Supplemental Remedial Investigation/Feasibility Study Work Plan

for the

Ilion (East St.) Former MGP Site
Ilion, Herkimer County, New York

Prepared for

nationalgrid

Prepared by

TETRA TECH EC, INC.

February 2006

1.0 Purpose

The purpose of this Supplemental Remedial Investigation/Feasibility Study (RI/FS) Work Plan is to present an approach for data gathering activities that will allow further delineation of MGP-related contaminants in soil and groundwater in the northern portion of the Ilion (East St.) Former MGP Site (the Site) and that will provide confirmation that impacts observed in the open swale are not related to the former MGP. The supplemental soil investigation activities are designed to address gaps in the data required to complete the Feasibility Study. The supplemental groundwater investigation is designed to address data gaps identified in New York State Department of Environmental Conservation (NYSDEC) correspondence dated October 5, 2005 and further discussed in the response letter from National Grid dated November 9, 2005. The supplemental swale investigation activities are designed to address NYSDEC comments presented in a letter dated December 22, 2005.

The objective of the additional soil investigation will be to improve the delineation of MGP-related impacts on-site. The objective of further groundwater delineation will be to determine if the northern edge of the groundwater plume extends off-site near the dwelling at 214 Clark Street. The objective of the additional activities in the area of the open swale is to further confirm that impacts identified in the open swale are not-related to the former MGP, but rather are related to other more local sources.

2.0 Scope of Work

This section describes the tasks to be performed as part of the Supplemental Remedial Investigation to address the Site data gaps. The investigation activities presented herein will be performed in accordance with previously submitted documents (e.g., RI Work Plan, Generic Field Sampling Plan, Generic Quality Assurance Project Plan, and Generic Health and Safety Plan).

2.1 Soil Borings to Delineate On-site Soil Impact

Elevated PAH concentrations (i.e., above a screening value of 500 ppm based on the Recommended Soil Cleanup Objective for total semivolatile organic compounds in NYSDEC Technical and Administrative Guidance Memorandum [TAGM] 4046) and blebs of NAPL were observed within and adjacent to the footprint of the former 200,000 cubic foot gas holder at soil borings SB-08 and SB-15 between 8 and 10.5 feet bgs and 8 and 10 feet bgs, respectively. Additional data are required to better assess the extent of NAPL within and adjacent to the former holder footprint.

Three soil borings (TTSB-03 through TTSB-05) will be installed within/adjacent to the former 200,000 cubic foot gas holder to further delineate the impacted soil in this area (see Figure 2-1). Soil borings will be installed via hollow stem auger methods and will be continuously logged. Soil borings TTSB-03 and TTSB-04 will be advanced to a maximum depth of 16 feet bgs and soil boring TTSB-05 will be advanced to a maximum

depth of 20 feet bgs. Two soil samples will be collected from the interval between 8 feet and the bottom of the boring (based on field screening results and visual observations) and submitted for PAH analysis. If evidence of impacts is observed at proposed maximum depths, soil borings will be advanced deeper, additional samples may be collected, and contingency borings will be advanced. Contingency borings will be advanced to depths sufficient to delineate impacts observed in adjacent borings and will be sampled based on field screening results and visual observations. Contingency borings for locations TTSB-03 and TTSB-04, if necessary, will be advanced just outside the footprint of the former 200,000 cubic foot gas holder. The contingency boring location associated with the TTSB-05 soil boring, if necessary, will be positioned approximately 10 feet to the northeast. The locations of the potential contingency borings are displayed on Figure 2-1.

2.2 Evaluation of Groundwater Flow and Delineation of Impacted Groundwater

Cyanide has been detected at concentrations exceeding the New York State Groundwater Quality Criteria (NYSGWQC) in samples collected from monitoring well MW-07, located near the downgradient site property boundary, for four out of five sampling events. During the most recent event in September 2004, cyanide was not detected in the groundwater sampled from MW-7. To further evaluate the northern edge of the plume more precisely, one monitoring well (MW-12) will be installed along the northwestern edge of the Site adjacent to the property at 214 Clark Street. Figure 2-1 depicts the anticipated location of the proposed monitoring well. The screened interval for this well will be across the water table and across a stratigraphic horizon equivalent to that which is screened at MW-7.

To improve the understanding of groundwater flow and groundwater quality in the sand and gravel (kame) unit, and the lateral limits of the cyanide plume, one monitoring well (MW-13) will be installed adjacent to monitoring well MW-11 and screened within the kame unit, from approximately 16 to 26 feet bgs.

The newly-installed monitoring wells MW-12 and MW-13 and existing monitoring wells MW-03, MW-04, MW-07, MW-08, MW-09 and MW-11 will be sampled for total cyanide. In addition, monitoring well MW-12 will be sampled for benzene, toluene, ethylbenzene, and xylene (BTEX). Prior to the collection of groundwater samples, a round of synoptic water level measurements will be collected.

2.3 Swale Investigation

The off-site component of the RI has included the evaluation of an area located north-northeast of the former MGP site, positioned north of the East North Street extension and east of East Street, as well as the segment of a storm sewer that is positioned between this area and the former MGP site. Data collected during the RI indicate that, locally, there are impacts related to the former MGP in parts of this off-site area. These MGP-related impacts are limited to the area south of the open swale, which is located in the

northern part of the off-site study area. Based on available information, as summarized in Attachment 1, impacts identified in and adjacent to the open swale (e.g., sheens, elevated concentrations of PAHs) are apparently the result of petroleum contamination from local sources and not the former MGP. These local sources include: stormwater sewer drainage to the swale from roads and numerous commercial, industrial and residential properties; the disposal area adjacent to the swale (including the former Ilion landfill); the former railroad bed (now occupied by Route 5S); and operations at the adjacent Village of Ilion Department of Public Works (DPW) facility.

In a letter dated December 22, 2005, NYSDEC stated that they conclude "...that MGP contaminants exist in the off-site area, which are co-mingled with contaminants of non-MGP origin". The NYSDEC further stated that they expect "...the forthcoming Feasibility Study will include as remedial objectives the restoration of the soil to Department guidance values to the extent practicable and the prevention of sheens to the surface water in the swale". However, as stated above, the available data and information provided in the RI Report (Tetra Tech, March 2005), and summarized in Attachment 1, indicate that the sheens and other impacts in the open swale area are not related to former MGP operations.

2.3.1 Field Reconnaissance and Collection of Background Information

Prior to the collection of samples, as described below, a detailed field reconnaissance of the open swale and surrounding area will be conducted to document:

- The nature and composition of the banks and bottom of the swale;
- Location and character of visible impacts, such as sheens and seeps, if any;
- Points of discharge to the swale, such as pipes, culverts, seeps, etc;
- Conditions on land surrounding swale that contributes stormwater flow to the swale; and
- Other observations pertinent to assessing the source of impacts in the open swale.

Noted features will be surveyed via GPS for inclusion on a figure of the swale area. A photographic log of the reconnaissance will be prepared upon completion of the reconnaissance.

Efforts will also be made to collect information that may improve the understanding of characteristics and function of the open swale, both currently and historically, including:

- Additional information regarding the storm drain network that discharges to the open swale, including laterals and catch basin locations; and
- Village of Ilion's swale maintenance practices.

2.3.2 Sampling and Analysis

The focus of the supplemental sampling and analysis program will be to confirm that the source of hydrocarbon impacts in the open swale area is associated with petroleum releases that are unrelated to the former MGP operations. The supplemental sampling and analysis program will target the open swale area south of Route 5S. North of Route 5S, observed and measured impacts are substantially less than to the south, as discussed in the summary provided in Attachment 1. Note that the sampling program described below may be adjusted based on the findings of the field reconnaissance or background information. Such changes, if any, will be reviewed with NYSDEC.

The supplemental sampling will include two components, as follows.

1. The first component will target the shallow sediments in the swale (i.e., 0- to 2-feet below the sediment/water interface) to provide additional data to further characterize the source of impacts in these intervals, as well as the nature and level of these impacts.

2. The second component will address the deeper soil/sediment beneath and adjacent to the open swale. Locations and depths where previous studies indicated relatively high concentrations of PAHs and/or the presence of sheens, but where source fingerprint analyses were not previously conducted, will again be sampled to gather information related to the source of the PAHs.

Supplemental swale sediment samples will be advanced by direct push methods. Table 2-1 lists the planned sample locations and depth intervals, as well as a description of the purpose of the planned location. The planned sample locations are shown on Figure 2-2. As mentioned above, some locations may be adjusted based on the findings of the field reconnaissance or background information. Adjustments, if any, will be documented and discussed with NYSDEC.

Sediment and/or soil samples will be analyzed for PAHs, source fingerprinting with high-resolution gas chromatography, and total organic carbon.

2.4 Surveying

The services of a New York State licensed land surveyor will be retained to survey the vertical and horizontal locations of the new soil borings, monitoring well, and swale area samples. The elevation of reference point (the top of the well casing) will also be surveyed so that groundwater elevations and flow direction can be determined.

3.0 Remedial Investigation Report Addendum

Upon completion of the supplemental investigation activities discussed above, a Remedial Investigation Report Addendum will be prepared and submitted to the

NYSDEC. The Remedial Investigation Report Addendum will presents the validated soil, sediment, and groundwater sample analytical results, boring logs, well construction diagrams, the photographic log of the swale reconnaissance, an updated figure of the swale area showing locations of features identified during the reconnaissance, and a summary of findings.

4.0 Schedule

The following schedule is presented.

