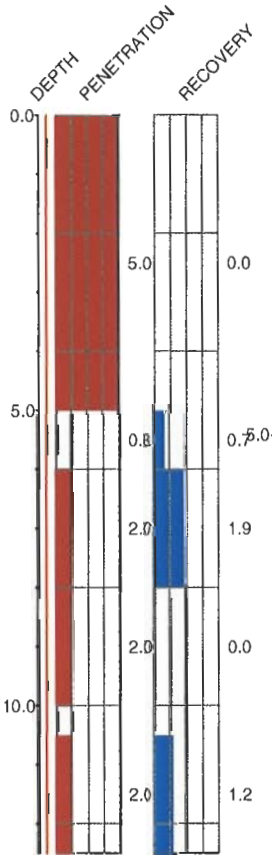


NOTES:
ftbgs - feet below ground surface

SOIL BORING / MONITORING WELL CONSTRUCTION LOG

Boring / Well ID: SB-38	Project: Herkimer MGP Site, RI	Drilling Contractor: Lyon Drilling
Dates (Started & Completed): 5/22/08	Project Location: Herkimer, NY	Drillers: Harry & Jeff Lyon
Horizontal Coordinates (NAD 83): NA	Project Number: 105905.001000.000011	Drilling / Sampling Equipment: NA
Ground Elevation (ftmsl): NA Inner Casing Elevation (ftmsl): NA	TRC Inspector: Richard Gille	Depth to Water (ftbgs): 11.0

SB-38



0.0-5.0: UNDEFINED: Augered from ground surface to 5 ft. bgs. Not sampled.

5.0-5.7: FILL: Dark brown F-M SAND, some silt, little m-gravel, dry, brick pieces present, no odor, no sheen. PID = 1.4 ppm.

5.7-6.0: UNDEFINED: No recovery.

6.0-7.9: CLAY: Brown CLAY, moist in tip, no odor, no sheen.

7.9-8.0: UNDEFINED: No recovery.

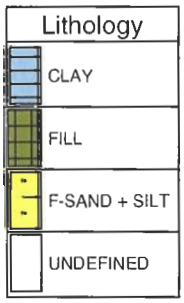
8.0-10.0: UNDEFINED: No recovery. Obstruction at 10 ft. bgs., augered to 10.5 ft. bgs. for next sample interval.

10.0-10.5: UNDEFINED: No recovery. Obstruction at 10 ft. bgs., augered to 10.5 ft. bgs. for next sample interval.

10.5-11.0: CLAY: Brown CLAY, wet, no odors, no sheen. PID = 0.4 ppm.

11.0-11.2: F-SAND + SILT: Brown F-SAND + SILT, little m-gravel, wet, no odor, no sheen.

11.2-12.0: UNDEFINED: No recovery.

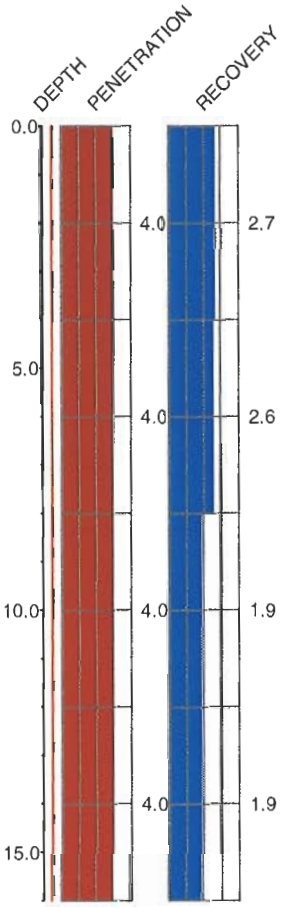


NOTES:
ftbgs - feet below ground surface

SOIL BORING / MONITORING WELL CONSTRUCTION LOG

Boring / Well ID: SB-39	Project: Herkimer MGP Site, RI	Drilling Contractor: Lyon Drilling
Dates (Started & Completed): 5/22/08	Project Location: Herkimer, NY	Drillers: Harry & Jeff Lyon
Horizontal Coordinates (NAD 83): NA	Project Number: 105905.001000.000011	Drilling / Sampling Equipment: NA
Ground Elevation (ftmsl): NA Inner Casing Elevation (ftmsl): NA	TRC Inspector: Richard Gille	Depth to Water (ftbgs): 6.6

SB-39



0.0-0.6: TOPSOIL: Dark brown F-SAND, some silt, little f-gravel, dry, grass and roots present.

0.6-1.7: FILL: Dark brown F-SAND + SILT, little c-sand, dry, brick and coal slag present, dense.

1.7-2.4: FILL: Ash spent coal, banded colored material, dry.

2.4-2.7: FILL: Grey SILT + CLAY, dry, no odors, no sheen.

2.7-4.0: UNDEFINED: No recovery.

4.0-4.6: FILL: Dark brown F-SAND, some silt, little c-sand, brick and ash present, dry, no odor, no sheen.

4.6-5.5: SILT: Dark brown SILT, little f-sand, dry, no odor, no sheen.

5.5-6.2: SILT: Brown SILT, little clay, trace f-sand, dry, no odor, no sheen.

6.2-6.6: M-SAND: Brown M-SAND, some silt, little m-gravel, little clay, wet at tip.

6.6-8.0: UNDEFINED: No recovery.

8.0-9.9: F-M SAND: Brown F-M SAND, some silt, some c-gravel, little clay, wet, no odor, no sheen.

9.9-12.0: UNDEFINED: No recovery.

12.0-13.1: F-C SAND: Brown F-C SAND, some f-m gravel, little silt, trace clay, wet, no odors, no sheen.

13.1-13.9: F-M GRAVEL: Brown F-M GRAVEL, little f-c sand, little silt, wet, no odors, no sheen.

13.9-16.0: UNDEFINED: No recovery.

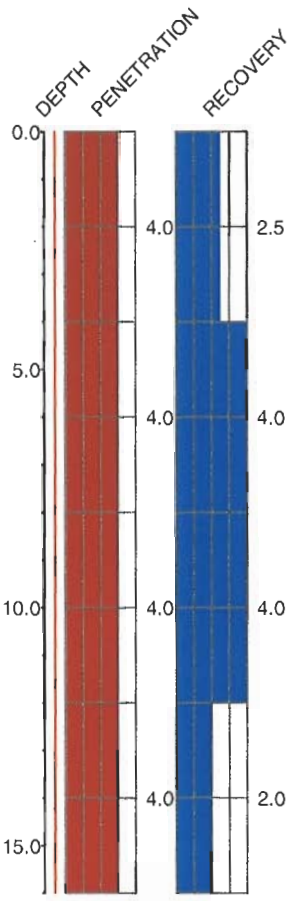
Lithology
F-C SAND
FILL
F-M GRAVEL
F-M SAND
M-SAND
SILT
TOPSOIL
UNDEFINED

NOTES:
ftbgs - feet below ground surface

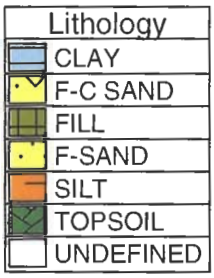
SOIL BORING / MONITORING WELL CONSTRUCTION LOG

Boring / Well ID: SB-40	Project: Herkimer MGP Site, RI	Drilling Contractor: Lyon Drilling
Dates (Started & Completed): 5/22/08	Project Location: Herkimer, NY	Drillers: Harry & Jeff Lyon
Horizontal Coordinates (NAD 83): NA	Project Number: 105905.001000.000011	Drilling / Sampling Equipment: NA
Ground Elevation (ftmsl): NA Inner Casing Elevation (ftmsl): NA	TRC Inspector: Richard Gille	Depth to Water (ftbgs): 7.2

SB-40



0.0-0.4: TOPSOIL: Brown F-SAND, some silt, dry, grass and roots present.
0.4-1.0: FILL: Brown F-SAND, some silt, dry, coal and ash present, no odors, no stains.
1.0-2.5: FILL: Coal and coal pieces, ash mixed in, dry.
2.5-4.0: UNDEFINED: No recovery.
4.0-4.5: FILL: Coal and coal pieces, ash mixed in, dry.
4.5-6.5: CLAY: Dark brown CLAY, dry, no odors, no stains.
6.5-8.0: SILT: Brown SILT, wet at .2 ft. bgs, no odors, no sheen.
8.0-9.5: SILT: Brown SILT, wet, no odors, no sheen.
9.5-12.0: F-SAND: Black F-SAND, little silt, wet, no odors, no sheen.
12.0-14.0: F-C SAND: Brown F-C SAND, some f-m gravel, little silt, wet, no odors, no sheen.
14.0-16.0: UNDEFINED: No recovery.

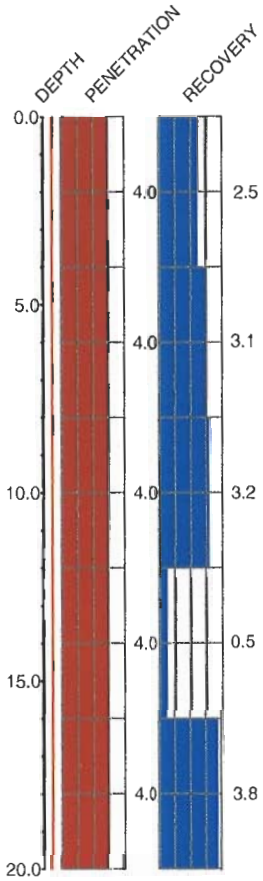


NOTES:
ftbgs - feet below ground surface

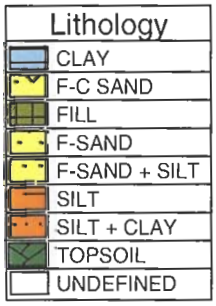
SOIL BORING / MONITORING WELL CONSTRUCTION LOG

Boring / Well ID: SB-41	Project: Herkimer MGP Site, RI	Drilling Contractor: Lyon Drilling
Dates (Started & Completed): 5/22/08	Project Location: Herkimer, NY	Drillers: Harry & Jeff Lyon
Horizontal Coordinates (NAD 83): NA	Project Number: 105905.001000.000011	Drilling / Sampling Equipment: NA
Ground Elevation (ftmsl): NA Inner Casing Elevation (ftmsl): NA	TRC Inspector: Richard Gille	Depth to Water (ftbgs): 12.5

SB-41



0.0-0.2: TOPSOIL: Dark brown SILT + F-SAND, roots and grass present, dry.
0.2-0.8: FILL: Dark brown F-SAND, some silt, little c-sand, dry, ash and brick present.
0.8-1.2: FILL: Brown SILT, little clay, dry.
1.2-2.5: FILL: Brown F-M SAND, little silt, dry, bricks, coal and ash present, no odors, no stains.
2.5-4.0: UNDEFINED: No recovery.
4.0-5.0: FILL: Brown F-M SAND, little silt, dry, bricks, coal and ash present, no odors, no stains.
5.0-5.2: FILL: Coal pieces.
5.2-7.1: SILT + CLAY: Dark brown to black SILT + CLAY, wet, slight odor, no visible product. PID = 3.4 ppm.
7.1-8.0: UNDEFINED: No recovery.
8.0-10.0: CLAY: Gray CLAY, wet, oil blebs and petroleum odor. PID = 57.4.
10.0-11.2: SILT: Dark brown SILT, little clay, peaty, oil blebs and odor, present.
11.2-12.0: UNDEFINED: No recovery.
12.0-12.5: F-SAND + SILT: Brown F-SAND + SILT, some f-gravel, little c-sand, wet, saturated with product.
12.5-16.0: UNDEFINED: No recovery.
16.0-18.0: F-SAND + SILT: Gray F-SAND + SILT, some f-gravel, little c-sand, wet, saturated with product.
18.0-19.8: F-C SAND: Brown F-C SAND, little f-gravel, little silt, wet, slight sheen, slight odor. PID = 2.2 ppm
19.8-20.0: UNDEFINED: No recovery.



NOTES:
ftbgs - feet below ground surface

TRC 5 Waterside Crossing Windsor, CT 06095 (860) 298-9692 FAX (860) 298-6399	Site Id: TP-01
	Date(s): 06/11/03 - 06/11/03
Project Name: Herkimer	Total Depth: 10.00'
Project Number:	Borehole Dia.: 36.00in
Location:	Screens: No Well type: size: dia: fm: to:
Logged By: S. Fischer	Blank Casing: No Well type: dia: fm: to:
Contractor: Lyon Drilling	Annular Fill: No Well type: fm: to: type: fm: to: type: fm: to:
Drilling Method: Backhoe	Measuring Point: NA
Remarks: Located perpendicular to the facility walls of the North and South Gas Holders.	Static Water Level:
Ground Elevation: 384.19'	

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
1					Well graded fill material.		
2					Clay to Cobble size particles with brick, mortar, and metal. Slight odor in material from ~5' to 6' bgs (PID=0.0 ppm). Saturated at ~7'.		
3					Black, viscous, tar material from 6' to 7' bgs within holder. (PID= 50 ppm to 250 ppm). Black-stained soils.		
4							
5		1			Holder Structure: ~2' of brick and mortar supporting thin, riveted sheet metal. Exposure is 33' due East (87° East) from the dead/broken tree along the West property boundary.	0 ppm	
6		2				50-250 ppm	
7					Ash and cinder layer (~1' thick) at ~2' bgs from the South end of the test pit extending North ~5' to 6'.		
8							
9							
10					End of Test Pit.		
11							

TRC
5 Waterside Crossing
Windsor, CT 06095
(860) 298-9692
FAX (860) 298-6399

Site Id: TP-02

Date(s): 06/11/03 - 06/11/03

Project Name: Herkimer

Total Depth: 9.00'

Project Number:

Borehole Dia.: 36.00in

Location:

Screens: No Well
type: size: dia: fm: to:

Logged By: S. Fischer

Blank Casing: No Well
type: dia: fm: to:

Contractor: Lyon Drilling

Drilling Method: Backhoe

Annular Fill: No Well
type: fm: to:
type: fm: to:
type: fm: to:

Remarks: North end begins approx. 5' west of the south end of TP-01 (Heading: 350°N)

Measuring Point: NA

Ground Elevation: 384.26'

Static Water Level:

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
1-9		1, 2			Same as TP-1 with only a few brick fragments. 1.5" thick ash and cinder layer between 1.5' and 3' bgs. Saturated at 7'. No odor.		
9-11					End of Test Pit.		