Task	Approximate Anticipated Time Frame
Commence Field Activities	Within 30 days of NYSDEC approval of Supplemental RI/FS Work Plan and securing/confirming access to off-site properties
Field Activities and Laboratory Analysis	60 days
Data Validation	Within 30 days of receipt of laboratory data
Submittal of RI Report Addendum	Within 60 days of receipt of validated data

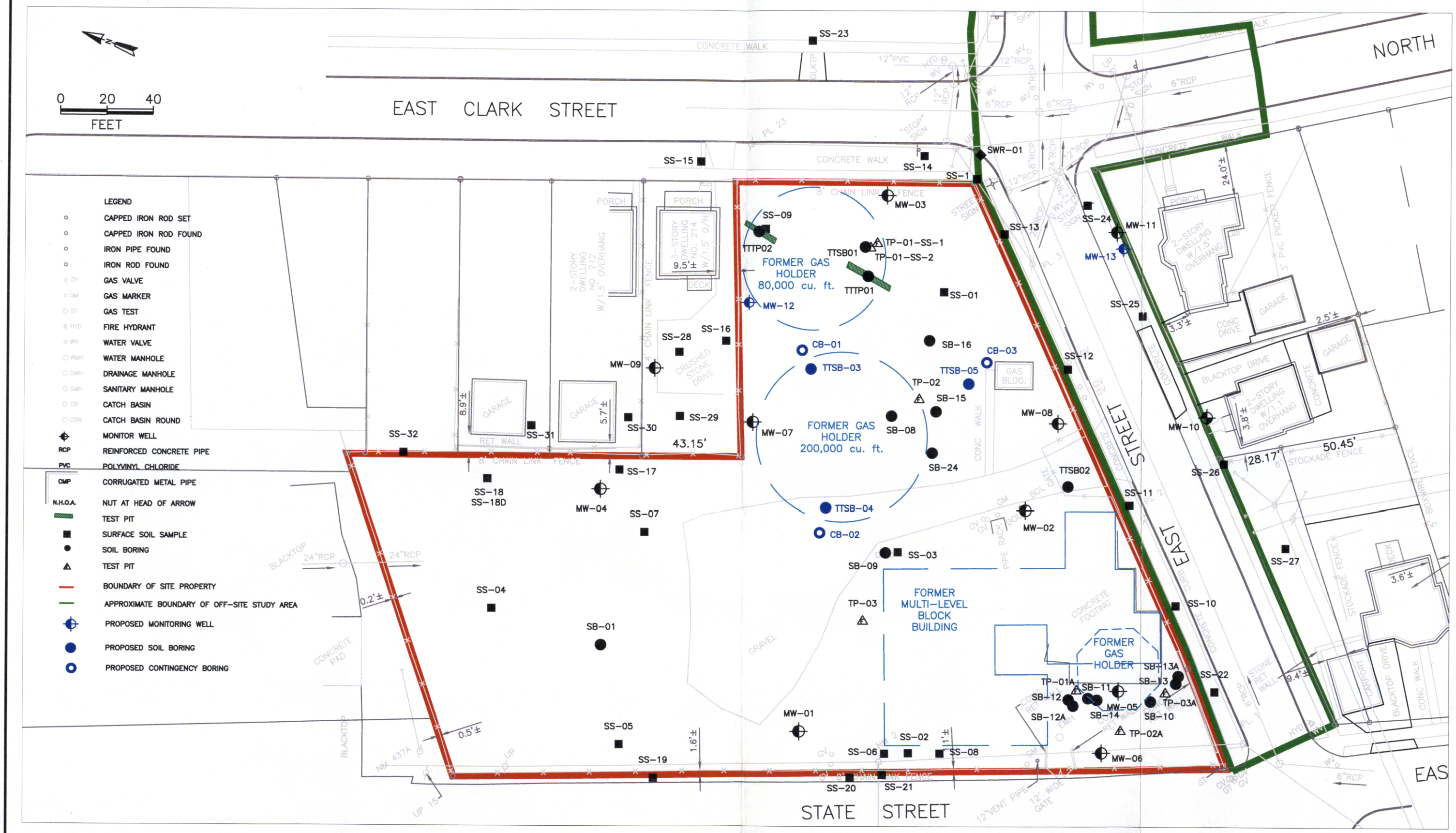
5.0 References

Remedial Investigation/Feasibility Study Work Plan for Niagara Mohawk Power Corporation's (NMPC) Ilion (East Street) Site, June 1999.

Generic Field Sampling Plan for Site Investigations at Manufactured Gas Plants, November 2002.

Generic Environmental Health and Safety Plan for Site Investigations at Manufactured Gas Plants, November 2002.

Generic Quality Assurance Project Plan for Site Investigations at Manufactured Gas Plants, November 2002.



TETRA TECH EC, INC.

TITLE:
PROPOSED SAMPLING LOCATIONS

Ilion (East Street) Site

nationalgrid

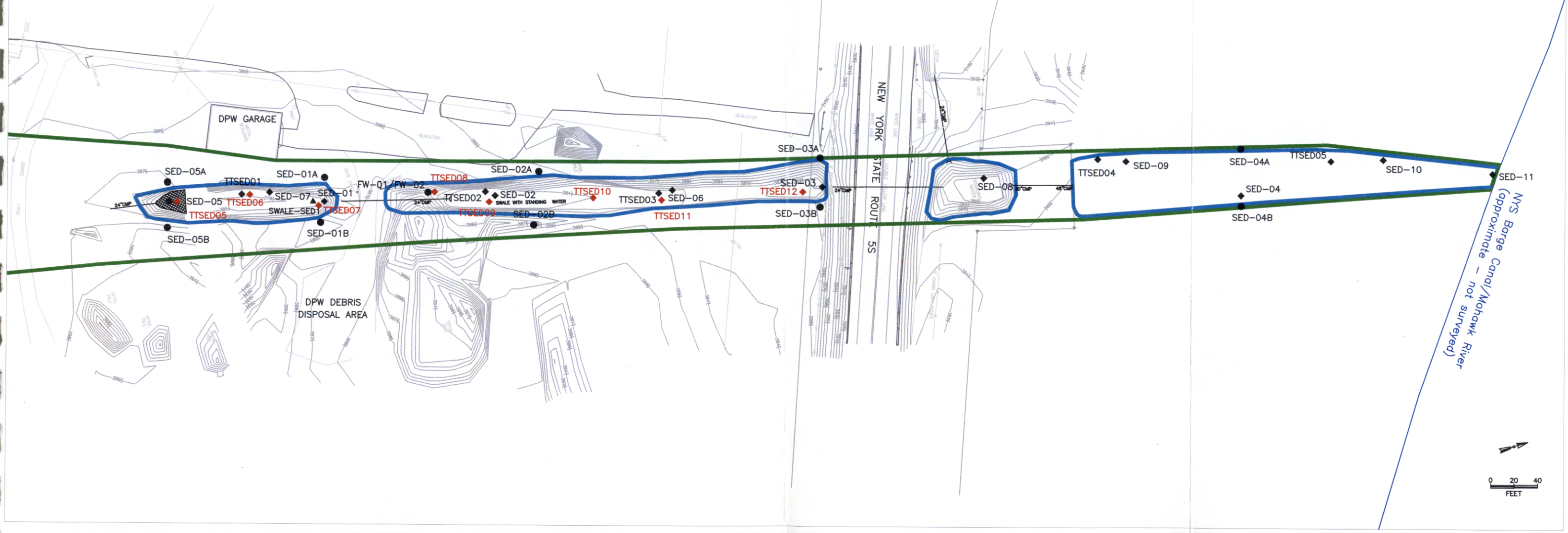
DWN.: CTS	DATE: 02/23/06	PROJECT NO.: 2907.0003.0004	
CHKD: DPC	REV.: 0		
DES.: DPC	APPD: RC	FIGURE NO.: 2-1	

N:\GIS\GISKEY\GISPROJ31\ILION EAST STREET\SUMMARY OF SWALE\FIGURE 2-1 022306.DWG

LEGEND

- CAPPED IRON ROD SET
- CAPPED IRON ROD FOUND
- IRON PIPE FOUND
- IRON ROD FOUND
- WMH WATER MANHOLE
- CMP CORRUGATED METAL PIPE
- PROPOSED SEDIMENT BORING LOCATION
- APPROXIMATE SEDIMENT SAMPLE LOCATION
- APPROXIMATE SEDIMENT/SOIL BORING LOCATION
- APPROXIMATE SEDIMENT BORING LOCATION
- APPROXIMATE BOUNDARY OF OFF-SITE STUDY AREA
- OUTLINE OF SWALE
- AREA OF SEPTEMBER 1999 SEDIMENT PROBING

NOTE:
1. "A" AND "B" SEDIMENT BORING LOCATIONS WERE INSTALLED TO DEFINE THE SWALE EDGES.



TETRA TECH EC, INC.

TITLE:
PROPOSED SEDIMENT/SOIL SAMPLE LOCATIONS IN SWALE AREA

Ilion (East Street) Site

nationalgrid

DWN:	DES.:	PROJECT NO.:
LEA	CTS	2907.0003.0004
CHKD:	APPD:	FIGURE NO.:
DPC	RC	2-2
DATE:	REV.:	
02/17/06	0	

N:\GIS\GISKEY\GISPROJ51\ILION EAST STREET\SUMMARY OF SWALE\FIGURE 2-2 021706.DWG

TABLE 2-1
SEDIMENT AND SOIL SAMPLING PROGRAM
OFF-SITE OPEN SWALE AREA
Ilion (East Street) Former MGP

Planned Sample Identification (a)	Location	Depth Interval (feet) (b)	Purpose and Notes
TTSED05	In approximate area of SED-05	0-2	Shallow sediments near outfall of storm sewer where sheens have been observed in approximate area of SED-05
		4	To assess source of PAHs detected at SED-05 (4 ft.)
TTSED06	In middle of first swale segment, proximal to TTSED01 location	0-2	Increase shallow sample coverage
TTSED07	North end of first swale segment, proximal to SED-01	0-2	Increase shallow sample coverage
		4	To assess source of PAHs detected at SED-01 (4 ft.)
TTSED08	Proximal to FW-02	8	To assess source of PAHs detected at FW-02 (8 ft.)
TTSED09	Near southern end of second swale segment	0-2	To assess source of PAHs detected at TTSED02
		4	To assess source of PAHs detected at SED-02 (4 ft.)
TTSED10	In middle of second swale segement	0-2	Increase shallow sample coverage
TTSED11	Proximal to TTSED03	0-2	To assess source of PAHs detected at TTSED03
TTSED12	North end of second swale segment	0-2	Increase shallow sample coverage

Notes:

(a) Sample locations may be adjusted based on findings of field reconnaissance.
(b) Feet below sediment/water interface or grade.