TRC
5 Waterside Crossing
Windsor, CT 06095
(860) 298-9692
FAX (860) 298-6399

	Site Id: TP-03
	Date(s): 06/11/03 - 06/11/03
Project Name: Herkimer	Total Depth: 10.00'
Project Number:	Borehole Dia.: 36.00in
Location:	Screens: No Well type: size: dia: fm: to:
Logged By: S. Fischer	
Contractor: Lyon Drilling	Blank Casing: No Well type: dia: fm: to:
Drilling Method: Backhoe	Annular Fill: No Well type: fm: to: type: fm: to: type: fm: to:
Remarks: Located approx. 30' south of W. Smith Street sidewalk along former restaurant foundation (Heading: 299°WNW)	Measuring Point: NA
Ground Elevation: 383.00'	Static Water Level:

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
1		1			Well graded fill material, brick, cinders, ash (Fill is clay to cobble size particles).	120 ppm	
2					Black-stained soils, strong petroleum odor (PID=450 to 1,000 ppm).		
3					Depth to stained, odorous material is ~6.5' to 7'.		
4					Saturated soils at ~7' bgs.		
5					PID in open trench= 120ppm.		
6					Strongest odors from black/dark gray material composed of clay and silt with trace fine sand.		
7		2				450-1000 ppm	
8							
9							
10					End of Test Pit.		
11							

TRC 5 Waterside Crossing Windsor, CT 06095 (860) 298-9692 FAX (860) 298-6399	Site Id: TP-04
	Date(s): 06/11/03 - 06/11/03
Project Name: Herkimer	Total Depth: 2.00'
Project Number:	Borehole Dia.: 36.00in
Location:	Screens: No Well type: size: dia: fm: to:
Logged By: S. Fischer	Blank Casing: No Well type: dia: fm: to:
Contractor: Lyon Drilling	
Drilling Method: Backhoe	Annular Fill: No Well type: fm: to: type: fm: to: type: fm: to:
Remarks: Located approx. 5' southeast of existing monitoring well. and South Gas Holders.	Measuring Point: NA
Ground Elevation: 384.37'	Static Water Level:

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
1		1			Well graded, fill material (clay to cobble size), brick, metal, and porcelain insulator. No odors (PID=0.0 ppm).	0 ppm	
2					End of Test Pit.		
3							
4							
5							
6							
7							
8							
9							
10							
11							

TRC 5 Waterside Crossing Windsor, CT 06095 (860) 298-9692 FAX (860) 298-6399	Site Id: TP-05
	Date(s): 06/11/03 - 06/11/03
Project Name: Herkimer	Total Depth: 3.50'
Project Number:	Borehole Dia.: 36.00in
Location:	Screens: No Well type: size: dia: fm: to:
Logged By: S. Fischer	Blank Casing: No Well type: dia: fm: to:
Contractor: Lyon Drilling	Annular Fill: No Well type: fm: to: type: fm: to: type: fm: to:
Drilling Method: Backhoe	Measuring Point: NA
Remarks: Located approx. 25' southeast of SB-05.	Static Water Level:
Ground Elevation: 384.18'	

Depth (ft)	Recovery	Sample No.	Blow Count	Graphic Log	Material Description	Field Screening (ppm)	Well Construction
1-3		1			Well graded, fill material (clay to cobble size), brick, metal, and porcelain insulator. No staining, no odors (PID=0.0 ppm). Located 4" diam. vertical pipe just below the surface down to ~3' bgs. Also located a larger diam. pipe and elbow at 3' bgs, in place, oriented north/south.	0 ppm	
4					End of Test Pit.		
5-11							

APPENDIX B

SOIL VAPOR SAMPLE COLLECTION FIELD FORMS

nationalgrid

Soil Vapor (Canister) Sample Collection Field Form

Project # 105905.1000.0012
Project Name Herkimer MGP RT
Consultant TRC
Collector Richard Gillo

Sample ID SV-1 ~~SV-5~~

Start Date/Time 03/18/09 13:33
End Date/Time 03/18/09 14:03
Canister ID 1600
Flow controller ID 0303
Associated ambient air sample ID VA

Vacuum gauge "zero" ("Hg) ~~30~~
Start Pressure ("Hg) -30"Hg
End Pressure ("Hg) -3"Hg
End pressure > "zero"? Yes
Sampling duration (intended) ~30 min.
Depth of sample point below grade 6 ft.

Tubing type used Teflon-lined Length of tubing 213.36 cm Tubing volume 30.31 cc
Volume purged 100 cc @ 1 min 1 to 3 volumes purged @ < 200cc/min? Yes
Chamber tracer gas conc. 2500 ppm Tracer gas conc. during purging 0 ppm

Weather Conditions during Probe Installation:
Air temperature (°F) ~~57°~~ 57° Rainfall ~~0~~ Wind direction ~~W~~ E
Barometric pressure 30.05 / 30.25 Wind speed (mph) ~~3.6~~ 6
Substantial changes in weather conditions during sampling or over the past 24 to 48 hrs:
No

Weather Conditions at Start of Sampling:
Air temperature (°F) 57° Rainfall 0.08 Wind direction W
Barometric pressure 30.05 Wind speed (mph) 3.6
Substantial changes in weather conditions during sampling or over the past 24 to 48 hrs:
No

Site Plan showing sample location, buildings, landmarks, potential soil vapor and outdoor air sources, preferential pathways

Comments:

nationalgrid

Soil Vapor (Canister) Sample Collection Field Form

Project # 105905.1000.0012 Consultant TRC

Project Name Herkimer MGP RI Collector Richard Gille

Sample ID SV-2

Vacuum gauge "zero" ("Hg) _____

Start Date/Time 03/18/09 13:32 Start Pressure ("Hg) -28.2

End Date/Time 03/18/09 14:00 End Pressure ("Hg) -3

Canister ID 942 End pressure > "zero"? Yes

Flow controller ID 0401 Sampling duration (intended) ~30 min.

Associated ambient air sample ID VA Depth of sample point below grade 6ft.

Tubing type used Teflon-lined Length of tubing 213.36 cm Tubing volume 30.31 cc

Volume purged 100 cc @ 1 min 1 to 3 volumes purged @ < 200cc/min? Yes

Chamber tracer gas conc. 3,525 ppm Tracer gas conc. during purging 0ppm

Weather Conditions during Probe Installation:

Air temperature (°F) 57 Rainfall 0 Wind direction E

Barometric pressure 30.20 Wind speed (mph) 6

Substantial changes in weather conditions during sampling or over the past 24 to 48 hrs:

Weather Conditions at Start of Sampling:

Air temperature (°F) 56.5 Rainfall .008 Wind direction WNW

Barometric pressure 30.04 Wind speed (mph) 2.6

Substantial changes in weather conditions during sampling or over the past 24 to 48 hrs:

Site Plan showing sample location, buildings, landmarks, potential soil vapor and outdoor air sources, preferential pathways

Comments:

nationalgrid

Soil Vapor (Canister) Sample Collection Field Form

Project # 105905.1000.0012 Consultant TRC

Project Name Herkimer MGP RI Collector Richard Gille

Sample ID SV-3

Vacuum gauge "zero" ("Hg)

Start Date/Time 03/18/09 13:31 Start Pressure ("Hg) -29

End Date/Time 03/18/09 21:31 End Pressure ("Hg) -9

Canister ID 1570 End pressure > "zero"? Yes

Flow controller ID 0417 Sampling duration (intended) ~30 min

Associated ambient air sample ID VA Depth of sample point below grade 6ft.

Tubing type used Teflon-lined Length of tubing 213.36 cm Tubing volume 30.31 cc

Volume purged 100 cc @ [redacted] 1 min 1 to 3 volumes purged @ < 200cc/min? Yes

Chamber tracer gas conc. 2,550 ppm Tracer gas conc. during purging 0 ppm

Weather Conditions during Probe Installation:

Air temperature (°F) 59 Rainfall 0 Wind direction W

Barometric pressure 30.17 Wind speed (mph) 7

Substantial changes in weather conditions during sampling or over the past 24 to 48 hrs:

Weather Conditions at Start of Sampling:

Air temperature (°F) 56.6 Rainfall 0.14 in. Wind direction W

Barometric pressure 30.06 Wind speed (mph) 2.9

Substantial changes in weather conditions during sampling or over the past 24 to 48 hrs:

Yes. Increased runtime due to very slow vapor withdrawl rate. Sample Time was 8hrs. In that time, heavy rains began around 17:00. Temperature decreas to ~48°F.

Site Plan showing sample location, buildings, landmarks, potential soil vapor and outdoor air sources, preferential pathways

Comments:

nationalgrid

Soil Vapor (Canister) Sample Collection Field Form

Project # 105905.1000.0012 Consultant TRC

Project Name Herkimer MGP RI Collector Richard Gille

Sample ID SV-3B

Vacuum gauge "zero" ("Hg)

Start Date/Time 3/27/09 / 10:33 Start Pressure ("Hg) -29.1

End Date/Time 3/27/09 / 11:03 End Pressure ("Hg) -3

Canister ID 608 End pressure > "zero"? Yes

Flow controller ID 0448 Sampling duration (intended) 30-min.

Associated ambient air sample ID NA Depth of sample point below grade 5 ft.

Tubing type used Teflon-lined Length of tubing 182.9 cm Tubing volume 25.89 cc

Volume purged ~~25.9~~ 77.7 / 100 cc @ 1 min 1 to 3 volumes purged @ < 200cc/min? Yes

Chamber tracer gas conc. 2,500 ppm Tracer gas conc. during purging 0.0 ppm

Weather Conditions during Probe Installation:

Air temperature (°F) 45.4°F Rainfall None Wind direction NE

Barometric pressure 29.76 Wind speed (mph) 5.5

Substantial changes in weather conditions during sampling or over the past 24 to 48 hrs:

None

Weather Conditions at Start of Sampling:

Air temperature (°F) 50.4 Rainfall None Wind direction NNW

Barometric pressure 29.83 Wind speed (mph) 2.5

Substantial changes in weather conditions during sampling or over the past 24 to 48 hrs:

None

Site Plan showing sample location, buildings, landmarks, potential soil vapor and outdoor air sources, preferential pathways

Comments:

nationalgrid

Soil Vapor (Canister) Sample Collection Field Form

Project # 105905.1000.0012 Consultant TRC

Project Name Herkimer MGP RI Collector Richard Gille

Sample ID SV-5

Vacuum gauge "zero" ("Hg) _____

Start Date/Time 03/18/09 13:34 Start Pressure ("Hg) -29

End Date/Time 03/18/09 14:08 End Pressure ("Hg) -4

Canister ID 615 End pressure > "zero"? Yes

Flow controller ID 0279 Sampling duration (intended) ~30 min.

Associated ambient air sample ID VA Depth of sample point below grade 6 ft.

Tubing type used Teflon-lined Length of tubing 213.36 cm Tubing volume 30.31 cc

Volume purged 100 cc @ 1 min 1 to 3 volumes purged @ < 200cc/min? Yes

Chamber tracer gas conc. 2,550 ppm Tracer gas conc. during purging 0.0 ppm

Weather Conditions during Probe Installation:

Air temperature (°F) 57 Rainfall 0 Wind direction E

Barometric pressure 30.23 Wind speed (mph) 6

Substantial changes in weather conditions during sampling or over the past 24 to 48 hrs:

Weather Conditions at Start of Sampling:

Air temperature (°F) 57.2 Rainfall 0.08 Wind direction WSW

Barometric pressure 30.05 Wind speed (mph) 3.0

Substantial changes in weather conditions during sampling or over the past 24 to 48 hrs:

Site Plan showing sample location, buildings, landmarks, potential soil vapor and outdoor air sources, preferential pathways

Comments:

nationalgrid

Ambient Air (Canister) Sample Collection Field Form

Project # 105905.1000.0012 Consultant TRC

Project Name Herkimer MGP RI Collector Richard Gillo

Sample ID VA

Vacuum gauge "zero" ("Hg) ____

Start Date/Time 03/18/09 13:35 Start Pressure ("Hg) -29.9

End Date/Time 03/18/09 14:02 End Pressure ("Hg) -3

Canister ID 620 End pressure > "zero"? Yes

Flow controller ID 0374 Sampling duration (intended) ~30 min.

Tubing type used NA Length of tubing NA cm Tubing volume NA cc

Volume purged NA cc @ NA min 1 to 3 volumes purged @ < 200cc/min? NA

Weather Conditions at Start of Sampling:

Air temperature (°F) 57.2 Rainfall 0.08in. Wind direction WNW

Barometric pressure 30.05 Relative humidity ____ Wind speed (mph) 1.6

Substantial changes in weather conditions during sampling or over the past 24 to 48 hrs:

Site Plan showing sample location, building(s) being sampled, building HVAC inlet, outdoor air sources, wind direction

Comments: VA-2 is a duplicate of VA.

nationalgrid

Ambient Air (Canister) Sample Collection Field Form

Project # 105905.1000.0012 Consultant TRC

Project Name Herkimer MGP RI Collector Richard Gille

Sample ID VA-2

Vacuum gauge "zero" ("Hg) _____

Start Date/Time 03/18/09 Start Pressure ("Hg) -28.7

End Date/Time 03/18/09 End Pressure ("Hg) -3

Canister ID 1594 End pressure > "zero"? Yes

Flow controller ID 0150 Sampling duration (intended) ~30 min

Tubing type used NA Length of tubing NA cm Tubing volume NA cc

Volume purged NA cc @ NA min 1 to 3 volumes purged @ < 200cc/min? NA

Weather Conditions at Start of Sampling:

Air temperature (°F) 57.2 Rainfall 0.08 in. Wind direction WNW

Barometric pressure 30.05 Relative humidity _____ Wind speed (mph) 1.6

Substantial changes in weather conditions during sampling or over the past 24 to 48 hrs:

Site Plan showing sample location, building(s) being sampled, building HVAC inlet, outdoor air sources, wind direction

Comments: VA-2 is a duplicate of VA.

APPENDIX C

LABORATORY ANALYTICAL REPORTS

(See Volume 2 Disc)

APPENDIX D

DATA USABILITY SUMMARY REPORTS (DUSR)

Data Usability Summary Report

Site:	Herkimer, New York
Laboratory:	Chemtech – Mountainside, New Jersey
Case Nos.:	Z2940, Z2955, Z2985, Z3001
Reviewer:	Steve Miller/TRC Environmental Corporation
Date:	July 8, 2008

Samples Reviewed and Evaluation Summary

The samples listed in Table 1 were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) by SW846 Method 8260, polynuclear aromatic hydrocarbons (PAHs) by SW846 Method 8270, and/or total petroleum hydrocarbon fingerprint analysis by SW846 Method 8015. Data validation was performed in accordance with the USEPA Region II data validation standard operating procedures, as applicable. Laboratory-specified recovery limits were used for evaluation criteria.

Items reviewed during the validation process include:

- Data Completeness
- Holding Times and Sample Preservation
- Apparatus and Materials
- Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
- Initial and Continuing Calibrations
- Blanks
- Laboratory Control Sample (LCS) Results
- Surrogate Recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
- Internal Standards
- Field Duplicate Results
- Sample Quantitation and Reported Quantitation Limits
- Target Compound Identification

Potential Usability and Issues Overall Evaluation of Data

Volatile Samples

Qualification of the data as a result of sampling issues is not required. Qualifications applied to the data as a result of analytical issues are summarized below.

- The reported concentration of o-xylene in sample SB-41 (9-10)DL is flagged with a "J" qualifier based on low recovery in the associated LCS.

- All BTEX target analytes in sample SB-29 (16.0-16.5) are flagged with "J" qualifiers based on surrogate recoveries.

- Reported concentrations of ethylbenzene and the xylenes in sample SB-29 (8.0-8.5) are flagged with "J" qualifiers based on low internal standard recoveries.

- Reported concentrations of toluene, ethylbenzene, m/p-xylenes, and o-xylene in samples SB-29 (7.0-7.5), SB-29 (6.6-7.1)DL, and SB-29D are flagged with "J" qualifiers based on field duplicate results.