ATTACHMENT 1

1.0 INTRODUCTION

National Grid has compiled this concise summary of investigations conducted in the open swale, located within the off-site study area of the Ilion (East Street) Site. Section 2.0 contains a description of the swale and swale area; Section 3.0 describes the scope of the work performed during the swale investigations; Section 4.0 describes the physical results of the swale investigations; Section 5.0 presents analytical results; and Section 6.0 summarizes the conclusions of the investigations performed.

2.0 SITE DESCRIPTION

The open swale is an approximately 1,100 foot long linear feature located within the off-site study area of the Ilion (East Street) Site (Figure 2-1). The open swale begins approximately 1,500 feet north-northeast of the Site, at the outfall of a 24-inch culvert for a storm sewer extending from the Site vicinity. This storm sewer line collects drainage from streets (including Main Street) and commercial, industrial and residential properties along these streets, located south of the open swale. The open swale in turn discharges to the Mohawk River. The open swale is comprised of four segments separated by culverts. The first and second segments are positioned south of New York State Route 5S. The open swale passes underneath Route 5S, which is located along a former railroad line. The third and fourth segments are located north of Route 5S, with the end of the fourth segment terminating at the confluence of the swale with the Mohawk River. North of Route 5S, another 24-inch pipe enters the third segment of the open swale from the west. This pipe drains a ditch running parallel to the north side of Route 5S. A ditch draining the DPW debris disposal area to the east enters the swale at the southern end of the second segment.

The open swale is positioned within a relatively low-lying area that includes portions of the former Ilion landfill, an open parcel of land, approximately 25 acres in size, to the northeast of the Site (EA, 1988). The limits of the former Ilion landfill are shown in Figure 2-1. The former landfill site was used by the Village of Ilion between 1933 and 1971 as a dump to dispose of municipal waste, including wastes from Remington Arms and other local industries. The area currently occupied by the Village of Ilion Department of Public Works (DPW) is situated within the former Ilion landfill, and both sides of the open swale abut the former disposal area. South of Route 5S, the swale is positioned adjacent to the garages and debris disposal area for the DPW. The area west of the swale and north of Route 5S was also formerly a sewage disposal plant (Figure 2-1). The field on the north side of East North Street Extension, just south of the beginning of the open swale, is an area in which refuse was formerly deposited and in which construction debris is currently being disposed.

Based on the urban setting of the swale, the storm sewer that discharges to it, and the landfill abutting the banks of the swale, there are many potential sources of petroleum type impacts to the sediments within the swale. The sources include the Ilion DPW, as evidenced by a waste oil/used oil spill that was reported by NYSDEC in June 2000 (Appendix A). In addition, petroleum-type impacts may originate from Route 5S, and the

former railroad bed on which Route 5S is located may provide petroleum and pyrogenic type impacts to the swale. Pyrogenic type impacts may originate from wooden ties treated with creosote, a coal tar derivative. Backwash from the Mohawk River, particularly during flood events, could cause contaminants entering the swale in the vicinity of Route 5S to migrate south toward the head of the swale.

3.0 SCOPE OF WORK

Collection of data to evaluate the swale and surrounding area was conducted over five rounds of RI field activities. These activities are described below. Sample locations are depicted on Figure 3-1.

September 1999

Sediments in the south end of the first segment of the open swale, near the outfall of the 24-inch culvert, were manually probed. The probing consisted of advancing a 9-foot long threaded rod downwards until it could be advanced no further. The rod was then pulled up from the sediments and the rod was screened for odors at various depths. Special attention was given to observing the development of sheens on the water surface. The rod was advanced to depth at approximately 15 locations within 25 feet of the outfall of the pipe (see Figure 3-1). At most locations, the full nine feet of rod were advanced into the soft sediments. The sediment probing resulted in the generation of several local sheens on the standing stagnant surface water within the swale. Odors on the rod were identified as being distinctly petroleum-related rather than coal tar-like. These odors were consistently observed in nearly all 15 of the probing locations and varied in depth, sometimes being detected at multiple locations on the rod per probe location (December 1999 Draft Offsite Storm Water Swale Investigation Summary Report).

December 1999

During visual inspection of the open swale, a localized sheen was observed on sediments. A sample of the sheen-impacted sediment (SWALE-SED1)was collected on December 14, 1999 as part of the RI investigation and was analyzed for source fingerprinting (May 2002 Supplemental Off-Site Stormwater Swale Investigation Summary Report).

January/February 2001

A total of 21 borings were completed over 11 transects (transects SED-01 through SED-11) to evaluate the sediments, and soil beneath the sediments, in the open swale that leads to the Mohawk River. Transects SED-01 through SED-05 consisted of three locations each: one location in the swale and two locations on the top of the swale banks – one on either side of the swale. The locations on the top of the swale banks were installed to define the edges of the swale. Transects SED-06 through SED-11 consisted of one location each positioned within the swale. Borings were advanced to between 8 ft bgs and 20 ft bgs utilizing direct push soil probing from January 3 through February 22, 2001. The 41 soil/sediment samples collected were analyzed for BTEX and PAHs (34 samples);

VOCs and SVOCs (5 samples); source fingerprinting (8 samples); or PCBs, metals, total cyanide, and the following physical parameters: bromate, total petroleum hydrocarbons (TPH), heat quantity (BTUs), and sulfur (2 samples) (July 2001 Data Summary and Work Plan Addendum).

October 2004

Five sediment cores (TtSED-01 through TtSED-05) were advanced and sampled to evaluate the extent and concentration of PAHs in shallow (0 to 2 feet bgs) sediment and to evaluate physical properties of the sediment. The borings were advanced by manually pushing direct push sampler liners into the sediments. One sediment sample was collected from each core for PAH analysis. Three geotechnical samples were collected for grain size distribution, specific gravity, organic content, water content, and Atterberg limits (if silt or clay). The geotechnical samples were collected from sediment borings TtSED-01, TtSED-03, and TtSED-05. The results of the PAH and geotechnical analyses are presented in the March 2005 Remedial Investigation Report for the Ilion (East Street) Site (RI Report).

4.0 PHYSICAL CHARACTERISTICS

The shallow swale sediments typically consist of silt, clay, and silty sand with abundant organic matter (*e.g.*, leaves) and occasionally peat. These sediments overlie peat/organic material layer(s) and alluvial or lacustrine deposits comprised by silt, sand, and/or clays, frequently containing shells of small aquatic animals. On the banks of the swale, fill materials typically overlie the peat/organic layer. The fill materials range up to approximately 12 feet in thickness and are composed of sand, silt, clay, gravel, reworked peat, and anthropogenic material such as ash and brick. Logs for the borings are provided in Appendix B. Table 1 summarizes visual and olfactory descriptions that were noted in boring logs and log book notes.

September 1999 sediment probing resulted in the generation of several sheens on the standing water in the swale upon rod removal. Odors noted during the sediment probing were noted as being petroleum-like. Locations of sheens observed on sediment probes and boring soils are identified on Figure 3-1.

5.0 NATURE AND EXTENT OF IMPACTS

Over 40 soil and sediment samples were collected from the borings advanced in, or adjacent to, the swale. A majority of these samples were analyzed for BTEX and PAH constituents. Other samples underwent analysis for NYSDEC ASP TCL VOCs and SVOCs, and for metals, cyanide, PCBs, and physical parameters to determine composition and disposal parameters. Tabulated results are presented in Tables 2 through 11.

5.1 Shallow Sediment

Samples collected during the 2004 activities, TTSED-01 through -05, focused on shallow sediments in the swale. These samples were collected from 0- to 2-feet below the sediment/water interface along the length of the swale, and were analyzed for PAHs. The only other analytical sample from this interval was from SWALE-SED01, which was collected in the first swale segment and was subjected to fingerprint analysis. However, at each of the boring locations in the swale, descriptions of the samples from the shallow interval were made, including visual or olfactory indicators of contamination, even if no samples were submitted for analysis.

In the first and second segments of the swale, south of Route 5S, the total PAH concentrations in the shallow sediment range from 8.6 to 208 mg/kg. The fingerprint analysis from SWALE-SED01 indicates that the PAHs are related to degraded fuel oil (see Table 11). This is supported by the petroleum-like odors noted during sample collection and sediment probing in these two segments (see Table 1).

North of Route 5S, the PAH concentrations in the shallow sediments are much less than to the south, ranging from not detected to 2.5 mg/kg. Where odors were noted in the shallow sediments, they were described as petroleum and/or organic. Locally, sheens were observed on the surface of the swale sediments near the sampling locations. No fingerprint analysis was conducted on the shallow (0- to 2-foot) sediments, but data from deeper samples (between 3 and 5 feet) indicated the detected PAHs are related to degraded fuel oil.

5.2 Deeper Soil/Sediment

In the deeper soil/sediment below and adjacent to the swale, samples from various depths ranging from 3 to 20 feet below grade were submitted for analysis of BTEX and PAHs; VOCs and SVOCs; source fingerprinting; or PCBs, metals, total cyanide, and the following physical parameters: bromate, TPH, BTUs, and sulfur.