Semivolatile Samples

Qualification of the data as a result of sampling issues is not required. Qualifications applied to the data as a result of analytical issues are summarized below.

- Reported concentrations of naphthalene in sample SB-30 (9.0-9.5) is flagged with a "J" qualifier based on associated MS/MSD RPD recoveries.
- Reported concentrations of acenaphthene and phenanthrene in samples SB-41 (9-10) and SB-41 (9-10)DL are flagged with "J" qualifiers based on MS/MSD results.
- The reported concentration of naphthalene in sample SB-21 (5.5-6.0) is flagged with a "J" qualifier due to low internal standard recovery.
- Reported concentrations of acenaphthylene, anthracene, fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene, and benzo(g,h,i)perylene in samples SB-26 (6.6-7.1), SB-29 (7.0-7.5)DL, and SB-26D are flagged with "J" qualifiers based on field duplicate results.

Total Petroleum Hydrocarbon Fingerprint Sample

Qualification of data as a result of either sampling or analytical issues is not required.

Data Completeness

The data package is complete as defined under the requirements for the NYSDEC ASP Category B deliverables and a Category B deliverable is requested on chain-of custody form.

Holding Times and Sample Preservation

Volatile Samples

All holding time and sample preservation criteria are met.

Semivolatile Samples

All holding time and sample preservation criteria are met.

Total Petroleum Hydrocarbon Fingerprint Sample

All holding time and sample preservation criteria are met.

Apparatus and Materials

Volatile Samples

The columns cited by the lab are:

- RTX-VMS, 20 meters, 0.18 ID, 1.0 df, Restek catalog number 49914
- RTXVMS, 60 meters, 0.25 ID, 1.4 df, Restek catalog number 19916

These are not the columns cited in Section 8.0 of the validation SOP. It is, however, clear that data are acceptable based on a review of chromatograms, calibrations, spectra, and other QC results.

Semivolatile Samples

The columns cited by the lab are:

- RTX-5 SILMS, 20 meters, 0.18 ID, 0.36 df, Restek catalog number 42704
- RTX-5 SILMS, 30 meters, 0.32 ID, 0.5 df, Restek catalog number 12739-125

These are not the columns cited in Section 7.0 of the validation SOP. It is, however, clear that data are acceptable based on a review of chromatograms, calibrations, spectra, and other QC results.

GC/MS Tunes

Volatile Samples

All criteria are met.

Semivolatile Samples

All criteria are met.

Initial and Continuing Calibrations

Volatile Samples

All criteria are met.

Semivolatile Samples

All criteria are met.

Total Petroleum Hydrocarbon Sample

All criteria are met.

Blanks

Volatile Samples

All criteria are met for reported laboratory method blanks. Target analytes were not detected in reported field blanks.

Semivolatile Samples

All criteria are met for reported method blanks. Target analytes were not detected in reported field blanks.

Total Petroleum Hydrocarbon Fingerprint Sample

All criteria are met.

LCS Results

Volatile Samples

Recovery of o-xylene in the LCS identified as BSH0529M1 (SDG Z3001) is less than laboratory-specified control limits. The samples associated with this LCS are SB-41 (9-10)DL and the MS/MSD analyses of SB-41 (9-10). The reported concentration of o-xylene in sample SB-41 (9-10)DL is flagged with a "J" qualifier.

Semivolatile Samples

All criteria are met.

Surrogate Recoveries

Volatile Samples

Recoveries of toluene-d_8 and 4-bromofluorobenzene are less than laboratory-specified limits and the recovery of 1,2-dichloroethane-d_4 is greater than control limits in the VOC analysis of sample SB-29 (16.0-16.5). Since three of four surrogates are outside of limits reported results for all target analytes in this sample are flagged with "J" qualifiers.

Semivolatile Samples

Some surrogate recoveries associated with PAH analyses are outside laboratory-defined recovery limits. It is noted that either (a) only one surrogate recovery is outside limits and the remaining two recoveries are within limits, or (b) the sample was analyzed at a dilution sufficient to skew recoveries. Therefore, no data qualification is required.

Total Petroleum Hydrocarbon Fingerprint Sample

Spiking of surrogate compounds are indicated on extraction logs included in the data package. Surrogate recoveries cannot be determined since neither summary forms nor

quantitation reports are available for review. Data are not qualified based on this issue.

MS/MSD Results

Volatile Samples

While MS/MSD results are reported, samples from the Herkimer site were not spiked to generate MS/MSD samples in SDGs Z2940 and Z2985.

Samples SB-37 (14.0-14.5) and SB-41 (9-10) were analyzed as MS/MSD pairs. All recoveries and RPD values are within laboratory-defined limits. Data are not qualified based on these results.

Semivolatile Samples

Sample SB-27 (9.0-9.5) was analyzed as an MS/MSD pair for PAH analytes. Recoveries of acenaphthene, phenanthrene, fluoranthene, and pyrene are less than laboratory-defined limits in the MS analysis; however, associated recoveries in the MSD analysis are within limits. Since at least one recovery for each listed compound is within limits, data are not qualified. Additionally, both recoveries of naphthalene are below laboratory-specified limits; but, the concentration of naphthalene in the un-spiked analysis of sample SB-27 (9.0-9.5) is more than four times the spiking concentration and naphthalene data are not qualified.

Sample SB-30 (9.0-9.5) was analyzed as an MS/MSD pair for PAH analytes. The reported RPD value for naphthalene is greater than laboratory-defined limits. Based on this indication of excessive variability, the reported concentration of naphthalene in the un-spiked analysis of SB-30 (9.0-9.5) is flagged with a "J" qualifier.

While MS/MSD results are reported, a sample from the Herkimer site was not spiked to generate MS/MSD samples in SDG Z2985.

Sample SB-41 (9-10) was analyzed as an MS/MSD pair for PAH compounds. Both recoveries of naphthalene are outside of laboratory-specified limits; however, the concentration in the un-spiked analysis is more than four times the spiking concentration and data are not qualified. Recoveries of fluoranthene and benzo(a)pyrene are outside of limits in the MS but are within limits in the MSD; therefore, results for fluoranthene and benzo(a)pyrene are not qualified. Recoveries of acenaphthene are low and the associated RPD value is high; therefore, reported concentrations of acenaphthene in samples SB-41 (9-10) and SB-41 (9-10)DL are flagged with "J" qualifiers. Finally, the RPD value for phenanthrene is greater than acceptance criteria; therefore, reported concentrations of phenanthrene in samples SB-41 (9-10) and SB-41 (9-10)DL are flagged with "J" qualifiers.

Internal Standards

Volatile Samples

The area of internal standard chlorobene-d_5 is less than 25% of the area of the associated 12-

hour standard in sample SB-29 (8.0-8.5). The reported concentrations of ethylbenzene and the xylenes in this sample are flagged with "J" qualifiers.

Semivolatile Samples

The area of internal standard naphthylene-d_8 is less than 50% of the area of the associated 12-hour standard in sample SB-21 (5.5-6.0). The reported concentration of naphthalene in this sample is flagged with a "J" qualifier.

Field Duplicate Results

Sample SB-26D was submitted as a field duplicate of sample SB-26 (6.6-7.1). Analytical results and calculated RPD values are presented in Table 2. Calculated RPD values for acenaphthylene, anthracene, fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene, and benzo(g,h,i)perylene are excessive and results for these compounds in samples SB-26 (6.6-7.1), SB-26 (6.6-7.1)DL, and SB-26D are flagged with "J" qualifiers.

Sample SB-29D was submitted as a field duplicate of sample SB-29 (7.0-7.5). Analytical results and calculated RPD values are presented in Table 3. Calculated RPD values for toluene, ethylbenzene, m/p-xylenes, and o-xylene are excessive and results for these compounds in samples SB-29 (7.0-7.5), SB-29 (7.0-7.5)DL, and SB-29D are flagged with "J" qualifiers.

Sample Quantitation and Reported Quantitation Limits

Volatile Samples

Sample calculations were spot-checked; there are no errors noted.

Select target analyte results are reported below the lowest calibration standard level and method detection limit (MDL). These results are qualified as estimated (J) by the laboratory.

Sample SB-20 (8.0-8.5) was analyzed at a 125-fold dilution. Target analytes are not detected in this sample.

Samples SB-28 (9.0-9.5), SB-26 (6.6-7.1), SB-26D, SB-30 (16.0-16.5), SB-31B (8.0-8.5), SB-31B (12.0-12.7), SB-34 (5.3-5.7), SB-29 (16.0-16.5), SB-36 (8.3-8.8), SB-36 (12.4-12.9), SB-37 (14.0-14.5), SB-32B (13.7-14.2), SB-33B (11-11.5), SB-38 (5-5.5), SB-38 (10.5-11.0), SB-39 (5.5-6.0), SB-39 (9.0-9.8), and SB-40 (8-8.5) were analyzed at 5-fold dilutions. Target analytes were not detected in these samples.

Semivolatile Samples

Sample calculations were spot-checked; there are no errors noted.

Select target analytes results are reported below the lowest calibration standard level and quantitation limit. These results are qualified as estimated (J) by the laboratory.

Total Petroleum Hydrocarbon Fingerprint Sample

Concentrations are not reported for the fingerprint analysis.

Target Compound Identification

Volatile Samples

All criteria are met.

Semivolatile Samples

All criteria are met.

Total Petroleum Hydrocarbon Fingerprint Sample

All criteria are met.

TABLES

Table 1: Samples Reviewed

Matrix	Sample ID	Collection Date	Collection Time	Methods			Lab Sample ID
Soil	SB-27 (9.0-9.5)	5/19/2008	12:15	SW8260	SW8270	NA	Z2940-01
Soil	SB-23 (7.5-8.0)	5/19/2008	13:00	SW8260	SW8270	NA	Z2940-02
Soil	SB-23 (8.8-9.2)	5/19/2008	13:15	SW8260	SW8270	NA	Z2940-03
Soil	SB-22 (8.5-9.0)	5/19/2008	14:30	SW8260	SW8270	NA	Z2940-04
Soil	SB-20 (5.5-6.0)	5/19/2008	15:30	SW8260	SW8270	SW8015	Z2940-05
Soil	SB-20 (8.0-8.5)	5/19/2008	15:40	SW8260	SW8270	NA	Z2940-06
Soil	SB-21 (5.5-6.0)	5/19/2008	16:22	SW8260	SW8270	NA	Z2940-07
Soil	SB-21 (13.5-14.5)	5/19/2008	17:00	SW8260	SW8270	NA	Z2940-08
Soil	SB-25 (9.0-9.5)	5/20/2008	11:22	SW8260	SW8270	NA	Z2940-09
Soil	SB-25 (12.0-12.5)	5/20/2008	11:50	SW8260	SW8270	NA	Z2940-10
Soil	SB-28 (9.0-9.5)	5/20/2008	12:36	SW8260	SW8270	NA	Z2940-11
Soil	SB-26 (6.6-7.1)	5/20/2008	13:30	SW8260	SW8270	NA	Z2940-12
Soil	SB-26D	5/20/2008	13:30	SW8260	SW8270	NA	Z2940-13
Soil	SB-26 (9.0-9.5)	5/20/2008	13:55	SW8260	SW8270	NA	Z2940-14
Soil	SB-24 (5.0-5.5)	5/20/2008	14:53	SW8260	SW8270	NA	Z2940-15
Soil	SB-24 (10.8-11.3)	5/20/2008	15:06	SW8260	SW8270	NA	Z2940-16
Soil	SB-30 (9.0-9.5)	5/21/2008	08:35	SW8260	SW8270	NA	Z2955-01
Soil	SB-30 (16.0-16.5)	5/21/2008	09:10	SW8260	SW8270	NA	Z2955-02
Soil	SB-31B (8.0-8.5)	5/21/2008	09:52	SW8260	SW8270	NA	Z2955-03
Soil	SB-31B (12.0-12.7)	5/21/2008	10:11	SW8260	SW8270	NA	Z2955-04
Soil	SB-34 (5.3-5.7)	5/21/2008	11:08	SW8260	SW8270	NA	Z2955-05
Soil	SB-34 (13.8-14.4)	5/21/2008	11:26	SW8260	SW8270	NA	Z2955-06
Soil	SB-29 (7.0-7.5)	5/21/2008	12:46	SW8260	SW8270	NA	Z2955-07
Soil	SB-29D	5/21/2008	12:46	SW8260	SW8270	NA	Z2955-08
Soil	SB-29 (8.0-8.5)	5/21/2008	12:50	SW8260	SW8270	SW8015	Z2955-09
Soil	SB-29 (16.0-16.5)	5/21/2008	13:30	SW8260	SW8270	NA	Z2955-10
Soil	SB-36 (8.3-8.8)	5/21/2008	14:42	SW8260	SW8270	NA	Z2955-11
Soil	SB-36 (12.4-12.9)	5/21/2008	15:00	SW8260	SW8270	NA	Z2955-12
Soil	SB-37 (6-6.5)	5/21/2008	15:42	SW8260	SW8270	NA	Z2955-13
Soil	SB-37 (8.4-9.0)	5/21/2008	15:54	SW8260	SW8270	NA	Z2955-14
Soil	SB-37 (14.0-14.5)	5/21/2008	16:20	SW8260	SW8270	NA	Z2955-15

Table 1: Samples Reviewed (continued)

Matrix	Sample ID	Collection Date	Collection Time	Methods			Lab Sample ID
Soil	SB-32B (6-6.5)	5/22/2008	10:57	SW8260	SW8270	NA	Z2985-01
Soil	SB-32B (11.0-11.5)	5/22/2008	11:23	SW8260	SW8270	NA	Z2985-02
Soil	SB-32B (13.7-14.2)	5/22/2008	11:40	SW8260	SW8270	NA	Z2985-03
Soil	SB-33B (7.0-7.6)	5/22/2008	14:43	SW8260	SW8270	NA	Z2985-04
Soil	SB-33B (11-11.5)	5/22/2008	15:04	SW8260	SW8270	NA	Z2985-05
Soil	SB-35 (5.5-6.1)	5/22/2008	15:37	SW8260	SW8270	NA	Z2985-06
Soil	SB-35 (13-14)	5/22/2008	16:02	SW8260	SW8270	NA	Z2985-07
Soil	SB-38 (5-5.5)	5/22/2008	17:06	SW8260	SW8270	NA	Z2985-08
Soil	SB-38 (10.5-11.0)	5/22/2008	17:35	SW8260	SW8270	NA	Z2985-09
Water	FB052308-1	5/23/2008	09:25	SW8260	SW8270	NA	Z2985-10
Water	FB-52308-2	5/23/2008	09:30	SW8260	SW8270	NA	Z2985-11
Soil	SB-39 (5.5-6.0)	5/23/2008	11:12	SW8260	SW8270	NA	Z3001-01
Soil	SB-39 (9.0-9.8)	5/23/2008	11:24	SW8260	SW8270	NA	Z3001-02
Soil	SB-40 (8-8.5)	5/23/2008	13:40	SW8260	SW8270	NA	Z3001-03
Soil	SB-41 (6-6.5)	5/23/2008	11:58	SW8260	SW8270	NA	Z3001-04
Soil	SB-41 (9-10)	5/23/2008	12:18	SW8260	SW8270	NA	Z3001-05
Soil	SB-41 (19.3-19.8)	5/23/2008	13:00	SW8260	SW8270	NA	Z3001-08