South of Route 5S, in the samples from depths of 3 and 4 feet, total PAH concentrations ranged from 0.138 to 819 mg/kg, and total BTEX concentrations, where detected, are low, ranging from not detected to 3.7 mg/kg. Below four feet, the total PAH concentrations are generally lower, ranging from not detected to 123 mg/kg, except location FW-02 (1,015 mg/kg at 8-ft depth). BTEX concentrations remain low in this interval, ranging from not detected to 6.5 mg/kg. Fingerprint analysis of the sample from a depth of 4 feet at location SED-05 and from depth of 5 feet at SED-03B indicated the PAHs are associated with degraded fuel oil. In the interpretation of the fingerprint analysis at SED-03B, it was noted that there was also a possibility that a subordinate contribution from coal tar was present, although the evaluation was not conclusive. Petroleum-like odors were described at several of the sample locations, including in the sample intervals with the highest total PAH concentrations.

North of Route 5S, total PAH concentrations in the samples from 3 and 4 feet were less than to the south, ranging from not detected to 44.6 mg/kg. The deeper samples showed a general further decrease in concentration, ranging from not detected to 11.7 mg/kg. In both intervals, total BTEX was either not detected or was detected at very low concentrations (up to 0.34 mg/kg). Available fingerprint analyses indicated the detected PAHs are related to degraded fuel oil. Petroleum-like odors were also noted in some of the samples.

Other organic constituents present in deeper samples included 7 VOCs, 7 SVOCs, and two PCBs (see Tables 3, 5, and 7). These constituents may be related to the disposal of waste materials in the off-site study area and are not considered related to former MGP operations.

Metal constituents were detected in the two samples on which they were analyzed: sample SED-08 (5-ft depth) and SED-03B (5-ft depth) (see Table 8). The metals detected in these samples are not considered related to former MGP operations and are likely associated with local fill and local operations and land usage in the area (*e.g.*, former landfill, DPW operations, former railroad, road drainage, etc.), although some of the metals may be naturally occurring. Cyanide was not detected in the swale samples for which it was analyzed (see Table 9).

In general, the peat layer appears to be a barrier to migration of constituents in the deeper soils/sediments. Concentrations of constituents, particularly total PAHs and total BTEX, are considerably lower within and beneath the peat layer.

6.0 CONCLUSIONS

This section summarizes the conclusions of the investigations performed at the open swale, located within the off-site study area of the Ilion (East Street) Site.

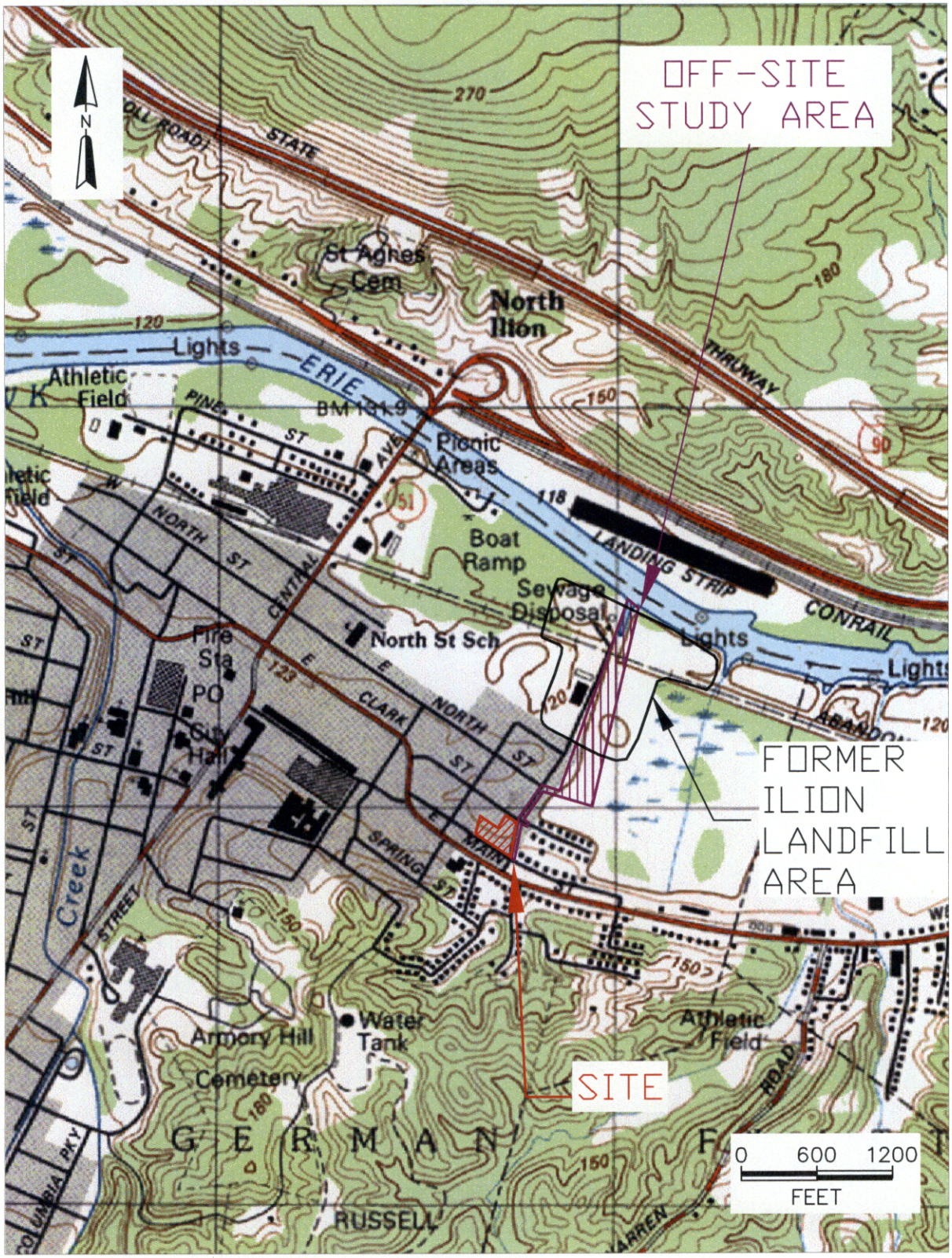
- In the first two segments of the open swale, located south of Route 5S, the total PAH concentrations in the shallow sediments (0- to 2-foot depth) range from 8.6 to 208 mg/kg. At a depth interval of about 3 to 4 feet in soil and sediment below and adjacent to the swale, the PAH concentrations are similar in magnitude to those in the shallower sediments, but with a broader range (2.39 to 819 mg/kg). Below the 4 foot depth interval, the total PAH concentrations generally decrease (range: not detected to 123 mg/kg).

- In the downstream segments of the open swale, located north of Route 5S, the range of PAH concentrations in the sediments and soils beneath and/or adjacent to the swale are one to two orders of magnitude less than those in equivalent depth intervals south of Route 5S.

- BTEX compounds were not detected, or are present at low concentrations in the samples from sediments and soils beneath and adjacent to the open swale. Total

BTEX concentrations south of Route 5S (range: not detected to 6.5 mg/kg) are greater than those to the north (range: not detected to 0.34 mg/kg).

- The peat layer appears to be a restriction for the migration of contaminants.
- The metals detected in the swale area are not considered to be related to former MGP operations and may be related to the former or current local operations and conditions.
- Cyanide was not detected in soil samples collected from the open swale.
- Fingerprint analysis and sample descriptions (e.g., odors) indicate the PAH and BTEX in the sediments and soil beneath and adjacent to the swale are associated with degraded fuel oil and are not associated with historic MGP operations.
- The usage of land in the off-site study area (former railroad bed, storm sewer, landfills, etc.) by its nature, has the potential to contribute contaminants, particularly PAHs, into the environment. In addition, flooding of the Mohawk River can deposit contaminants from up-stream sources within the open swale.
- Impacts identified in the swale are not related to former MGP operations, but are likely related to former and current local operations and conditions. This is supported by the following:
    - The open swale receives stormwater flow from: roads and commercial, industrial and residential properties in a large area south of the swale via flow to storm sewer catch basins; the area of the Ilion DPW garages; and the DPW debris disposal area. These areas contribute, or potentially contribute, petroleum-related substances to the swale.
    - A pipe draining a ditch along the north side of Route 5S discharges to the swale.
    - Several pipes of unknown origin have been identified that discharge to the swale.
    - The swale lies within the area of the former Ilion Landfill, and is positioned adjacent to the DPW garages and debris disposal area. The banks of swale contain fill related to these current and former operations.
    - A railroad formerly operated along the current position of what is now Route 5S. Railroad operations may have contributed petroleum-related constituents as well as other impacts (*e.g.*, creosote from railroad ties) to the study area.