SW8015 *Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods*, (U.S. Environmental Protection Agency) Method 8015

SW8260 *Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods*, (U.S. Environmental Protection Agency) Method 8260

SW8270 *Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods*, (U.S. Environmental Protection Agency) Method 8270

NA Not Analyzed

Table 2: Calculated RPDs for Field Duplicate Analyses of Sample SB-26 (6.6-7.1)

Analytes	SB-26 (6.6-7.1)	SB-26D	Units	RPD
Benzene	4.7	4.9	µg/kg	4.2
Toluene	5.7	6.0	µg/kg	5.1
Ethylbenzene	5.2	5.4	µg/kg	3.8
m/p-Xylenes	12	13	µg/kg	8.0
o-Xylene	4.9	5.2	µg/kg	5.9
Naphthalene	ND	ND	µg/kg	NC
Acenaphthylene	**190**	**420**	**µg/kg**	**75**
Acenaphthene	990	1000	µg/kg	1.0
Fluorene	490	500	µg/kg	2.0
Phenanthrene	2300	2600	µg/kg	12
Anthracene	**810**	**1100**	**µg/kg**	**30**
Fluoranthene	**1500**	**2600**	**µg/kg**	**54**
Pyrene	**2000**	**3600**	**µg/kg**	**57**
Benzo(a)anthracene	**480**	**980**	**µg/kg**	**68**
Chrysene	**480**	**1000**	**µg/kg**	**70**
Benzo(b)fluoranthene	**450**	**970**	**µg/kg**	**73**
Benzo(k)fluoranthene	**140**	**310**	**µg/kg**	**76**
Benzo(a)pyrene	**560**	**1200**	**µg/kg**	**73**
Indeno(1,2,3-cd)pyrene	**260**	**610**	**µg/kg**	**80**
Dibenz(a,h)anthracene	**59**	**140**	**µg/kg**	**81**
Benzo(g,h,i)perylene	**410**	**880**	**µg/kg**	**73**

NC Not Calculated
ND Not Detected

Table 3: Calculated RPDs for Field Duplicate Analyses of Sample SB-29 (7.0-7.5)

Analytes	SB-29 (7.0-7.5)	SB-29D	Units	RPD
Benzene	ND	ND	µg/kg	NC
Toluene	**27**	**66**	**µg/kg**	**84**
Ethylbenzene	**3300**	**6900**	**µg/kg**	**70**
m/p-Xylenes	**5600**	**12000**	**µg/kg**	**73**
o-Xylene	**1900**	**3900**	**µg/kg**	**69**
Naphthalene	74000	74000	µg/kg	0
Acenaphthylene	4200	4600	µg/kg	9.1
Acenaphthene	12000	11000	µg/kg	8.7
Fluorene	6600	6400	µg/kg	3.1
Phenanthrene	25000	24000	µg/kg	4.1
Anthracene	6400	6200	µg/kg	3.2
Fluoranthene	9300	9200	µg/kg	1.1
Pyrene	12000	13000	µg/kg	8
Benzo(a)anthracene	3000	3000	µg/kg	0
Chrysene	2800	2800	µg/kg	0
Benzo(b)fluoranthene	2500	2500	µg/kg	0
Benzo(k)fluoranthene	750	750	µg/kg	0
Benzo(a)pyrene	3100	3200	µg/kg	3.2
Indeno(1,2,3-cd)pyrene	1300	1300	µg/kg	0
Dibenz(a,h)anthracene	210	220	µg/kg	4.6
Benzo(g,h,i)perylene	2000	2100	µg/kg	4.9

NC Not Calculated
ND Not Detected

Data Usability Summary Report

Site: Herkimer MGP RI (Herkimer, NY)
Laboratory: Alpha Woods Hole Laboratory, Mansfield, MA
Case No.: L0903484, L0903892
Reviewer: Elizabeth Denly/TRC Environmental Corporation
Date: May 12, 2009

Samples Reviewed and Evaluation Summary

L0903484
VOCs: 5/Soil Gas/ SV-1, SV-2, SV-5, VA, VA-2

L0903892
VOCs: 1/Soil Gas/ SV-3B

The above-listed samples were collected on March 18 and 27, 2009. The samples were analyzed for site-specific volatile organic compounds (VOCs) by EPA TO-15. The data validation was performed in accordance with the USEPA Region II Standard Operating Procedure (SOP) for Validating Air Samples Volatile Organic Analysis of Ambient Air in Canister by Method TO-15, HW-31, Revision 4 (October 2006).

The organic data were evaluated based on the following parameters:

	•	Overall Evaluation of Data and Potential Usability Issues
	•	Data Completeness
*	•	Holding Times and Sample Preservation
*	•	Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
	•	Initial and Continuing Calibrations
	•	Blanks
*	•	Surrogate Recoveries
*	•	Laboratory Duplicate Results
*	•	Internal Standards
*	•	Laboratory Control Sample (LCS) Results
*	•	Field Duplicate Results
	•	Sample Quantitation and Reported Quantitation Limits
	•	Target Compound Identification

* - All criteria were met.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for project objectives. Qualifications were not applied to the data as a result of sampling error. Qualifications applied to the data as a result of analytical error are discussed below.

- Potential uncertainty exists for select VOC results which were below the lowest calibration standard. These results were qualified as estimated (J) in the associated samples. These results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The positive results for carbon disulfide were qualified as nondetects (U) in samples SV-3B, VA, SV-1 and SV-5 due to method blank contamination. These results can still be used for project objectives as nondetects; this qualification may have a minor impact on the data usability.

- The positive results for acetone in samples SV-2, VA, VA-2, and SV-3B, propylene in samples SV-2, SV-5, and SV-3B, and 2,2,4-trimethylpentane in sample SV-2 were qualified as estimated (J/UJ) due to coelution with a non-target compound. These results can be used for project objectives as estimated values which may have a minor impact on the data usability.

- The nondetect result for 2,2,4-trimethylpentane in sample SV-5 was qualified as estimated (UJ) as this result could not be definitively determined due to coelution with a non-target compound. This result can be used for project objectives as a nondetect with an estimated quantitaton limit which may have a minor impact on the data usability.

Data Completeness

The data package was complete as defined under the requirements for the CLP deliverables for the VOC analyses. However, upon request during validation, the laboratory revised and resubmitted the data to include estimated values below the quantitation limits and results for 1,2,4,5-tetramethylbenzene.

Holding Times and Sample Preservation

All criteria were met.

GC/MS Tunes

All criteria were met.

Initial and Continuing Calibrations

The percent relative standard deviations of 1,2,4,5-tetramethylbenzene (49.1), hexachlorobutadiene (33.6), and 1-methylnaphthalene (48.4) were outside of the acceptance criteria in the initial calibration associated with all soil gas samples. Qualification of the data was not required since only positive results are affected and these compounds were not detected in any of the samples. All continuing calibration criteria were met.

Blanks

Carbon disulfide was detected in the laboratory method blank. The presence of blank contamination indicates that false positives may exist for this compound in the associated samples. An Action Level (AL) was established at 5x the concentration detected. The following table summarizes the AL.

Compound	Blank	Associated Samples	Concentration Detected	Action Level
Carbon disulfide	Method	All soil gas samples	0.11 ppbV 0.35 ug/m^3	0.55 ppbV 1.75 ug/m^3

Sample results were qualified as follows:

- If sample concentration was < the quantitation limit (QL) and ≤ the AL, qualify the result as a nondetect (U) at the QL.
- If sample concentration was > the QL and ≤ the AL, qualify the result as not detected (U) at the reported concentration.
- If the sample concentration was > the QL and > the AL, qualification of the data was not required.

The positive results for carbon disulfide were qualified as nondetects (U) at the QL in samples SV-3B and VA. The positive results for carbon disulfide were qualified as nondetects (U) at the reported concentration in samples SV-1 and SV-5.

Batch certification was performed for all canisters used during this program. Target compounds were not detected in the canister certification analyses.

Surrogate Recoveries

All criteria were met.

Laboratory Duplicate Results

Duplicate analyses were performed on sample SV-1. All criteria were met.

Internal Standards

All criteria were met.

LCS Results

All criteria were met. It should be noted that the LCS contained a subset of the target compounds; no validation action was required on this basis.

Field Duplicate Results

Samples VA and VA-2 were submitted as the field duplicate pair with this sample set. The following table summarizes the relative percent differences (RPDs) of the detected analytes, all of which were within the acceptance criteria or not calculable (NC) due to a nondetect result in one of the two samples. Qualification of the data on the basis of the field duplicate results was not required.

Parameter	QL (ug/m^3)	VA (ug/m^3)	VA-2 (ug/m^3)	RPD (%)
2-Butanone	0.589	1.42	1.82	24.7
Acetone	1.19	11.2	13.3	17.1
Benzene	0.638	1.47	1.32	10.8
Chloromethane	0.413	1.04	1.08	3.8
Dichlorodifluoromethane	0.988	2.36	2.47	4.6
Isopropyl alcohol	1.23	0.758 J	1.23 U	NC
Methylene chloride	1.74	1.74 U	1.53 J	NC
M&p-Xylenes	0.868	1.23	1.21	1.6
o-Xylene	0.868	0.456 J	0.436 J	4.5
Toluene	0.753	2.77	2.76	0.36
Trichlorofluoromethane	1.12	1.33	1.36	2.2
Butane	0.475	6.27	6.12	2.4
Pentane	0.590	2.36	2.39	1.3
Ethyl Alcohol	4.71	5.08	6.99	31.6

Sample Quantitation and Reported Quantitation Limits

Select results were reported which were below the lowest calibration standard level and quantitation limit. These results were qualified as estimated (J) in the associated samples by the laboratory.

Sample calculations were spot-checked; no discrepancies were found. There were no dilutions performed on any of the soil gas samples.

The results for 2-methylbutane were reported by the laboratory as a tentatively identified compound as this compound was not included in the calibration since it coeluted with acetone which has a similar primary ion (m/z 43). Positive results for 2-methylbutane in samples SV-2, VA, VA-2, and SV-3B were qualified as estimated (J). Results for 2-methylbutane were reported as not detected (ND) in the remaining two samples (SV-1 and SV-5).

Target Compound Identification

Due to coelution with non-target compounds with similar ions, the positive results for several compounds were qualified as estimated (J). The following table summarizes the samples and compounds affected.

Sample ID	Affected Compound
SV-2	Acetone, propylene, 2,2,4-trimethylpentane
VA	Acetone
VA-2	Acetone
SV-5	Propylene
SV-3B	Acetone, propylene

The result for 2,2,4-trimethylpentane in sample SV-5 could not be determined due to coelution with a non-target compound with similar ions; the nondetect result for 2,2,4-trimethylpentane in sample SV-5 was qualified as estimated (UJ).

Qualified Form Is

Project Name: HERKIMER MGP RI
Project Number: 105905.1000.0012
Lab Number: L0903484
Report Date: 05/08/09

SAMPLE RESULTS

Lab ID: L0903484-01
Client ID: SV-1
Sample Location: HERKIMER, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 04/10/09 00:30
Analyst: AJ

Date Collected: 03/18/09 14:03
Date Received: 03/23/09
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RDL	ug/m3 Results	ug/m3 RDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab						
1,1,1-Trichloroethane	ND	0.200	ND	1.09		1
1,1,2,2-Tetrachloroethane	ND	0.200	ND	1.37		1
1,1,2-Trichloroethane	ND	0.200	ND	1.09		1
1,1-Dichloroethane	ND	0.200	ND	0.809		1
1,1-Dichloroethene	ND	0.200	ND	0.792		1
1,2,3-Trimethylbenzene	ND	0.200	ND	0.983		1
1,2,4-Trichlorobenzene	ND	0.200	ND	1.48		1
1,2,4-Trimethylbenzene	0.157	0.200	0.772	0.982	J	1
1,2,4,5-Tetramethylbenzene	ND	2.50	ND	13.7		1
1,2-Dibromoethane	ND	0.200	ND	1.54		1
1,2-Dichlorobenzene	ND	0.200	ND	1.20		1
1,2-Dichloroethane	ND	0.200	ND	0.809		1
1,2-Dichloropropane	ND	0.200	ND	0.924		1
1,3,5-Trimethylbenzene	ND	0.200	ND	0.982		1
1,3-Butadiene	ND	0.200	ND	0.442		1
1,3-Dichlorobenzene	6.60	0.200	39.6	1.20		1
1,4-Dichlorobenzene	ND	0.200	ND	1.20		1
1,4-Dioxane	ND	0.200	ND	0.720		1
2,2,4-Trimethylpentane	ND	0.200	ND	0.934		1
2-Butanone	1.33	0.200	3.93	0.589		1
o-Chlorotoluene	ND	0.200	ND	1.03		1
2-Hexanone	0.414	0.200	1.69	0.819		1
3-Chloropropene	ND	0.200	ND	0.626		1
4-Ethyltoluene	ND	0.200	ND	0.982		1
Acetone	65.4	0.500	155	1.19		1
2-methylbutane	ND		ND			

Project Name: HERKIMER MGP RI
Project Number: 105905.1000.0012
Lab Number: L0903484
Report Date: 05/08/09

SAMPLE RESULTS

Lab ID: L0903484-01
Client ID: SV-1
Sample Location: HERKIMER, NY
Date Collected: 03/18/09 14:03
Date Received: 03/23/09
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RDL	ug/m3 Results	ug/m3 RDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab						
Benzene	0.307	0.200	0.980	0.638		1
Benzyl chloride	ND	0.200	ND	1.03		1
Bromodichloromethane	ND	0.200	ND	1.34		1
Bromoform	ND	0.200	ND	2.06		1
Bromomethane	ND	0.200	ND	0.776		1
Carbon disulfide	0.259 U	~~0.200~~	0.806 U	~~0.622~~		1
Carbon tetrachloride	ND	0.200	ND	1.26		1
Chlorobenzene	ND	0.200	ND	0.920		1
Chloroethane	ND	0.200	ND	0.527		1
Chloroform	ND	0.200	ND	0.976		1
Chloromethane	0.211	0.200	0.436	0.413		1
cis-1,2-Dichloroethene	ND	0.200	ND	0.792		1
cis-1,3-Dichloropropene	ND	0.200	ND	0.907		1
Cyclohexane	0.115	0.200	0.394	0.688	J	1
Dibromochloromethane	ND	0.200	ND	1.70		1
Dichlorodifluoromethane	0.593	0.200	2.93	0.988		1
Ethylbenzene	0.194	0.200	0.841	0.868	J	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.106	0.200	0.809	1.53	J	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.200	ND	1.40		1
Heptane	0.167	0.200	0.683	0.819	J	1
Hexachlorobutadiene	ND	0.200	ND	2.13		1
n-Hexane	ND	0.500	ND	1.76		1
iso-Propyl Alcohol	19.7	0.500	48.5	1.23		1
Methylene chloride	ND	0.500	ND	1.74		1
4-Methyl-2-pentanone	0.236	0.200	0.966	0.819		1
Methyl tert butyl ether	ND	0.200	ND	0.720		1
p/m-Xylene	0.582	0.200	2.52	0.868		1
o-Xylene	0.246	0.200	1.07	0.868		1