Source: Ilion, N.Y. USGS Topographic Quadrangle, 7.5–minute series, dated 1982.

nationalgrid TETRA TECH EC, INC.	TITLE: SITE LOCATION MAP Swale Investigations Summary Ilion (East Street) Site	DWN: LEA	DES.: LEA	PROJECT NO.: 2907.0003.0003
		CHKD: DPC	APPD: RC	FIGURE NO.: 2–1
		DATE: 01/12/06	REV.: 0	

N:\GIS\GISKEY\GISPROJ31\ILION EAST STREET\SUMMARY OF SWALE\FIGURE 2-1 011206.DWG

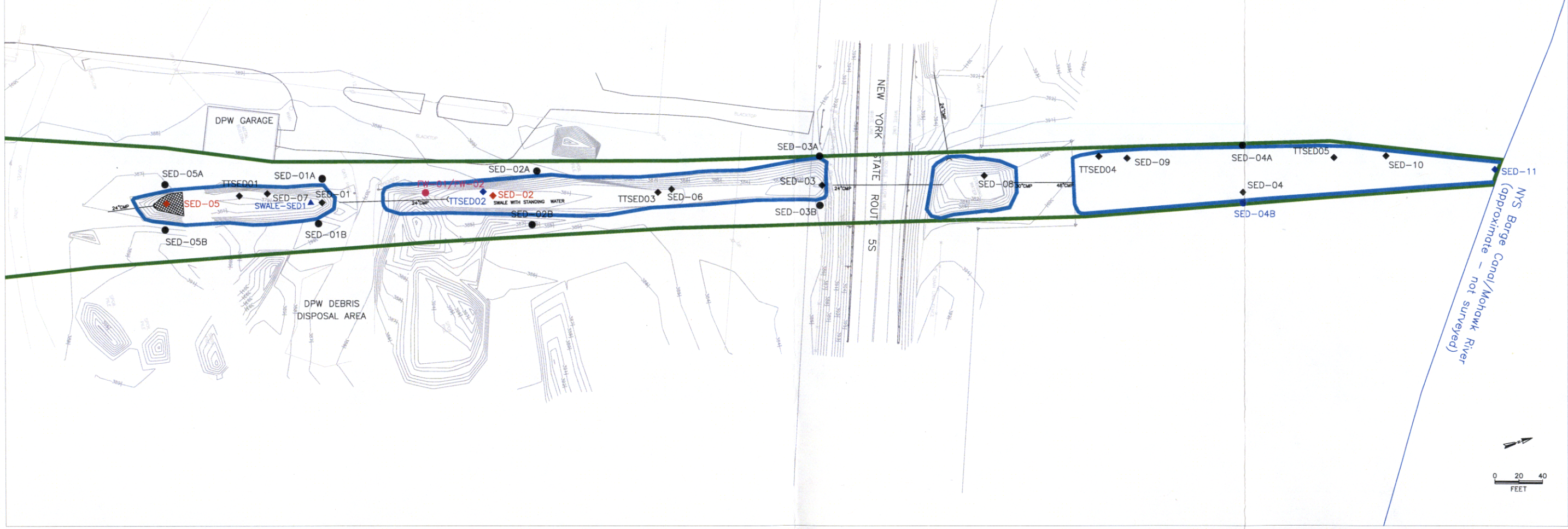
LEGEND

- ○ CAPPED IRON ROD SET
- ○ CAPPED IRON ROD FOUND
- ○ IRON PIPE FOUND
- ○ IRON ROD FOUND
- WMH WATER MANHOLE
- CMP CORRUGATED METAL PIPE
- ▲ APPROXIMATE SEDIMENT SAMPLE LOCATION
- ● APPROXIMATE SEDIMENT/SOIL BORING LOCATION
- ◆ APPROXIMATE SEDIMENT BORING LOCATION
- APPROXIMATE BOUNDARY OF OFF-SITE STUDY AREA
- OUTLINE OF SWALE
- AREA OF SEPTEMBER 1999 SEDIMENT PROBING

NOTES:

1. LOCATIONS SHOWN IN RED CONTAINED ELEVATED CONCENTRATIONS (I.E., >500 PPM) OF TOTAL PAHs ABOVE THE PEAT LAYER. LOCATIONS SHOWN IN BLUE HAD A SHEEN NOTED IN THE SEDIMENT BORING. FOR SED-04B AND SED-11, SHEEN WAS NOT NOTED IN BORING, HOWEVER VISIBLE OIL WAS NOTED ON SURFACE OF NEARBY SEDIMENTS. LOCATIONS SHOWN IN MAGENTA HAD A SHEEN PRESENT AND CONTAINED ELEVATED CONCENTRATIONS OF TOTAL PAHS ABOVE THE PEAT LAYER.

2. "A" AND "B" SEDIMENT BORING LOCATIONS WERE INSTALLED TO DEFINE THE SWALE EDGES.



nationalgrid

TETRA TECH EC, INC.

TITLE:
SAMPLE LOCATIONS IN SWALE AREA
Swale Investigations Summary
Ilion (East Street) Site

DWN: LEA	DES.: CTS	PROJECT NO.: 2907.0003.0003	
CHKD: DPC	APPD: RC	FIGURE NO.: 3-1	
DATE: 02/07/06	REV.: 0		

N:\GIS\GISKEY\GISPROJ31\ILION EAST STREET\SUMMARY OF SWALE\FIGURE 3-1 020706.DWG

Table 1
Summary of Visual and Olfactory Descriptions for Sediment Borings in Off-Site Swale
Ilion (East Street)
Site

Boring ID	Visual (ft below surface)	Olfactory (feet below surface)
FW-01	4 - 5': some discoloration, visible oil sheen	No odor noted
FW-02	4 - 8': visible oil sheen 8 -12': sheen 12 - 16': sheen	8 - 12': odor, asphalt-like 12 -16': odor, asphalt-like
SED-01	No sheen noted	0 - 4': organic and petroleum odors 4 - 8': organic and petroleum odors 8 - 12': organic and petroleum odors
SED-1A	0 - 4': some ash. No sheen noted 10 - 12': some ash. No sheen noted	No odor noted
SED-1B	No sheen noted	No odor noted
SED-02	No sheen noted	0 - 4': organic and petroleum odors 4 - 8': organic and petroleum odors 8 - 12': organic and petroleum odors
SED-02A	No sheen noted	No odor noted
SED-02B	No sheen noted	No odor noted
SED-03	No sheen noted	No odor noted
SED-03A	4 - 8': ash. No sheen noted	No odor noted
SED-03B	No sheen noted	8' - slight odor (n.o.s) 10' - slight odor (n.o.s.)
SED-04	No sheen noted	0 - 4': Petroleum odor 4 - 8': Organic and petroleum odors 8 - 12': organic and petroleum odors
SED-04A	No sheen noted	No odor noted
SED-04B	No sheen noted in boring oil visible in shallow sediments along swale	4 - 8': slight odor, petroleum
SED-05	No sheen noted	0 - 4': petroleum odor
SED-05A	No sheen noted	0 - 4': slight odor (n.o.s.)
SED-05B	No sheen noted	No odor noted
SED-06	No sheen noted	No odor noted
SED-07	No sheen noted	No odor noted
SED-08	No sheen noted	No odor noted
SED-09	No sheen noted	4 - 8': slight odor (n.o.s.)
SED-10	No sheen noted	4 - 8': slight odor (n.o.s.)
SED-11	No sheen noted in boring oil visible in shallow sediments along swale	4 - 8': slight odor (n.o.s.)
TtSED-01	No sheen noted	No odor noted
TtSED-02	0 - 2': slight sheen	0 - 2': slight acrid petroleum odor
TtSED-03	No sheen noted	0 - 2': acrid petroleum odor
TtSED-04	No sheen noted	No odor noted
TtSED-05	0 - 2': trace ash material. No sheen noted	No odor noted

Notes:
n.o.s. - not otherwise specified

Table 2
BTEX Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 01/02/2001 thru 10/12/2004 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE DEPTH (ft)	NY-SCOL	FW-02 FW-02-8 01/02/2001 8.00	SED-01 SED-01-4 01/04/2001 4.00	SED-01 SED-1B 01/04/2001 10.00	SED-01A SED-01A-12 02/19/2001 12.00	SED-01A SED-01A-20 02/19/2001 20.00
Starting Depth	(feet)		8.00	4.00	10.00	12.00	20.00
Ending Depth	(feet)		8.00	4.00	10.00	12.00	20.00
Benzene	(ug/kg)	60	5.2	4.8	[2200]	2.0U	1.6U
Ethylbenzene	(ug/kg)	5500	6.5U	3.2J	740J	7.9U	6.3U
Toluene	(ug/kg)	1500	1.6J	9.8J	420J	1.9J	7.8U
Xylene (total)	(ug/kg)	1200	3.9J	79	[3100]	1.3J	7.8U

Table 2
BTEX Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 01/02/2001 thru 10/12/2004 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT			SITE	SED-01B	SED-01B	SED-02	SED-02	SED-02A
			SAMPLE ID	SED-01B-8	SED-01B-16	SED-02-4	SED-02B-12	SED-02A-12
			DATE	02/19/2001	02/19/2001	01/04/2001	01/04/2001	02/20/2001
			DEPTH (ft)	8.00	16.00	4.00	12.00	12.00
Starting Depth	(feet)			8.00	16.00	4.00	8.00	12.00
Ending Depth	(feet)			8.00	16.00	4.00	12.00	12.00
Benzene	(ug/kg)	60		1.4U	0.8J	6.8	[150]	2.0U
Ethylbenzene	(ug/kg)	5500		5.4U	5.0U	1.0J	11U	8.2U
Toluene	(ug/kg)	1500		7.8U	1.6J	6.3J	3.8J	2.8J
Xylene (total)	(ug/kg)	1200		7.8U	0.7J	8.8	8.2J	1.6J

Table 2
BTEX Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 01/02/2001 thru 10/12/2004 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT			SED-02A	SED-02B	SED-02B	SED-03	SED-03A
	SAMPLE ID		SED-02A-20	SED-02B-8	SED-02B-20	SED-03-4	SED-03A-16
	DATE		02/20/2001	02/20/2001	02/20/2001	01/04/2001	02/20/2001
	DEPTH (ft)	NY-SCOL	20.00	8.00	20.00	4.00	16.00
Starting Depth	(feet)		20.00	8.00	20.00	4.00	16.00
Ending Depth	(feet)		20.00	8.00	20.00	4.00	16.00
Benzene	(ug/kg)	60	0.9J	1.2J	1.2U	4.6	1.4U
Ethylbenzene	(ug/kg)	5500	4.6U	8.9U	4.7U	8.0U	5.8U
Toluene	(ug/kg)	1500	2.0J	2.3J	5.9U	1.4J	7.2U
Xylene (total)	(ug/kg)	1200	0.7J	11U	5.9U	13	7.2U