Project Name: HERKIMER MGP RI
Project Number: 105905.1000.0012
Lab Number: L0903484
Report Date: 05/08/09

SAMPLE RESULTS

Lab ID: L0903484-01
Client ID: SV-1
Sample Location: HERKIMER, NY
Date Collected: 03/18/09 14:03
Date Received: 03/23/09
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RDL	ug/m3 Results	ug/m3 RDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab						
Naphthalene	ND	0.200	ND	1.05		1
Styrene	0.149	0.200	0.633	0.851	J	1
tert-Butyl Alcohol	1.81	0.200	5.50	0.606		1
Tetrachloroethene	ND	0.200	ND	1.36		1
Thiophene	ND	0.200	ND	0.688		1
Toluene	20.2	0.200	76.2	0.753		1
trans-1,2-Dichloroethene	ND	0.200	ND	0.792		1
trans-1,3-Dichloropropene	ND	0.200	ND	0.907		1
Trichloroethene	ND	0.200	ND	1.07		1
Trichlorofluoromethane	0.243	0.200	1.36	1.12		1
Vinyl bromide	ND	0.200	ND	0.874		1
Vinyl chloride	ND	0.200	ND	0.511		1
Butane	10.3	0.200	24.5	0.475		1
Pentane	0.666	0.200	1.96	0.590		1
Octane	0.724	0.200	3.38	0.934		1
Nonane (C9)	0.136	0.200	0.714	1.05	J	1
Decane (C10)	0.205	0.200	1.19	1.16		1
Dodecane (C12)	ND	0.500	ND	3.48		1
Undecane	0.499	0.200	3.19	1.28		1
Indane	ND	0.200	ND	0.967		1
Indene	ND	0.200	ND	0.950		1
1-Methylnaphthalene	ND	2.50	ND	14.5		1
Ethyl Alcohol	60.1	2.50	113	4.71		1
Ethyl Acetate	ND	0.200	ND	0.721		1
Propylene	ND	0.200	ND	0.344		1
Tetrahydrofuran	0.105	0.200	0.31	0.590	J	1
Vinyl acetate	ND	0.200	ND	0.704		1
Isopropylbenzene	ND	0.200	ND	0.982		1

Project Name: HERKIMER MGP RI
Project Number: 105905.1000.0012
Lab Number: L0903484
Report Date: 05/08/09

SAMPLE RESULTS

Lab ID: L0903484-02
Client ID: SV-2
Sample Location: HERKIMER, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 04/10/09 01:39
Analyst: AJ

Date Collected: 03/18/09 14:00
Date Received: 03/23/09
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RDL	ug/m3 Results	ug/m3 RDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab						
1,1,1-Trichloroethane	ND	0.200	ND	1.09		1
1,1,2,2-Tetrachloroethane	ND	0.200	ND	1.37		1
1,1,2-Trichloroethane	ND	0.200	ND	1.09		1
1,1-Dichloroethane	ND	0.200	ND	0.809		1
1,1-Dichloroethene	ND	0.200	ND	0.792		1
1,2,3-Trimethylbenzene	ND	0.200	ND	0.983		1
1,2,4-Trichlorobenzene	ND	0.200	ND	1.48		1
1,2,4-Trimethylbenzene	0.156	0.200	0.768	0.982	J	1
1,2,4,5-Tetramethylbenzene	ND	2.50	ND	13.7		1
1,2-Dibromoethane	ND	0.200	ND	1.54		1
1,2-Dichlorobenzene	ND	0.200	ND	1.20		1
1,2-Dichloroethane	ND	0.200	ND	0.809		1
1,2-Dichloropropane	ND	0.200	ND	0.924		1
1,3,5-Trimethylbenzene	ND	0.200	ND	0.982		1
1,3-Butadiene	ND	0.200	ND	0.442		1
1,3-Dichlorobenzene	3.68	0.200	22.1	1.20		1
1,4-Dichlorobenzene	ND	0.200	ND	1.20		1
1,4-Dioxane	ND	0.200	ND	0.720		1
2,2,4-Trimethylpentane	0.399 J	0.200	1.86 J	0.934		1
2-Butanone	1.17	0.200	3.44	0.589		1
o-Chlorotoluene	ND	0.200	ND	1.03		1
2-Hexanone	ND	0.200	ND	0.819		1
3-Chloropropene	ND	0.200	ND	0.626		1
4-Ethyltoluene	ND	0.200	ND	0.982		1
Acetone	37.2 J	0.500	88.4 J	1.19		1
2-methylbutane	3.16 J		9.32 J			

Project Name: HERKIMER MGP RI
Project Number: 105905.1000.0012
Lab Number: L0903484
Report Date: 05/08/09

SAMPLE RESULTS

Lab ID: L0903484-02
Client ID: SV-2
Sample Location: HERKIMER, NY
Date Collected: 03/18/09 14:00
Date Received: 03/23/09
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RDL	ug/m3 Results	ug/m3 RDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab						
Benzene	1.14	0.200	3.66	0.638		1
Benzyl chloride	ND	0.200	ND	1.03		1
Bromodichloromethane	ND	0.200	ND	1.34		1
Bromoform	ND	0.200	ND	2.06		1
Bromomethane	ND	0.200	ND	0.776		1
Carbon disulfide	1.22	0.200	3.80	0.622		1
Carbon tetrachloride	ND	0.200	ND	1.26		1
Chlorobenzene	ND	0.200	ND	0.920		1
Chloroethane	ND	0.200	ND	0.527		1
Chloroform	ND	0.200	ND	0.976		1
Chloromethane	0.169	0.200	0.348	0.413	J	1
cis-1,2-Dichloroethene	ND	0.200	ND	0.792		1
cis-1,3-Dichloropropene	ND	0.200	ND	0.907		1
Cyclohexane	1.49	0.200	5.12	0.688		1
Dibromochloromethane	ND	0.200	ND	1.70		1
Dichlorodifluoromethane	0.539	0.200	2.66	0.988		1
Ethylbenzene	0.237	0.200	1.03	0.868		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.15	0.200	1.15	1.53	J	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.200	ND	1.40		1
Heptane	2.57	0.200	10.5	0.819		1
Hexachlorobutadiene	ND	0.200	ND	2.13		1
n-Hexane	4.73	0.500	16.6	1.76		1
iso-Propyl Alcohol	22.1	0.500	54.2	1.23		1
Methylene chloride	0.365	0.500	1.27	1.74	J	1
4-Methyl-2-pentanone	0.219	0.200	0.896	0.819		1
Methyl tert butyl ether	ND	0.200	ND	0.720		1
p/m-Xylene	0.742	0.200	3.22	0.868		1
o-Xylene	0.269	0.200	1.16	0.868		1

Project Name: HERKIMER MGP RI
Project Number: 105905.1000.0012
Lab Number: L0903484
Report Date: 05/08/09

SAMPLE RESULTS

Lab ID: L0903484-02
Client ID: SV-2
Sample Location: HERKIMER, NY
Date Collected: 03/18/09 14:00
Date Received: 03/23/09
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RDL	ug/m3 Results	ug/m3 RDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab						
Naphthalene	ND	0.200	ND	1.05		1
Styrene	ND	0.200	ND	0.851		1
tert-Butyl Alcohol	1.33	0.200	4.04	0.606		1
Tetrachloroethene	ND	0.200	ND	1.36		1
Thiophene	ND	0.200	ND	0.688		1
Toluene	14.7	0.200	55.3	0.753		1
trans-1,2-Dichloroethene	ND	0.200	ND	0.792		1
trans-1,3-Dichloropropene	ND	0.200	ND	0.907		1
Trichloroethene	ND	0.200	ND	1.07		1
Trichlorofluoromethane	0.252	0.200	1.41	1.12		1
Vinyl bromide	ND	0.200	ND	0.874		1
Vinyl chloride	ND	0.200	ND	0.511		1
Butane	5.04	0.200	12.0	0.475		1
Pentane	5.04	0.200	14.9	0.590		1
Octane	1.72	0.200	8.03	0.934		1
Nonane (C9)	0.296	0.200	1.55	1.05		1
Decane (C10)	0.215	0.200	1.25	1.16		1
Dodecane (C12)	ND	0.500	ND	3.48		1
Undecane	0.253	0.200	1.62	1.28		1
Indane	ND	0.200	ND	0.967		1
Indene	ND	0.200	ND	0.950		1
1-Methylnaphthalene	ND	2.50	ND	14.5		1
Ethyl Alcohol	67.7	2.50	127	4.71		1
Ethyl Acetate	ND	0.200	ND	0.721		1
Propylene	2.18 J	0.200	3.75 J	0.344		1
Tetrahydrofuran	ND	0.200	ND	0.590		1
Vinyl acetate	ND	0.200	ND	0.704		1
Isopropylbenzene	ND	0.200	ND	0.982		1

Project Name: HERKIMER MGP RI
Project Number: 105905.1000.0012
Lab Number: L0903484
Report Date: 05/08/09

SAMPLE RESULTS

Lab ID: L0903484-04
Client ID: SV-5
Sample Location: HERKIMER, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 04/10/09 03:18
Analyst: AJ

Date Collected: 03/18/09 14:08
Date Received: 03/23/09
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RDL	ug/m3 Results	ug/m3 RDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab						
1,1,1-Trichloroethane	ND	0.200	ND	1.09		1
1,1,2,2-Tetrachloroethane	ND	0.200	ND	1.37		1
1,1,2-Trichloroethane	ND	0.200	ND	1.09		1
1,1-Dichloroethane	ND	0.200	ND	0.809		1
1,1-Dichloroethene	ND	0.200	ND	0.792		1
1,2,3-Trimethylbenzene	ND	0.200	ND	0.983		1
1,2,4-Trichlorobenzene	ND	0.200	ND	1.48		1
1,2,4-Trimethylbenzene	0.224	0.200	1.10	0.982		1
1,2,4,5-Tetramethylbenzene	ND	2.50	ND	13.7		1
1,2-Dibromoethane	ND	0.200	ND	1.54		1
1,2-Dichlorobenzene	ND	0.200	ND	1.20		1
1,2-Dichloroethane	ND	0.200	ND	0.809		1
1,2-Dichloropropane	ND	0.200	ND	0.924		1
1,3,5-Trimethylbenzene	ND	0.200	ND	0.982		1
1,3-Butadiene	0.136	0.200	0.3	0.442	J	1
1,3-Dichlorobenzene	6.29	0.200	37.8	1.20		1
1,4-Dichlorobenzene	ND	0.200	ND	1.20		1
1,4-Dioxane	ND	0.200	ND	0.720		1
2,2,4-Trimethylpentane	ND	0.200	ND	0.934		1
2-Butanone	1.44	0.200	4.25	0.589		1
o-Chlorotoluene	ND	0.200	ND	1.03		1
2-Hexanone	ND	0.200	ND	0.819		1
3-Chloropropene	ND	0.200	ND	0.626		1
4-Ethyltoluene	ND	0.200	ND	0.982		1
Acetone	64.6	0.500	153	1.19		1
2-methylbutane	ND		ND			

Project Name: HERKIMER MGP RI
Project Number: 105905.1000.0012
Lab Number: L0903484
Report Date: 05/08/09

SAMPLE RESULTS

Lab ID: L0903484-04
Client ID: SV-5
Sample Location: HERKIMER, NY
Date Collected: 03/18/09 14:08
Date Received: 03/23/09
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RDL	ug/m3 Results	ug/m3 RDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab						
Benzene	0.672	0.200	2.14	0.638		1
Benzyl chloride	ND	0.200	ND	1.03		1
Bromodichloromethane	ND	0.200	ND	1.34		1
Bromoform	ND	0.200	ND	2.06		1
Bromomethane	ND	0.200	ND	0.776		1
Carbon disulfide	0.433 U	~~0.200~~	1.35 U	~~0.622~~		1
Carbon tetrachloride	ND	0.200	ND	1.26		1
Chlorobenzene	ND	0.200	ND	0.920		1
Chloroethane	ND	0.200	ND	0.527		1
Chloroform	ND	0.200	ND	0.976		1
Chloromethane	0.203	0.200	0.419	0.413		1
cis-1,2-Dichloroethene	ND	0.200	ND	0.792		1
cis-1,3-Dichloropropene	ND	0.200	ND	0.907		1
Cyclohexane	0.500	0.200	1.72	0.688		1
Dibromochloromethane	ND	0.200	ND	1.70		1
Dichlorodifluoromethane	0.534	0.200	2.64	0.988		1
Ethylbenzene	0.412	0.200	1.78	0.868		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.102	0.200	0.779	1.53	J	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.200	ND	1.40		1
Heptane	4.03	0.200	16.5	0.819		1
Hexachlorobutadiene	ND	0.200	ND	2.13		1
n-Hexane	1.34	0.500	4.74	1.76		1
iso-Propyl Alcohol	25.4	0.500	62.3	1.23		1
Methylene chloride	0.376	0.500	1.3	1.74	J	1
4-Methyl-2-pentanone	ND	0.200	ND	0.819		1
Methyl tert butyl ether	ND	0.200	ND	0.720		1
p/m-Xylene	1.06	0.200	4.58	0.868		1
o-Xylene	0.361	0.200	1.57	0.868		1

Project Name: HERKIMER MGP RI
Project Number: 105905.1000.0012
Lab Number: L0903484
Report Date: 05/08/09

SAMPLE RESULTS

Lab ID: L0903484-04
Client ID: SV-5
Sample Location: HERKIMER, NY
Date Collected: 03/18/09 14:08
Date Received: 03/23/09
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RDL	ug/m3 Results	ug/m3 RDL	Qualifier	Dilution Factor
Volatile Organics In Air - Mansfield Lab						
Naphthalene	ND	0.200	ND	1.05		1
Styrene	0.144	0.200	0.612	0.851	J	1
tert-Butyl Alcohol	1.83	0.200	5.56	0.606		1
Tetrachloroethene	ND	0.200	ND	1.36		1
Thiophene	ND	0.200	ND	0.688		1
Toluene	28.0	0.200	105	0.753		1
trans-1,2-Dichloroethene	ND	0.200	ND	0.792		1
trans-1,3-Dichloropropene	ND	0.200	ND	0.907		1
Trichloroethene	ND	0.200	ND	1.07		1
Trichlorofluoromethane	0.179	0.200	1.01	1.12	J	1
Vinyl bromide	ND	0.200	ND	0.874		1
Vinyl chloride	ND	0.200	ND	0.511		1
Butane	8.81	0.200	20.9	0.475		1
Pentane	1.54	0.200	4.54	0.590		1
Octane	5.03	0.200	23.5	0.934		1
Nonane (C9)	1.29	0.200	6.78	1.05		1
Decane (C10)	0.339	0.200	1.97	1.16		1
Dodecane (C12)	ND	0.500	ND	3.48		1
Undecane	0.496	0.200	3.17	1.28		1
Indane	ND	0.200	ND	0.967		1
Indene	ND	0.200	ND	0.950		1
1-Methylnaphthalene	ND	2.50	ND	14.5		1
Ethyl Alcohol	72.3	2.50	136	4.71		1
Ethyl Acetate	ND	0.200	ND	0.721		1
Propylene	8.04 J	0.200	13.8 J	0.344		1
Tetrahydrofuran	0.112	0.200	0.33	0.590	J	1
Vinyl acetate	ND	0.200	ND	0.704		1
Isopropylbenzene	ND	0.200	ND	0.982		1