Table 2
BTEX Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 01/02/2001 thru 10/12/2004 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE DEPTH (ft)	NY-SCOL	SED-03A SED-03A-20 02/20/2001 20.00	SED-03B SED-03B-10 02/22/2001 10.00	SED-04 SED-04-4 01/04/2001 4.00	SED-04 SED-04B-7 01/04/2001 7.00	SED-04A SED-04A-3 02/22/2001 3.00
Starting Depth	(feet)		20.00	10.00	4.00	7.00	3.00
Ending Depth	(feet)		20.00	10.00	4.00	7.00	3.00
Benzene	(ug/kg)	60	1.0U	47	[130]U	1.8U	1.4U
Ethylbenzene	(ug/kg)	5500	4.0U	5.0	530U	7.2U	5.7U
Toluene	(ug/kg)	1500	5.0U	2.3J	660U	9.0U	0.7J
Xylene (total)	(ug/kg)	1200	5.0U	50	310J	9.0U	7.1U

Table 2
BTEX Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 01/02/2001 thru 10/12/2004 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE DEPTH (ft)	NY-SCOL	SED-04A SED-04A-7 02/22/2001 7.00	SED-04B SED-04B-7 02/22/2001 7.00	SED-04B SED-04B-10 02/22/2001 10.00	SED-05 SED-05-4 02/19/2001 4.00	SED-05 SED-05-12 02/19/2001 12.00
Starting Depth	(feet)		7.00	7.00	10.00	4.00	12.00
Ending Depth	(feet)		7.00	7.00	10.00	4.00	12.00
Benzene	(ug/kg)	60	1.0U	1.1U	1.4U	[670]	0.7J
Ethylbenzene	(ug/kg)	5500	4.1U	4.5U	5.7U	740U	4.9U
Toluene	(ug/kg)	1500	5.1U	5.6U	7.1U	130J	1.3J
Xylene (total)	(ug/kg)	1200	5.1U	5.6U	7.1U	[2900]	1.0J

Table 2
BTEX Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 01/02/2001 thru 10/12/2004 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE DEPTH (ft)	NY-SCOL	SED-05A SED-05A-6 02/19/2001 6.00	SED-05A SED-05A-20 02/19/2001 20.00	SED-05B SED-05B-8 02/19/2001 8.00	SED-05B SED-05B-20 02/19/2001 20.00	SED-06 SED-06-4 02/20/2001 4.00
Starting Depth	(feet)		6.00	20.00	8.00	20.00	4.00
Ending Depth	(feet)		6.00	20.00	8.00	20.00	4.00
Benzene	(ug/kg)	60	1.8U	0.8J	2.9	1.6U	2.0U
Ethylbenzene	(ug/kg)	5500	7.1U	5.2U	1.0J	6.6U	8.1U
Toluene	(ug/kg)	1500	1.5J	1.7J	5.2J	3.0J	10U
Xylene (total)	(ug/kg)	1200	8.8U	0.8J	6.8J	1.9J	10U

Table 2
BTEX Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 01/02/2001 thru 10/12/2004 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE		SED-06	SED-07	SED-07	SED-08	SED-09
	SAMPLE ID		SED-06-12	SED-07-4	SED-07-12	SED-08-10	SED-09-3
	DATE		02/20/2001	02/20/2001	02/20/2001	02/22/2001	02/22/2001
	DEPTH (ft)	NY-SCOL	12.00	4.00	12.00	10.00	3.00
Starting Depth	(feet)		12.00	4.00	12.00	10.00	3.00
Ending Depth	(feet)		12.00	4.00	12.00	10.00	3.00
Benzene	(ug/kg)	60	1.0U	1.4J	1.6U	2.2U	0.9J
Ethylbenzene	(ug/kg)	5500	4.0U	10U	6.6U	8.7U	0.9J
Toluene	(ug/kg)	1500	0.9J	3.9J	8.3U	11U	2.4J
Xylene (total)	(ug/kg)	1200	5.0U	2.0J	8.3U	11U	35

Table 2
BTEX Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 01/02/2001 thru 10/12/2004 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE DEPTH (ft)	NY-SCOL	SED-09 SED-09-10 02/22/2001 10.00	SED-10 SED-10-4 02/22/2001 4.00	SED-10 SED-10-10 02/22/2001 10.00	SED-11 SED-11-3 02/22/2001 3.00	SED-11 SED-11-8 02/22/2001 8.00
Starting Depth	(feet)		10.00	4.00	10.00	3.00	8.00
Ending Depth	(feet)		10.00	4.00	10.00	3.00	8.00
Benzene	(ug/kg)	60	0.7J	1.3U	1.0U	3.3	1.1U
Ethylbenzene	(ug/kg)	5500	4.6U	5.3U	4.2U	6.6	4.3U
Toluene	(ug/kg)	1500	5.8U	1.0J	5.2U	18	5.4U
Xylene (total)	(ug/kg)	1200	5.8U	4.1J	5.2U	310	5.4U

Table 3
VOCs Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 02/22/2001 thru 02/22/2001 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE		SED-03B	SED-04B	SED-04B	SED-09	SED-09
	SAMPLE ID		SED-03B-10	SED-04B-7	SED-04B-10	SED-09-3	SED-09-10
	DATE		02/22/2001	02/22/2001	02/22/2001	02/22/2001	02/22/2001
	DEPTH (ft)	NY-SCOL	10.00	7.00	10.00	3.00	10.00
Starting Depth	(feet)		10.00	7.00	10.00	3.00	10.00
Ending Depth	(feet)		10.00	7.00	10.00	3.00	10.00
1,2-Dichlorobenzene	(ug/kg)	7900	1000U	480U	No Test	49J	No Test
1,4-Dichlorobenzene	(ug/kg)	8500	1000U	480U	No Test	48J	No Test
2-Butanone	(ug/kg)	300	18	5.6U	No Test	33	No Test
Acetone	(ug/kg)	200	120	57	No Test	95	No Test
Benzene	(ug/kg)	60	47	1.1U	1.4U	0.9J	0.7J
Total xylenes	(ug/kg)	1200	50	5.6U	7.1U	35	5.8U
Carbon disulfide	(ug/kg)	2700	6.3	4.4J	No Test	15	No Test
Ethylbenzene	(ug/kg)	5500	5.0	4.6U	5.7U	0.9J	4.6U
Methylene chloride	(ug/kg)	100	4.2B	5.1B	No Test	7.3B	No Test
Toluene	(ug/kg)	1500	2.3J	5.6U	7.1U	2.4J	5.8U
Trichloroethene	(ug/kg)	700	1.2U	1.1U	No Test	0.9J	No Test

Table 3
VOCs Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 02/22/2001 thru 02/22/2001 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE DEPTH (ft)	NY-SCOL	SED-10 SED-10-4 02/22/2001 4.00	SED-10 SED-10-10 02/22/2001 10.00	SED-11 SED-11-3 02/22/2001 3.00	SED-11 SED-11-8 02/22/2001 8.00
Starting Depth	(feet)		4.00	10.00	3.00	8.00
Ending Depth	(feet)		4.00	10.00	3.00	8.00
1,2-Dichlorobenzene	(ug/kg)	7900	No Test	380U	No Test	900U
1,4-Dichlorobenzene	(ug/kg)	8500	No Test	380U	No Test	900U
2-Butanone	(ug/kg)	300	No Test	5.2U	No Test	5.4U
Acetone	(ug/kg)	200	No Test	48	No Test	35
Benzene	(ug/kg)	60	1.3U	1.0U	3.3	1.1U
Total xylenes	(ug/kg)	1200	4.1J	5.2U	310	5.4U
Carbon disulfide	(ug/kg)	2700	No Test	10	No Test	20
Ethylbenzene	(ug/kg)	5500	5.3U	4.2U	6.6	4.3U
Methylene chloride	(ug/kg)	100	No Test	5.5B	No Test	3.7B
Toluene	(ug/kg)	1500	1.0J	5.2U	18	5.4U
Trichloroethene	(ug/kg)	700	No Test	1.0U	No Test	1.1U

Table 4
PAHs Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 01/02/2001 thru 10/12/2004 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE DEPTH (ft)	NY-SCOL	FW-02 FW-02-8 01/02/2001 8.00	SED-01 SED-01-4 01/04/2001 4.00	SED-01 SED-1B 01/04/2001 10.00	SED-01A SED-01A-12 02/19/2001 12.00	SED-01A SED-01A-20 02/19/2001 20.00
Starting Depth	(feet)		8.00	4.00	10.00	12.00	20.00
Ending Depth	(feet)		8.00	4.00	10.00	12.00	20.00
Acenaphthene	(ug/kg)	50000	4300J	3900J	250J	620U	530U
Acenaphthylene	(ug/kg)	50000	12000	2600J	1400J	620U	530U
Anthracene	(ug/kg)	50000	34000	8100	4400U	620U	47J
Benzo(a)anthracene	(ug/kg)	224	[91000]	[16000]	[440]U	62U	51J
Benzo(a)pyrene	(ug/kg)	61	[89000]	[14000]	[440]U	[62]U	44J
Benzo(b)fluoranthene	(ug/kg)	220	[100000]	[18000]	[440]U	62U	61
Benzo(ghi)perylene	(ug/kg)	50000	35000	3600J	4400U	620U	530U
Benzo(k)fluoranthene	(ug/kg)	220	[43000]	[8200]	[440]U	62U	19J
Chrysene	(ug/kg)	400	[83000]	[15000]	[4400]U	[620]U	62J
Dibenzo(a,h)anthracene	(ug/kg)	14.3	[10000]	[1200]	[440]U	[62]U	[53]U
Fluoranthene	(ug/kg)	50000	[220000]	38000	4400U	14J	110J
Fluorene	(ug/kg)	50000	9800J	16000	170J	620U	530U
Indeno(1,2,3-cd)pyrene	(ug/kg)	3200	[42000]	[4500]	440U	62U	53U
Naphthalene	(ug/kg)	13000	3100J	730J	[41000]	620U	530U
Phenanthrene	(ug/kg)	50000	[89000]	34000	4400U	620U	63J
Pyrene	(ug/kg)	50000	[150000]	28000	4400U	15J	93J

Table 4
PAHs Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 01/02/2001 thru 10/12/2004 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE DEPTH (ft)	NY-SCOL	SED-01B SED-01B-8 02/19/2001 8.00	SED-01B SED-01B-16 02/19/2001 16.00	SED-02 SED-02-4 01/04/2001 4.00	SED-02 SED-02B-12 01/04/2001 12.00	SED-02A SED-02A-12 02/20/2001 12.00
Starting Depth	(feet)		8.00	16.00	4.00	8.00	12.00
Ending Depth	(feet)		8.00	16.00	4.00	12.00	12.00
Acenaphthene	(ug/kg)	50000	470U	500U	2200J	97J	720U
Acenaphthylene	(ug/kg)	50000	470U	500U	10000J	310J	720U
Anthracene	(ug/kg)	50000	470U	500U	22000	530J	720U
Benzo(a)anthracene	(ug/kg)	224	47U	50U	[81000]	[2200]	72U
Benzo(a)pyrene	(ug/kg)	61	47U	50U	[84000]	[2300]	[72]U
Benzo(b)fluoranthene	(ug/kg)	220	47U	50U	[92000]	[2800]	72U
Benzo(ghi)perylene	(ug/kg)	50000	470U	500U	35000	840J	720U
Benzo(k)fluoranthene	(ug/kg)	220	47U	50U	[42000]	[1100]	72U
Chrysene	(ug/kg)	400	[470]U	[500]U	[70000]	[2100]	[720]U
Dibenzo(a,h)anthracene	(ug/kg)	14.3	[47]U	[50]U	[10000]	[250]	[72]U
Fluoranthene	(ug/kg)	50000	20J	500U	[150000]	3900	720U
Fluorene	(ug/kg)	50000	470U	500U	6300J	350J	720U
Indeno(1,2,3-cd)pyrene	(ug/kg)	3200	47U	50U	[42000]	1000	72U
Naphthalene	(ug/kg)	13000	470U	500U	3000J	80J	720U
Phenanthrene	(ug/kg)	50000	11J	500U	[50000]	1400	720U
Pyrene	(ug/kg)	50000	16J	500U	[120000]	3500	720U

Table 4
PAHs Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 01/02/2001 thru 10/12/2004 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE DEPTH (ft)	NY-SCOL	SED-02A SED-02A-20 02/20/2001 20.00	SED-02B SED-02B-8 02/20/2001 8.00	SED-02B SED-02B-20 02/20/2001 20.00	SED-03 SED-03-4 01/04/2001 4.00	SED-03A SED-03A-16 02/20/2001 16.00
Starting Depth	(feet)		20.00	8.00	20.00	4.00	16.00
Ending Depth	(feet)		20.00	8.00	20.00	4.00	16.00
Acenaphthene	(ug/kg)	50000	400U	740U	490U	3100	480U
Acenaphthylene	(ug/kg)	50000	400U	740U	490U	850J	480U
Anthracene	(ug/kg)	50000	400U	740U	490U	4500	15J
Benzo(a)anthracene	(ug/kg)	224	40U	74U	49U	[7200]	51
Benzo(a)pyrene	(ug/kg)	61	40U	[74]U	49U	[6000]	37J
Benzo(b)fluoranthene	(ug/kg)	220	40U	74U	49U	[7200]	46J
Benzo(ghi)perylene	(ug/kg)	50000	400U	740U	490U	1600	480U
Benzo(k)fluoranthene	(ug/kg)	220	40U	74U	49U	[3200]	20J
Chrysene	(ug/kg)	400	[400]U	[740]U	[490]U	[6900]	39J
Dibenzo(a,h)anthracene	(ug/kg)	14.3	[40]U	[74]U	[49]U	[540]	[48]U
Fluoranthene	(ug/kg)	50000	400U	31J	490U	17000	88J
Fluorene	(ug/kg)	50000	400U	740U	490U	2200	480U
Indeno(1,2,3-cd)pyrene	(ug/kg)	3200	40U	74U	49U	2100	48U
Naphthalene	(ug/kg)	13000	400U	740U	490U	910J	480U
Phenanthrene	(ug/kg)	50000	400U	740U	490U	14000	30J
Pyrene	(ug/kg)	50000	400U	28J	490U	12000	76J

Table 4
PAHs Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 01/02/2001 thru 10/12/2004 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE / SAMPLE ID / DATE / DEPTH (ft)	NY-SCOL	SED-03A / SED-03A-20 / 02/20/2001 / 20.00	SED-03B / SED-03B-10 / 02/22/2001 / 10.00	SED-04 / SED-04-4 / 01/04/2001 / 4.00	SED-04 / SED-04B-7 / 01/04/2001 / 7.00	SED-04A / SED-04A-3 / 02/22/2001 / 3.00
Starting Depth	(feet)		20.00	10.00	4.00	7.00	3.00
Ending Depth	(feet)		20.00	10.00	4.00	7.00	3.00
Acenaphthene	(ug/kg)	50000	400U	380J	1100J	630U	480U
Acenaphthylene	(ug/kg)	50000	400U	100J	4500U	630U	480U
Anthracene	(ug/kg)	50000	11J	480J	780J	630U	480U
Benzo(a)anthracene	(ug/kg)	224	38J	[890]	[1500]	63U	48U
Benzo(a)pyrene	(ug/kg)	61	26J	[680]	[1100]	[63]U	48U
Benzo(b)fluoranthene	(ug/kg)	220	30J	[840]	[1700]	63U	48U
Benzo(ghi)perylene	(ug/kg)	50000	12J	340J	500J	630U	480U
Benzo(k)fluoranthene	(ug/kg)	220	15J	[380]	[630]	63U	48U
Chrysene	(ug/kg)	400	27J	[840]J	[2000]J	[630]U	[480]U
Dibenzo(a,h)anthracene	(ug/kg)	14.3	[40]U	[77]J	[450]U	[63]U	[48]U
Fluoranthene	(ug/kg)	50000	60J	1900	4700	15J	480U
Fluorene	(ug/kg)	50000	400U	370J	1800J	630U	480U
Indeno(1,2,3-cd)pyrene	(ug/kg)	3200	14J	340	570	63U	48U
Naphthalene	(ug/kg)	13000	400U	130J	4500U	630U	480U
Phenanthrene	(ug/kg)	50000	19J	1700	5600	25J	480U
Pyrene	(ug/kg)	50000	52J	1600	3700J	630U	480U

Table 4
PAHs Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 01/02/2001 thru 10/12/2004 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE		SED-04A	SED-04B	SED-04B	SED-05	SED-05
	SAMPLE ID		SED-04A-7	SED-04B-7	SED-04B-10	SED-05-4	SED-05-12
	DATE		02/22/2001	02/22/2001	02/22/2001	02/19/2001	02/19/2001
	DEPTH (ft)	NY-SCOL	7.00	7.00	10.00	4.00	12.00
Starting Depth	(feet)		7.00	7.00	10.00	4.00	12.00
Ending Depth	(feet)		7.00	7.00	10.00	4.00	12.00
Acenaphthene	(ug/kg)	50000	450U	480U	490U	11000J	430U
Acenaphthylene	(ug/kg)	50000	450U	480U	490U	9400J	430U
Anthracene	(ug/kg)	50000	450U	480U	490U	26000J	430U
Benzo(a)anthracene	(ug/kg)	224	45U	30J	49U	[60000]	43U
Benzo(a)pyrene	(ug/kg)	61	45U	48U	49U	[66000]	43U
Benzo(b)fluoranthene	(ug/kg)	220	45U	19J	49U	[80000]	43U
Benzo(ghi)perylene	(ug/kg)	50000	450U	480U	490U	27000J	430U
Benzo(k)fluoranthene	(ug/kg)	220	45U	10J	49U	[30000]	43U
Chrysene	(ug/kg)	400	[450]U	[480]U	[490]U	[64000]	[430]U
Dibenzo(a,h)anthracene	(ug/kg)	14.3	[45]U	[48]U	[49]U	[9500]	[43]U
Fluoranthene	(ug/kg)	50000	450U	28J	490U	[140000]	430U
Fluorene	(ug/kg)	50000	450U	480U	490U	12000J	430U
Indeno(1,2,3-cd)pyrene	(ug/kg)	3200	45U	48U	49U	[31000]	43U
Naphthalene	(ug/kg)	13000	450U	480U	490U	3100J	430U
Phenanthrene	(ug/kg)	50000	450U	24J	490U	[72000]	430U
Pyrene	(ug/kg)	50000	450U	34J	14J	[120000]	430U