Project Name: HERKIMER MGP RI
Project Number: 105905.1000.0012
Lab Number: L0903484
Report Date: 05/08/09

SAMPLE RESULTS

Lab ID: L0903484-05
Client ID: VA
Sample Location: HERKIMER, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 04/10/09 08:23
Analyst: AJ

Date Collected: 03/18/09 14:02
Date Received: 03/23/09
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RDL	ug/m3 Results	ug/m3 RDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab						
1,1,1-Trichloroethane	ND	0.200	ND	1.09		1
1,1,2,2-Tetrachloroethane	ND	0.200	ND	1.37		1
1,1,2-Trichloroethane	ND	0.200	ND	1.09		1
1,1-Dichloroethane	ND	0.200	ND	0.809		1
1,1-Dichloroethene	ND	0.200	ND	0.792		1
1,2,3-Trimethylbenzene	ND	0.200	ND	0.983		1
1,2,4-Trichlorobenzene	ND	0.200	ND	1.48		1
1,2,4-Trimethylbenzene	ND	0.200	ND	0.982		1
1,2,4,5-Tetramethylbenzene	ND	2.50	ND	13.7		1
1,2-Dibromoethane	ND	0.200	ND	1.54		1
1,2-Dichlorobenzene	ND	0.200	ND	1.20		1
1,2-Dichloroethane	ND	0.200	ND	0.809		1
1,2-Dichloropropane	ND	0.200	ND	0.924		1
1,3,5-Trimethylbenzene	ND	0.200	ND	0.982		1
1,3-Butadiene	ND	0.200	ND	0.442		1
1,3-Dichlorobenzene	ND	0.200	ND	1.20		1
1,4-Dichlorobenzene	ND	0.200	ND	1.20		1
1,4-Dioxane	ND	0.200	ND	0.720		1
2,2,4-Trimethylpentane	ND	0.200	ND	0.934		1
2-Butanone	0.483	0.200	1.42	0.589		1
o-Chlorotoluene	ND	0.200	ND	1.03		1
2-Hexanone	ND	0.200	ND	0.819		1
3-Chloropropene	ND	0.200	ND	0.626		1
4-Ethyltoluene	ND	0.200	ND	0.982		1
Acetone	4.73 J	0.500	11.2 J	1.19		1
2-methylbutane	1.12 J		330 J			

Project Name: HERKIMER MGP RI
Project Number: 105905.1000.0012
Lab Number: L0903484
Report Date: 05/08/09

SAMPLE RESULTS

Lab ID: L0903484-05
Client ID: VA
Sample Location: HERKIMER, NY
Date Collected: 03/18/09 14:02
Date Received: 03/23/09
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RDL	ug/m3 Results	ug/m3 RDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab						
Benzene	0.460	0.200	1.47	0.638		1
Benzyl chloride	ND	0.200	ND	1.03		1
Bromodichloromethane	ND	0.200	ND	1.34		1
Bromoform	ND	0.200	ND	2.06		1
Bromomethane	ND	0.200	ND	0.776		1
Carbon disulfide	~~0.164~~	0.200 U	~~0.511~~	0.622 U	-	1
Carbon tetrachloride	ND	0.200	ND	1.26		1
Chlorobenzene	ND	0.200	ND	0.920		1
Chloroethane	ND	0.200	ND	0.527		1
Chloroform	ND	0.200	ND	0.976		1
Chloromethane	0.504	0.200	1.04	0.413		1
cis-1,2-Dichloroethene	ND	0.200	ND	0.792		1
cis-1,3-Dichloropropene	ND	0.200	ND	0.907		1
Cyclohexane	ND	0.200	ND	0.688		1
Dibromochloromethane	ND	0.200	ND	1.70		1
Dichlorodifluoromethane	0.478	0.200	2.36	0.988		1
Ethylbenzene	ND	0.200	ND	0.868		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.200	ND	1.53		1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.200	ND	1.40		1
Heptane	ND	0.200	ND	0.819		1
Hexachlorobutadiene	ND	0.200	ND	2.13		1
n-Hexane	ND	0.500	ND	1.76		1
iso-Propyl Alcohol	0.308	0.500	0.758	1.23	J	1
Methylene chloride	ND	0.500	ND	1.74		1
4-Methyl-2-pentanone	ND	0.200	ND	0.819		1
Methyl tert butyl ether	ND	0.200	ND	0.720		1
p/m-Xylene	0.284	0.200	1.23	0.868		1
o-Xylene	0.105	0.200	0.456	0.868	J	1

Project Name: HERKIMER MGP RI
Project Number: 105905.1000.0012
Lab Number: L0903484
Report Date: 05/08/09

SAMPLE RESULTS

Lab ID: L0903484-05
Client ID: VA
Sample Location: HERKIMER, NY
Date Collected: 03/18/09 14:02
Date Received: 03/23/09
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RDL	ug/m3 Results	ug/m3 RDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab						
Naphthalene	ND	0.200	ND	1.05		1
Styrene	ND	0.200	ND	0.851		1
tert-Butyl Alcohol	ND	0.200	ND	0.606		1
Tetrachloroethene	ND	0.200	ND	1.36		1
Thiophene	ND	0.200	ND	0.688		1
Toluene	0.735	0.200	2.77	0.753		1
trans-1,2-Dichloroethene	ND	0.200	ND	0.792		1
trans-1,3-Dichloropropene	ND	0.200	ND	0.907		1
Trichloroethene	ND	0.200	ND	1.07		1
Trichlorofluoromethane	0.237	0.200	1.33	1.12		1
Vinyl bromide	ND	0.200	ND	0.874		1
Vinyl chloride	ND	0.200	ND	0.511		1
Butane	2.64	0.200	6.27	0.475		1
Pentane	0.800	0.200	2.36	0.590		1
Octane	ND	0.200	ND	0.934		1
Nonane (C9)	ND	0.200	ND	1.05		1
Decane (C10)	ND	0.200	ND	1.16		1
Dodecane (C12)	ND	0.500	ND	3.48		1
Undecane	ND	0.200	ND	1.28		1
Indane	ND	0.200	ND	0.967		1
Indene	ND	0.200	ND	0.950		1
1-Methylnaphthalene	ND	2.50	ND	14.5		1
Ethyl Alcohol	2.70	2.50	5.08	4.71		1
Ethyl Acetate	ND	0.200	ND	0.721		1
Propylene	ND	0.200	ND	0.344		1
Tetrahydrofuran	ND	0.200	ND	0.590		1
Vinyl acetate	ND	0.200	ND	0.704		1
Isopropylbenzene	ND	0.200	ND	0.982		1

Project Name: HERKIMER MGP RI
Project Number: 105905.1000.0012
Lab Number: L0903484
Report Date: 05/08/09

SAMPLE RESULTS

Lab ID: L0903484-06
Client ID: VA-2
Sample Location: HERKIMER, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 04/10/09 08:57
Analyst: AJ

Date Collected: 03/18/09 14:01
Date Received: 03/23/09
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RDL	ug/m3 Results	ug/m3 RDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab						
1,1,1-Trichloroethane	ND	0.200	ND	1.09		1
1,1,2,2-Tetrachloroethane	ND	0.200	ND	1.37		1
1,1,2-Trichloroethane	ND	0.200	ND	1.09		1
1,1-Dichloroethane	ND	0.200	ND	0.809		1
1,1-Dichloroethene	ND	0.200	ND	0.792		1
1,2,3-Trimethylbenzene	ND	0.200	ND	0.983		1
1,2,4-Trichlorobenzene	ND	0.200	ND	1.48		1
1,2,4-Trimethylbenzene	ND	0.200	ND	0.982		1
1,2,4,5-Tetramethylbenzene	ND	2.50	ND	13.7		1
1,2-Dibromoethane	ND	0.200	ND	1.54		1
1,2-Dichlorobenzene	ND	0.200	ND	1.20		1
1,2-Dichloroethane	ND	0.200	ND	0.809		1
1,2-Dichloropropane	ND	0.200	ND	0.924		1
1,3,5-Trimethylbenzene	ND	0.200	ND	0.982		1
1,3-Butadiene	ND	0.200	ND	0.442		1
1,3-Dichlorobenzene	ND	0.200	ND	1.20		1
1,4-Dichlorobenzene	ND	0.200	ND	1.20		1
1,4-Dioxane	ND	0.200	ND	0.720		1
2,2,4-Trimethylpentane	ND	0.200	ND	0.934		1
2-Butanone	0.617	0.200	1.82	0.589		1
o-Chlorotoluene	ND	0.200	ND	1.03		1
2-Hexanone	ND	0.200	ND	0.819		1
3-Chloropropene	ND	0.200	ND	0.626		1
4-Ethyltoluene	ND	0.200	ND	0.982		1
Acetone	5.60 J	0.500	13.3 J	1.19		1
2-methylbutane	1.13 J		3.33 J			

Project Name: HERKIMER MGP RI
Project Number: 105905.1000.0012
Lab Number: L0903484
Report Date: 05/08/09

SAMPLE RESULTS

Lab ID: L0903484-06
Client ID: VA-2
Sample Location: HERKIMER, NY
Date Collected: 03/18/09 14:01
Date Received: 03/23/09
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RDL	ug/m3 Results	ug/m3 RDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab						
Benzene	0.413	0.200	1.32	0.638		1
Benzyl chloride	ND	0.200	ND	1.03		1
Bromodichloromethane	ND	0.200	ND	1.34		1
Bromoform	ND	0.200	ND	2.06		1
Bromomethane	ND	0.200	ND	0.776		1
Carbon disulfide	ND	0.200	ND	0.622		1
Carbon tetrachloride	ND	0.200	ND	1.26		1
Chlorobenzene	ND	0.200	ND	0.920		1
Chloroethane	ND	0.200	ND	0.527		1
Chloroform	ND	0.200	ND	0.976		1
Chloromethane	0.522	0.200	1.08	0.413		1
cis-1,2-Dichloroethene	ND	0.200	ND	0.792		1
cis-1,3-Dichloropropene	ND	0.200	ND	0.907		1
Cyclohexane	ND	0.200	ND	0.688		1
Dibromochloromethane	ND	0.200	ND	1.70		1
Dichlorodifluoromethane	0.499	0.200	2.47	0.988		1
Ethylbenzene	ND	0.200	ND	0.868		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.200	ND	1.53		1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.200	ND	1.40		1
Heptane	ND	0.200	ND	0.819		1
Hexachlorobutadiene	ND	0.200	ND	2.13		1
n-Hexane	ND	0.500	ND	1.76		1
iso-Propyl Alcohol	ND	0.500	ND	1.23		1
Methylene chloride	0.441	0.500	1.53	1.74	J	1
4-Methyl-2-pentanone	ND	0.200	ND	0.819		1
Methyl tert butyl ether	ND	0.200	ND	0.720		1
p/m-Xylene	0.280	0.200	1.21	0.868		1
o-Xylene	0.1	0.200	0.436	0.868	J	1

Project Name: HERKIMER MGP RI
Project Number: 105905.1000.0012
Lab Number: L0903484
Report Date: 05/08/09

SAMPLE RESULTS

Lab ID: L0903484-06
Client ID: VA-2
Sample Location: HERKIMER, NY
Date Collected: 03/18/09 14:01
Date Received: 03/23/09
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RDL	ug/m3 Results	ug/m3 RDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab						
Naphthalene	ND	0.200	ND	1.05		1
Styrene	ND	0.200	ND	0.851		1
tert-Butyl Alcohol	ND	0.200	ND	0.606		1
Tetrachloroethene	ND	0.200	ND	1.36		1
Thiophene	ND	0.200	ND	0.688		1
Toluene	0.734	0.200	2.76	0.753		1
trans-1,2-Dichloroethene	ND	0.200	ND	0.792		1
trans-1,3-Dichloropropene	ND	0.200	ND	0.907		1
Trichloroethene	ND	0.200	ND	1.07		1
Trichlorofluoromethane	0.243	0.200	1.36	1.12		1
Vinyl bromide	ND	0.200	ND	0.874		1
Vinyl chloride	ND	0.200	ND	0.511		1
Butane	2.58	0.200	6.12	0.475		1
Pentane	0.811	0.200	2.39	0.590		1
Octane	ND	0.200	ND	0.934		1
Nonane (C9)	ND	0.200	ND	1.05		1
Decane (C10)	ND	0.200	ND	1.16		1
Dodecane (C12)	ND	0.500	ND	3.48		1
Undecane	ND	0.200	ND	1.28		1
Indane	ND	0.200	ND	0.967		1
Indene	ND	0.200	ND	0.950		1
1-Methylnaphthalene	ND	2.50	ND	14.5		1
Ethyl Alcohol	3.71	2.50	6.99	4.71		1
Ethyl Acetate	ND	0.200	ND	0.721		1
Propylene	ND	0.200	ND	0.344		1
Tetrahydrofuran	ND	0.200	ND	0.590		1
Vinyl acetate	ND	0.200	ND	0.704		1
Isopropylbenzene	ND	0.200	ND	0.982		1

Project Name: HERKIMER MGP RI
Project Number: 105905.1000.0012
Lab Number: L0903892
Report Date: 05/08/09

SAMPLE RESULTS

Lab ID: L0903892-01
Client ID: SV-3B
Sample Location: HERKIMER, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 04/10/09 09:30
Analyst: AJ

Date Collected: 03/27/09 11:03
Date Received: 03/30/09
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RDL	ug/m3 Results	ug/m3 RDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab						
1,1,1-Trichloroethane	ND	0.200	ND	1.09		1
1,1,2,2-Tetrachloroethane	ND	0.200	ND	1.37		1
1,1,2-Trichloroethane	ND	0.200	ND	1.09		1
1,1-Dichloroethane	ND	0.200	ND	0.809		1
1,1-Dichloroethene	ND	0.200	ND	0.792		1
1,2,3-Trimethylbenzene	ND	0.200	ND	0.983		1
1,2,4-Trichlorobenzene	ND	0.200	ND	1.48		1
1,2,4-Trimethylbenzene	0.168	0.200	0.823	0.982	J	1
1,2,4,5-Tetramethylbenzene	ND	2.50	ND	13.7		1
1,2-Dibromoethane	ND	0.200	ND	1.54		1
1,2-Dichlorobenzene	ND	0.200	ND	1.20		1
1,2-Dichloroethane	ND	0.200	ND	0.809		1
1,2-Dichloropropane	ND	0.200	ND	0.924		1
1,3,5-Trimethylbenzene	ND	0.200	ND	0.982		1
1,3-Butadiene	ND	0.200	ND	0.442		1
1,3-Dichlorobenzene	1.72	0.200	10.3	1.20		1
1,4-Dichlorobenzene	ND	0.200	ND	1.20		1
1,4-Dioxane	ND	0.200	ND	0.720		1
2,2,4-Trimethylpentane	0.237	0.200	1.11	0.934		1
2-Butanone	0.596	0.200	1.76	0.589		1
o-Chlorotoluene	ND	0.200	ND	1.03		1
2-Hexanone	0.387	0.200	1.58	0.819		1
3-Chloropropene	ND	0.200	ND	0.626		1
4-Ethyltoluene	ND	0.200	ND	0.982		1
Acetone	8.57 J	0.500	20.3 J	1.19		1
2-methylbutane	1.18 J		3.48 J			

Project Name: HERKIMER MGP RI
Project Number: 105905.1000.0012
Lab Number: L0903892
Report Date: 05/08/09

SAMPLE RESULTS

Lab ID: L0903892-01
Client ID: SV-3B
Sample Location: HERKIMER, NY
Date Collected: 03/27/09 11:03
Date Received: 03/30/09
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RDL	ug/m3 Results	ug/m3 RDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab						
Benzene	0.395	0.200	1.26	0.638		1
Benzyl chloride	ND	0.200	ND	1.03		1
Bromodichloromethane	ND	0.200	ND	1.34		1
Bromoform	ND	0.200	ND	2.06		1
Bromomethane	ND	0.200	ND	0.776		1
Carbon disulfide	~~0.106~~	0.200 U	~~0.331~~	0.622 U	~~J~~	1
Carbon tetrachloride	ND	0.200	ND	1.26		1
Chlorobenzene	ND	0.200	ND	0.920		1
Chloroethane	ND	0.200	ND	0.527		1
Chloroform	ND	0.200	ND	0.976		1
Chloromethane	ND	0.200	ND	0.413		1
cis-1,2-Dichloroethene	ND	0.200	ND	0.792		1
cis-1,3-Dichloropropene	ND	0.200	ND	0.907		1
Cyclohexane	0.234	0.200	0.804	0.688		1
Dibromochloromethane	ND	0.200	ND	1.70		1
Dichlorodifluoromethane	0.489	0.200	2.42	0.988		1
Ethylbenzene	0.223	0.200	0.968	0.868		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.200	ND	1.53		1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.200	ND	1.40		1
Heptane	0.221	0.200	0.907	0.819		1
Hexachlorobutadiene	ND	0.200	ND	2.13		1
n-Hexane	0.521	0.500	1.83	1.76		1
iso-Propyl Alcohol	3.26	0.500	8.00	1.23		1
Methylene chloride	0.338	0.500	1.17	1.74	J	1
4-Methyl-2-pentanone	ND	0.200	ND	0.819		1
Methyl tert butyl ether	ND	0.200	ND	0.720		1
p/m-Xylene	0.729	0.200	3.16	0.868		1
o-Xylene	0.239	0.200	1.04	0.868		1

Project Name: HERKIMER MGP RI
Project Number: 105905.1000.0012
Lab Number: L0903892
Report Date: 05/08/09

SAMPLE RESULTS

Lab ID: L0903892-01
Client ID: SV-3B
Sample Location: HERKIMER, NY
Date Collected: 03/27/09 11:03
Date Received: 03/30/09
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RDL	ug/m3 Results	ug/m3 RDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab						
Naphthalene	ND	0.200	ND	1.05		1
Styrene	0.174	0.200	0.742	0.851	J	1
tert-Butyl Alcohol	0.316	0.200	0.957	0.606		1
Tetrachloroethene	ND	0.200	ND	1.36		1
Thiophene	ND	0.200	ND	0.688		1
Toluene	2.75	0.200	10.4	0.753		1
trans-1,2-Dichloroethene	ND	0.200	ND	0.792		1
trans-1,3-Dichloropropene	ND	0.200	ND	0.907		1
Trichloroethene	ND	0.200	ND	1.07		1
Trichlorofluoromethane	0.124	0.200	0.695	1.12	J	1
Vinyl bromide	ND	0.200	ND	0.874		1
Vinyl chloride	ND	0.200	ND	0.511		1
Butane	2.96	0.200	7.02	0.475		1
Pentane	1.09	0.200	3.21	0.590		1
Octane	0.525	0.200	2.45	0.934		1
Nonane (C9)	ND	0.200	ND	1.05		1
Decane (C10)	0.195	0.200	1.14	1.16	J	1
Dodecane (C12)	ND	0.500	ND	3.48		1
Undecane	0.543	0.200	3.47	1.28		1
Indane	ND	0.200	ND	0.967		1
Indene	ND	0.200	ND	0.950		1
1-Methylnaphthalene	ND	2.50	ND	14.5		1
Ethyl Alcohol	20.3	2.50	38.3	4.71		1
Ethyl Acetate	ND	0.200	ND	0.721		1
Propylene	1.46 J	0.200	2.52 J	0.344		1
Tetrahydrofuran	ND	0.200	ND	0.590		1
Vinyl acetate	ND	0.200	ND	0.704		1
Isopropylbenzene	ND	0.200	ND	0.982		1

QC Nonconformance Documentation

Response Factor Report AirLab 7

Method Path : O:\Forensics\Data\Airlab7\2009\090414T\
Method File : TALL-090407.M
Title : TO-14A/TO-15 SIM/Full Scan Analysis
Last Update : Tue Apr 14 11:52:22 2009
Response Via : Initial Calibration

Calibration Files
0.2 =R77383.D 0.5 =R77384.D 1.0 =R77385.D 2.5 =R77386.D 5.0 =R77387.D 10.0=R77388.D 20 =R77389.D
50 =R77390.D 100 =R77391.D

		Compound	0.2	0.5	1.0	2.5	5.0	10.0	20	50	100	Avg	%RSD
1)	I	bromochloromethane	----------ISTD----------										
2)		chlorodifluoro...	1.347	1.309	1.251	1.342	1.308	1.343	1.250	1.629	1.156	1.326	9.74
3)		propylene	0.995	0.907	0.835	0.877	0.816	0.847	0.788	1.022	0.736	0.869	10.72
4)		propane	0.763	0.765	0.675	0.745	0.712	0.743	0.691	0.893	0.628	0.735	10.11
5)		dichlorodifluo...	1.485	1.648	1.482	1.679	1.615	1.657	1.527	1.968	1.398	1.607	10.33
6)		chloromethane	0.915	0.872	0.786	0.860	0.821	0.830	0.767	0.961	0.699	0.834	9.46
7)		Freon-114	1.365	1.667	1.455	1.577	1.805	1.762	1.549	1.894	1.386	1.607	11.73
8)		methanol	0.351	0.329	0.271	0.283	0.297	0.282	0.283	0.317	0.260	0.297	9.94
9)		vinyl chloride	0.795	0.811	0.754	0.866	0.830	0.860	0.795	1.012	0.743	0.830	9.67
10)		1,3-butadiene	0.739	0.718	0.655	0.676	0.622	0.665	0.611	0.802	0.578	0.674	10.35
11)		butane	1.737	1.601	1.373	1.398	1.373	1.430	1.334	1.775	1.275	1.477	12.27
12)		acetaldehyde	0.272	0.251	0.201	0.315	0.335	0.301	0.299	0.269	0.209	0.273	16.82
13)		bromomethane	0.757	0.682	0.619	0.677	0.640	0.659	0.605	0.753	0.594	0.665	8.90
14)		chloroethane	0.388	0.384	0.342	0.413	0.391	0.407	0.370	0.455	0.341	0.388	9.18
15)		ethanol	0.466	0.473	0.421	0.509	0.570	0.562	0.578	0.640	0.441	0.518	14.19
16)		dichlorofluoro...	1.772	1.735	1.592	1.714	1.672	1.756	1.610	1.944	1.492	1.699	7.59
17)		vinyl bromide	0.523	0.564	0.532	0.567	0.540	0.563	0.514	0.648	0.495	0.550	8.09
18)		acrolein	0.306	0.285	0.199	0.287	0.316	0.294	0.308	0.268	0.255	0.280	12.93
19)		acetone	1.237	0.977	0.775	0.994	1.140	1.033	1.126	0.962	0.855	1.011	14.21
20)		acetonitrile	0.755	0.538	0.479	0.576	0.620	0.584	0.616	0.546	0.495	0.579	14.15
21)		trichlorofluor...	1.341	1.562	1.482	1.673	1.586	1.641	1.521	1.772	1.352	1.548	9.20
22)		isopropyl alcohol	1.590	1.463	1.150	1.269	1.358	1.218	1.290	1.570	1.079	1.332	13.46
23)		acrylonitrile	0.465	0.453	0.354	0.536	0.581	0.543	0.571	0.475	0.464	0.494	14.53
24)		pentane	1.757	1.638	1.465	1.619	1.663	1.746	1.623	1.948	1.446	1.656	9.23
25)		ethyl ether	0.760	0.846	0.645	0.998	1.105	1.058	1.089	0.888	0.825	0.913	17.51
26)		1,1-dichloroet...	1.120	1.248	1.141	1.343	1.294	1.334	1.245	1.399	1.079	1.245	8.88
27)	t	tertiary butyl...	1.015	1.036	1.002	1.181	1.236	1.232	1.301	1.652	1.008	1.185	17.71
28)		methylene chlo...	1.836	1.325	1.118	1.166	1.121	1.126	1.038	1.112	0.881	1.191	22.51
29)		3-chloropropene	1.007	1.095	0.951	1.207	1.269	1.315	1.190	1.109	1.012	1.128	11.10

30)	carbon disulfide	2.893	2.491	2.310	2.459	2.339	2.469	2.287	2.785	1.995	2.448	10.96
31)	Freon 113	1.065	1.192	1.118	1.280	1.249	1.289	1.184	1.433	1.091	1.211	9.55
32)	trans-1,2-dich...	1.217	1.213	1.158	1.314	1.298	1.340	1.236	1.350	1.075	1.245	7.29
33)	1,1-dichloroet...	1.137	1.130	0.977	1.471	1.474	1.475	1.397	1.221	1.136	1.269	14.84
34)	MTBE	1.174	1.172	1.078	1.371	1.608	1.467	1.579	1.415	1.197	1.340	14.38
35)	vinyl acetate	1.392	1.497	1.202	2.019	2.270	2.140	2.235	1.832	1.684	1.808	21.46
36)	2-butanone	1.228	1.171	1.054	1.344	1.614	1.422	1.599	1.441	1.146	1.335	14.95
37)	cis-1,2-dichlo...	0.814	0.827	0.756	1.097	1.088	1.094	1.039	0.957	0.849	0.947	14.51
38)	Ethyl Acetate	0.121	0.169	0.160	0.196	0.223	0.203	0.224	0.201	0.164	0.185	18.25
39)	chloroform	1.277	1.186	1.029	1.412	1.371	1.372	1.286	1.235	1.157	1.258	9.69
40)	Tetrahydrofuran	1.102	0.895	0.765	0.812	0.960	0.864	0.895	0.853	0.707	0.872	13.09
41)	2,2-dichloropr...	1.039	0.959	0.808	1.194	1.192	1.202	1.128	0.991	1.035	1.061	12.45
42)	1,2-dichloroet...	0.586	0.666	0.558	0.888	0.948	0.885	0.858	0.699	0.795	0.765	18.58

Response Factor Report AirLab 7

Method Path : O:\Forensics\Data\Airlab7\2009\090414T\
Method File : TALL-090407.M
Title : TO-14A/TO-15 SIM/Full Scan Analysis

43)	I	1,4-difluorobenzene	----------ISTD----------										
44)		hexane	0.775	0.784	0.649	0.725	0.715	0.763	0.738	0.986	0.573	0.745	15.06
45)		diisopropyl ether	0.128	0.180	0.140	0.190	0.221	0.210	0.241	0.274	0.175	0.195	23.81
46)		tert-butyl eth...	0.824	0.817	0.726	0.878	1.070	0.972	1.134	1.320	0.904	0.960	19.34
47)	s	1,2-dichloroet...	0.372	0.357	0.348	0.369	0.359	0.365	0.389	0.341	0.291	0.354	7.81
48)		1,1,1-trichlor...	0.647	0.610	0.498	0.616	0.683	0.628	0.621	0.786	0.655	0.638	11.82
49)		1,1-dichloropr...	0.506	0.557	0.455	0.613	0.651	0.649	0.667	0.815	0.646	0.618	16.85
50)		benzene	0.873	0.851	0.662	1.117	1.163	1.144	1.164	1.177	1.082	1.026	17.99
51)		thiophene	0.526	0.524	0.407	0.656	0.672	0.642	0.650	0.713	0.616	0.601	16.01
52)		carbon tetrach...	0.604	0.611	0.543	0.685	0.681	0.690	0.664	0.847	0.636	0.662	12.74
53)		cyclohexane	0.828	0.864	0.730	0.794	0.798	0.821	0.804	1.074	0.760	0.830	11.95
54)		tert-amyl meth...	0.731	0.687	0.597	0.756	0.984	0.875	1.034	1.299	0.847	0.868	24.61
55)		dibromomethane	0.386	0.354	0.307	0.444	0.458	0.466	0.473	0.563	0.458	0.434	17.31
56)		1,2-dichloropr...	0.322	0.340	0.273	0.472	0.508	0.504	0.527	0.554	0.459	0.440	23.10
57)		bromodichlorom...	0.770	0.704	0.570	0.859	0.889	0.897	0.907	1.102	0.859	0.840	17.63
58)		1,4-dioxane	0.137	0.174	0.141	0.187	0.213	0.203	0.230	0.324	0.205	0.202	27.67
59)		trichloroethene	0.307	0.304	0.261	0.395	0.401	0.417	0.414	0.513	0.425	0.382	20.31
60)		2,2,4-trimethy...	2.049	1.989	1.688	2.367	2.383	2.502	2.528	3.111	2.274	2.321	17.32
61)		heptane	0.869	0.796	0.660	0.987	1.000	1.048	1.050	1.344	0.939	0.966	19.76
62)		2,4,4-trimethy...	0.940	0.805	0.657	1.161	1.209	1.158	1.188	1.253	1.008	1.042	19.70
63)		cis-1,3-dichlo...	0.405	0.419	0.348	0.617	0.662	0.645	0.675	0.757	0.600	0.570	24.99
64)		4-methyl-2-pen...	0.802	0.769	0.653	0.859	1.028	0.921	1.123	1.495	0.817	0.941	26.63
65)		2,4,4-trimethy...	0.436	0.505	0.411	0.760	0.785	0.753	0.777	0.835	0.756	0.668	24.99
66)		trans-1,3-dich...	0.359	0.399	0.301	0.570	0.632	0.613	0.661	0.755	0.569	0.540	28.25
67)		1,1,2-trichlor...	0.334	0.299	0.237	0.389	0.417	0.406	0.421	0.565	0.376	0.383	23.90
68)	I	chlorobenzene-D5	----------ISTD----------										
69)		toluene	2.898	3.204	2.569	4.331	4.551	4.366	4.062	3.984	3.585	3.728	18.86
70)	s	toluene-D8	3.529	3.483	3.499	3.532	3.366	3.406	3.034	2.954	2.650	3.273	9.67
71)		2-methylthiophene	2.037	2.124	1.618	3.023	3.172	2.958	2.610	2.699	2.474	2.524	20.38
72)		1,3-dichloropr...	1.417	1.581	1.255	2.103	2.294	2.200	2.128	2.187	1.925	1.899	20.16
73)		2-hexanone	3.036	2.779	2.363	2.896	3.392	3.150	3.497	3.840	2.466	3.047	15.83
74)		3-methylthiophene	2.263	2.150	1.723	3.147	3.285	2.931	2.735	2.679	2.367	2.587	19.52
75)		dibromochlorom...	1.729	1.891	1.570	2.495	2.627	2.618	2.434	2.692	2.277	2.259	18.71
76)		1,2-dibromoethane	1.424	1.569	1.281	2.149	2.314	2.212	2.106	2.143	1.907	1.901	19.96
77)		butyl acetate	0.337	0.354	0.311	0.365	0.432	0.398	0.442	0.510	0.337	0.387	16.49
78)		octane	1.115	0.928	0.676	1.198	1.232	1.244	1.114	1.215	1.057	1.087	16.94
79)		tetrachloroethene	1.197	1.280	1.112	1.691	1.680	1.701	1.901	1.810	1.535	1.545	18.30

80)		1,1,1,2-tetrac...	1.124	1.181	1.039	1.631	1.677	1.619	1.829	1.678	1.598	1.486	19.40
81)		chlorobenzene	2.033	2.196	1.787	3.105	3.246	3.128	3.496	3.113	3.059	2.796	22.00
82)		ethylbenzene	3.142	3.496	2.744	5.181	6.119	5.780	6.352	5.604	5.185	4.845	27.98
83)		2-ethylthiophene	2.092	2.148	1.701	3.480	3.711	3.187	3.494	3.016	2.890	2.858	25.00
84)		m+p-xylene	2.429	2.642	2.045	3.933	4.328	4.091	4.550	4.054	3.655	3.525	25.86
85)		bromoform	1.326	1.444	1.221	2.017	2.206	2.188	2.564	2.450	2.324	1.971	25.79
86)		styrene	1.690	1.937	1.523	2.715	3.047	2.907	3.352	2.983	2.780	2.548	25.79
87)		1,1,2,2-tetrac...	2.309	2.465	1.972	3.351	3.770	3.533	4.043	3.675	2.799	3.102	23.66
88)		o-xylene	2.399	2.752	2.137	4.103	4.944	4.606	5.195	4.484	3.667	3.810	29.79
89)		1,2,3-trichlor...	2.001	2.235	1.744	2.803	3.154	2.959	3.341	3.166	2.758	2.684	20.96
90)		nonane	2.901	3.246	2.336	4.387	4.815	4.703	4.976	4.432	3.673	3.941	23.85
91)	s	bromofluoroben...	2.530	2.487	2.441	2.512	2.511	2.505	2.554	2.390	2.250	2.464	3.82
92)		isopropylbenzene	3.043	3.579	2.682	4.960	5.474	5.238	5.920	5.403	4.632	4.548	25.56

Response Factor Report AirLab 7

Method Path : O:\Forensics\Data\Airlab7\2009\090414T\
Method File : TALL-090407.M
Title : TO-14A/TO-15 SIM/Full Scan Analysis

93)	bromobenzene	2.455	2.512	1.940	3.111	3.444	3.320	3.709	3.458	3.136	3.009	19.31
94)	2-chlorotoluene	0.810	0.919	0.769	1.286	1.371	1.337	1.557	1.464	1.315	1.203	24.28
95)	n-propylbenzene	0.820	0.933	0.721	1.247	1.438	1.375	1.663	1.579	1.361	1.237	27.21
96)	4-chlorotoluene	2.766	3.032	2.363	3.790	4.338	4.222	4.848	4.507	4.004	3.763	22.66
97)	4-ethyl toluene	3.242	3.794	2.941	4.830	5.709	5.424	6.461	5.979	4.860	4.804	25.77
98)	1,3,5-trimethy...	2.291	2.748	2.197	3.748	4.420	4.116	4.874	4.415	3.669	3.609	27.12
99)	tert-butylbenzene	2.477	2.878	2.331	3.743	4.454	4.159	5.067	4.489	3.172	3.641	26.71
100)	1,2,4-trimethy...	2.329	2.794	2.189	3.536	4.311	4.048	4.969	4.354	3.054	3.509	27.83
101)	decane	2.732	2.897	2.289	3.167	3.820	3.916	4.640	4.134	3.350	3.438	21.80
102)	Benzyl Chloride	2.704	2.977	2.515	3.085	3.710	3.724	4.835	4.786	3.799	3.571	23.48
103)	1,3-dichlorobe...	1.598	1.753	1.480	2.220	2.569	2.526	3.101	2.839	2.437	2.280	24.72
104)	1,4-dichlorobe...	1.632	1.724	1.457	2.102	2.483	2.498	3.098	2.869	2.341	2.245	25.08
105)	sec-butylbenzene	3.740	4.316	3.415	5.354	6.356	6.038	7.371	6.774	5.046	5.379	25.53
106)	1,2,3-trimethy...	1.744	1.931	1.554	2.807	3.340	2.768	3.422	3.090	2.359	2.557	27.13
107)	p-isopropyltol...	2.880	3.467	2.817	4.019	4.836	4.548	5.816	5.370	3.843	4.177	25.18
108)	1,2-dichlorobe...	1.512	1.713	1.381	1.998	2.331	2.322	2.809	2.564	2.238	2.096	23.02
109)	n-butylbenzene	3.305	3.633	3.071	3.740	4.571	4.511	5.911	5.690	4.369	4.311	23.06
110)	indan	1.527	1.738	1.425	2.734	3.132	2.576	3.018	2.658	2.249	2.340	27.32
111)	indene	1.281	1.454	1.231	1.986	2.335	1.834	2.279	2.228	1.918	1.838	23.15
112)	1,2-dibromo-3-...	0.921	0.963	0.879	1.099	1.213	1.412	1.747	2.047	1.450	1.303	30.63
113)	undecane	3.047	3.003	2.494	2.489	3.045	2.839	4.341	4.740	3.572	3.286	23.98
114)	1,2,4,5-tetram...			0.157	0.598	0.698	0.714	1.027			0.639	49.12
115)	dodecane	2.871	2.681	2.485	2.796	3.017	2.536	3.467	4.896	2.675	3.047	24.72
116)	1,2,4-trichlor...	0.809	0.874	0.878	1.075	1.101	1.050	1.632			1.060	26.13
117)	naphthalene	2.363	2.241	2.206	2.655	2.837	2.436	3.500	4.321	3.728	2.921	25.80
118)	1,2,3-trichlor...	0.793	0.783	0.813	0.997	0.982	0.877	1.254			0.928	18.08
119)	benzothiophene				1.228	1.269	0.477	0.653	0.140		0.753	64.83
120)	hexachlorobuta...	0.718	0.897	0.801	0.907	0.969	0.984	1.538	1.625	1.677	1.124	33.60
121)	2-methylnaphth...			0.113	0.661	0.480	0.419	0.535	0.370	0.222	0.400	46.56
122)	1-methylnaphth...			0.188	0.984	0.665	0.693	0.832	0.487	0.281	0.590	48.84

(#) = Out of Range

Project Name: HERKIMER MGP RI
Project Number: 105905.1000.0012
Lab Number: L0903484
Report Date: 05/08/09

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 04/09/09 14:08

Parameter	ppbV Results	ppbV RDL	ug/m3 Results	ug/m3 RDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-02,04-06 Batch: WG358333-3						
1,1,1-Trichloroethane	ND	0.200	ND	1.09		1
1,1,2,2-Tetrachloroethane	ND	0.200	ND	1.37		1
1,1,2-Trichloroethane	ND	0.200	ND	1.09		1
1,1-Dichloroethane	ND	0.200	ND	0.809		1
1,1-Dichloroethene	ND	0.200	ND	0.792		1
1,2,3-Trimethylbenzene	ND	0.200	ND	0.983		1
1,2,4-Trichlorobenzene	ND	0.200	ND	1.48		1
1,2,4-Trimethylbenzene	ND	0.200	ND	0.982		1
1,2,4,5-Tetramethylbenzene	ND	2.50	ND	13.7		1
1,2-Dibromoethane	ND	0.200	ND	1.54		1
1,2-Dichlorobenzene	ND	0.200	ND	1.20		1
1,2-Dichloroethane	ND	0.200	ND	0.809		1
1,2-Dichloropropane	ND	0.200	ND	0.924		1
1,3,5-Trimethylbenzene	ND	0.200	ND	0.982		1
1,3-Butadiene	ND	0.200	ND	0.442		1
1,3-Dichlorobenzene	ND	0.200	ND	1.20		1
1,4-Dichlorobenzene	ND	0.200	ND	1.20		1
1,4-Dioxane	ND	0.200	ND	0.720		1
2,2,4-Trimethylpentane	ND	0.200	ND	0.934		1
2-Butanone	ND	0.200	ND	0.589		1
o-Chlorotoluene	ND	0.200	ND	1.03		1
2-Hexanone	ND	0.200	ND	0.819		1
3-Chloropropene	ND	0.200	ND	0.626		1
4-Ethyltoluene	ND	0.200	ND	0.982		1
Acetone	ND	0.500	ND	1.19		1

Project Name: HERKIMER MGP RI
Project Number: 105905.1000.0012
Lab Number: L0903484
Report Date: 05/08/09

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 04/09/09 14:08

Parameter	ppbV Results	ppbV RDL	ug/m3 Results	ug/m3 RDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-02,04-06 Batch: WG358333-3						
Benzene	ND	0.200	ND	0.638		1
Benzyl chloride	ND	0.200	ND	1.03		1
Bromodichloromethane	ND	0.200	ND	1.34		1
Bromoform	ND	0.200	ND	2.06		1
Bromomethane	ND	0.200	ND	0.776		1
Carbon disulfide	0.113	0.200	0.352	0.622	J	1
Carbon tetrachloride	ND	0.200	ND	1.26		1
Chlorobenzene	ND	0.200	ND	0.920		1
Chloroethane	ND	0.200	ND	0.527		1
Chloroform	ND	0.200	ND	0.976		1
Chloromethane	ND	0.200	ND	0.413		1
cis-1,2-Dichloroethene	ND	0.200	ND	0.792		1
cis-1,3-Dichloropropene	ND	0.200	ND	0.907		1
Cyclohexane	ND	0.200	ND	0.688		1
Dibromochloromethane	ND	0.200	ND	1.70		1
Dichlorodifluoromethane	ND	0.200	ND	0.988		1
Ethylbenzene	ND	0.200	ND	0.868		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.200	ND	1.53		1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.200	ND	1.40		1
Heptane	ND	0.200	ND	0.819		1
Hexachlorobutadiene	ND	0.200	ND	2.13		1
n-Hexane	ND	0.500	ND	1.76		1
iso-Propyl Alcohol	ND	0.500	ND	1.23		1
Methylene chloride	ND	0.500	ND	1.74		1
4-Methyl-2-pentanone	ND	0.200	ND	0.819		1

APPENDIX E

HYDRAULIC CONDUCTIVITY CALCULATIONS

Bouwer and Rice Slug Test for Partially-Penetrating Wells

Note Lw<H

Site Name:	**Herkimer MGP Site**
Site Address:	**West Smith Street**
Project Number:	**105905.001000.000011**
Test Well:	**MW-1**

Instructions: enter values in shaded cells.

Well and Aquifer Parameters

Well casing diameter (2rc)	0.16667	feet	
Boring diameter (2rw)	0.54167	feet	
Height of water column in well (Lw)	6.88	feet	
Length of saturated well screen (Le)	6.88	feet	Note: Le will equal Lw for shallow wells
Aquifer Thickness (H)	50	feet	
Gravel pack porosity (n)	0.3	dimensionless	Note: 30% porosity (0.3) is typical for gravel packs.

Notes:

1. For a 2-inch diameter well, the well casing diameter (2rc) is 0.16667 feet and the boring diameter (2rw) is typically 0.54167 feet (6.5-inch diameter augers).
2. For a 4-inch diameter well, the well casing diameter (2rc) is 0.33333 feet and the boring diameter (2rw) is typically 0.6875 feet (8.25-inch diameter augers).
3. For a 6-inch diameter well, the well casing diameter (2rc) is 0.5 feet and the boring diameter (2rw) is typically 0.83333 feet (10-inch diameter augers).

Well casing radius (rc)	0.083335	feet	
Equivalent casing radius (rce)	0.163911	feet	Note: corrected for porosity of gravel pack (shallow wells only)
Boring radius (rw)	0.270835	feet	
Le/rw (for Bouwer and Rice graph)	25.40	dimensionless	

Parameters from recovery graph

drawdown at t=0 (yo)	6.506	feet
Arbitrary time (t)	20	sec
Drawdown at time (yt)	6.25	feet

Dimensionless Parameters (calculated from Bouwer and Rice Graph by linear interpolation)

A	2.31	dimensionless
B	0.36	dimensionless

Ln Re/Rw	1.98663			
Hydraulic Conductivity (K)	**7.79E-06**	ft/sec	**2.37E-04** cm/sec	**6.73E-01** ft/day

Bouwer and Rice Slug Test for Partially-Penetrating Wells

Note Lw<H

Site Name:	**Herkimer MGP Site**
Site Address:	**West Smith Street**
Project Number:	**105905.001000.000011**
Test Well:	**MW-2**

Instructions: enter values in shaded cells.

Well and Aquifer Parameters

Well casing diameter (2rc)	0.16667	feet	
Boring diameter (2rw)	0.54167	feet	
Height of water column in well (Lw)	6.41	feet	
Length of saturated well screen (Le)	6.41	feet	Note: Le will equal Lw for shallow wells
Aquifer Thickness (H)	50	feet	
Gravel pack porosity (n)	0.3	dimensionless	Note: 30% porosity (0.3) is typical for gravel packs.

Notes:

1. For a 2-inch diameter well, the well casing diameter (2rc) is 0.16667 feet and the boring diameter (2rw) is typically 0.54167 feet (6.5-inch diameter augers).
2. For a 4-inch diameter well, the well casing diameter (2rc) is 0.33333 feet and the boring diameter (2rw) is typically 0.6875 feet (8.25-inch diameter augers).
3. For a 6-inch diameter well, the well casing diameter (2rc) is 0.5 feet and the boring diameter (2rw) is typically 0.83333 feet (10-inch diameter augers).

Well casing radius (rc)	0.083335	feet	
Equivalent casing radius (rce)	0.163911	feet	Note: corrected for porosity of gravel pack (shallow wells only)
Boring radius (rw)	0.270835	feet	
Le/rw (for Bouwer and Rice graph)	23.67	dimensionless	

Parameters from recovery graph

drawdown at t=0 (yo)	5.393	feet
Arbitrary time (t)	20.1	sec
Drawdown at time (yt)	4.665	feet

Dimensionless Parameters (calculated from Bouwer and Rice Graph by linear interpolation)

A	2.26	dimensionless
B	0.35	dimensionless

Ln Re/Rw	1.92814			
Hydraulic Conductivity (K)	**2.92E-05**	ft/sec	**8.89E-04** cm/sec	**2.52E+00** ft/day