Table 4
PAHs Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 01/02/2001 thru 10/12/2004 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE DEPTH (ft)	NY-SCOL	SED-05A SED-05A-6 02/19/2001 6.00	SED-05A SED-05A-20 02/19/2001 20.00	SED-05B SED-05B-8 02/19/2001 8.00	SED-05B SED-05B-20 02/19/2001 20.00	SED-06 SED-06-4 02/20/2001 4.00
Starting Depth	(feet)		6.00	20.00	8.00	20.00	4.00
Ending Depth	(feet)		6.00	20.00	8.00	20.00	4.00
Acenaphthene	(ug/kg)	50000	590U	450U	510J	15J	700U
Acenaphthylene	(ug/kg)	50000	590U	450U	3800	74J	40J
Anthracene	(ug/kg)	50000	590U	450U	5100	110J	45J
Benzo(a)anthracene	(ug/kg)	224	59U	45U	[7800]	160	[240]
Benzo(a)pyrene	(ug/kg)	61	59U	45U	[10000]	[200]	[280]
Benzo(b)fluoranthene	(ug/kg)	220	59U	45U	[15000]	[280]	[350]
Benzo(ghi)perylene	(ug/kg)	50000	590U	450U	4000	94J	70J
Benzo(k)fluoranthene	(ug/kg)	220	59U	45U	[7100]	150	150
Chrysene	(ug/kg)	400	[590]U	[450]U	[10000]	210J	260J
Dibenzo(a,h)anthracene	(ug/kg)	14.3	[59]U	[45]U	[1100]	[58]U	[70]U
Fluoranthene	(ug/kg)	50000	590U	450U	21000	420J	390J
Fluorene	(ug/kg)	50000	590U	450U	1200J	40J	18J
Indeno(1,2,3-cd)pyrene	(ug/kg)	3200	59U	45U	[4600]	100	98
Naphthalene	(ug/kg)	13000	590U	450U	980J	27J	700U
Phenanthrene	(ug/kg)	50000	590U	450U	12000	240J	89J
Pyrene	(ug/kg)	50000	590U	450U	19000	360J	360J

Table 4
PAHs Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 01/02/2001 thru 10/12/2004 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE DEPTH (ft)	NY-SCOL	SED-06 SED-06-12 02/20/2001 12.00	SED-07 SED-07-4 02/20/2001 4.00	SED-07 SED-07-12 02/20/2001 12.00	SED-08 SED-08-10 02/22/2001 10.00	SED-09 SED-09-3 02/22/2001 3.00
Starting Depth	(feet)		12.00	4.00	12.00	10.00	3.00
Ending Depth	(feet)		12.00	4.00	12.00	10.00	3.00
Acenaphthene	(ug/kg)	50000	390U	850U	680U	840U	210J
Acenaphthylene	(ug/kg)	50000	390U	850U	680U	840U	190J
Anthracene	(ug/kg)	50000	390U	850U	680U	840U	250J
Benzo(a)anthracene	(ug/kg)	224	39U	25J	19J	84U	[680]
Benzo(a)pyrene	(ug/kg)	61	39U	[85]U	[68]U	[84]U	[600]
Benzo(b)fluoranthene	(ug/kg)	220	39U	32J	28J	84U	[940]
Benzo(ghi)perylene	(ug/kg)	50000	390U	850U	680U	840U	250J
Benzo(k)fluoranthene	(ug/kg)	220	39U	85U	68U	84U	[290]
Chrysene	(ug/kg)	400	390U	[850]U	22J	[840]U	[1200]J
Dibenzo(a,h)anthracene	(ug/kg)	14.3	[39]U	[85]U	[68]U	[84]U	[74]J
Fluoranthene	(ug/kg)	50000	390U	42J	50J	840U	1900J
Fluorene	(ug/kg)	50000	390U	850U	680U	840U	400J
Indeno(1,2,3-cd)pyrene	(ug/kg)	3200	39U	85U	68U	84U	310
Naphthalene	(ug/kg)	13000	390U	850U	680U	840U	2400U
Phenanthrene	(ug/kg)	50000	390U	850U	21J	18J	1900J
Pyrene	(ug/kg)	50000	390U	39J	42J	17J	1900J

Table 4
PAHs Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 01/02/2001 thru 10/12/2004 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE		SED-09	SED-10	SED-10	SED-11	SED-11
	SAMPLE ID		SED-09-10	SED-10-4	SED-10-10	SED-11-3	SED-11-8
	DATE		02/22/2001	02/22/2001	02/22/2001	02/22/2001	02/22/2001
	DEPTH (ft)	NY-SCOL	10.00	4.00	10.00	3.00	8.00
Starting Depth	(feet)		10.00	4.00	10.00	3.00	8.00
Ending Depth	(feet)		10.00	4.00	10.00	3.00	8.00
Acenaphthene	(ug/kg)	50000	420U	120J	380U	1200J	660J
Acenaphthylene	(ug/kg)	50000	420U	84J	380U	660J	110J
Anthracene	(ug/kg)	50000	420U	110J	380U	1600J	490J
Benzo(a)anthracene	(ug/kg)	224	42U	[290]	38U	[2800]	[830]
Benzo(a)pyrene	(ug/kg)	61	42U	[210]J	38U	[2600]	[640]
Benzo(b)fluoranthene	(ug/kg)	220	42U	[400]	13J	[3100]	[840]
Benzo(ghi)perylene	(ug/kg)	50000	420U	180J	380U	1600J	270J
Benzo(k)fluoranthene	(ug/kg)	220	42U	150J	38U	[1300]	[290]
Chrysene	(ug/kg)	400	[420]U	300J	380U	[3100]J	[770]J
Dibenzo(a,h)anthracene	(ug/kg)	14.3	[42]U	[260]U	[38]U	[440]U	[72]U
Fluoranthene	(ug/kg)	50000	420U	740J	21J	7000	2000
Fluorene	(ug/kg)	50000	420U	200J	380U	2500J	540J
Indeno(1,2,3-cd)pyrene	(ug/kg)	3200	42U	140J	38U	1500	340
Naphthalene	(ug/kg)	13000	420U	2600U	380U	5600U	100J
Phenanthrene	(ug/kg)	50000	420U	950J	14J	8700	2100
Pyrene	(ug/kg)	50000	420U	790J	18J	6500	1600

Table 5
SVOCs Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 02/22/2001 thru 02/22/2001 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE DEPTH (ft)	NY-SCOL	SED-03B SED-03B-10 02/22/2001 10.00	SED-04B SED-04B-7 02/22/2001 7.00	SED-04B SED-04B-10 02/22/2001 10.00	SED-09 SED-09-3 02/22/2001 3.00	SED-09 SED-09-10 02/22/2001 10.00
Starting Depth	(feet)		10.00	7.00	10.00	3.00	10.00
Ending Depth	(feet)		10.00	7.00	10.00	3.00	10.00
2,4-Dimethylphenol	(ug/kg)		64J	480U	No Test	2400U	No Test
2-Methylnaphthalene	(ug/kg)	36400	86J	480U	No Test	350J	No Test
4-Chloroaniline	(ug/kg)	220	[1000]U	[480]U	No Test	[290]J	No Test
Acenaphthene	(ug/kg)	50000	380J	480U	490U	210J	420U
Acenaphthylene	(ug/kg)	50000	100J	480U	490U	190J	420U
Anthracene	(ug/kg)	50000	480J	480U	490U	250J	420U
Benzo(a)anthracene	(ug/kg)	224	[890]	30J	49U	[680]	42U
Benzo(a)pyrene	(ug/kg)	61	[880]	48U	49U	[600]	42U
Benzo(b)fluoranthene	(ug/kg)	220	[840]	19J	49U	[940]	42U
Benzo(g,h,i)perylene	(ug/kg)	50000	340J	480U	490U	250J	420U
Benzo(k)fluoranthene	(ug/kg)	220	[380]	10J	49U	[290]	42U
Bis(2-ethylhexyl)phthalate	(ug/kg)	50000	1800	98J	No Test	6100	No Test
Chrysene	(ug/kg)	400	[840]J	[480]U	[490]U	[1200]J	[420]U
Dibenzo(a,h)anthracene	(ug/kg)	14.3	[77]J	[48]U	[49]U	[74]J	[42]U
Dibenzofuran	(ug/kg)	6200	230J	480U	No Test	2400U	No Test
Dimethylphthalate	(ug/kg)	2000	1000U	480U	No Test	[4000]	No Test
Fluoranthene	(ug/kg)	50000	1900	28J	490U	1900J	420U
Fluorene	(ug/kg)	50000	370J	480U	490U	400J	420U
Indeno(1,2,3-cd)pyrene	(ug/kg)	3200	340	48U	49U	310	42U

Table 5
SVOCs Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 02/22/2001 thru 02/22/2001 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT			SED-03B	SED-04B	SED-04B	SED-09	SED-09
SITE			SED-03B	SED-04B	SED-04B	SED-09	SED-09
SAMPLE ID			SED-03B-10	SED-04B-7	SED-04B-10	SED-09-3	SED-09-10
DATE			02/22/2001	02/22/2001	02/22/2001	02/22/2001	02/22/2001
DEPTH (ft)		NY-SCOL	10.00	7.00	10.00	3.00	10.00
Naphthalene	(ug/kg)	13000	130J	480U	490U	2400U	420U
Phenanthrene	(ug/kg)	50000	1700	24J	490U	1900J	420U
Phenol	(ug/kg)	30	[1000]U	[42]J	No Test	[110]J	No Test
Pyrene	(ug/kg)	50000	1600	34J	14J	1900J	420U

Table 5
SVOCs Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 02/22/2001 thru 02/22/2001 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE DEPTH (ft)	NY-SCOL	SED-10 SED-10-4 02/22/2001 4.00	SED-10 SED-10-10 02/22/2001 10.00	SED-11 SED-11-3 02/22/2001 3.00	SED-11 SED-11-8 02/22/2001 8.00
Starting Depth	(feet)		4.00	10.00	3.00	8.00
Ending Depth	(feet)		4.00	10.00	3.00	8.00
2,4-Dimethylphenol	(ug/kg)		No Test	380U	No Test	900U
2-Methylnaphthalene	(ug/kg)	36400	No Test	380U	No Test	63J
4-Chloroaniline	(ug/kg)	220	No Test	[380]U	No Test	[900]U
Acenaphthene	(ug/kg)	50000	120J	380U	1200J	660J
Acenaphthylene	(ug/kg)	50000	84J	380U	660J	110J
Anthracene	(ug/kg)	50000	110J	380U	1600J	490J
Benzo(a)anthracene	(ug/kg)	224	[290]	38U	[2800]	[830]
Benzo(a)pyrene	(ug/kg)	61	[210]J	38U	[2600]	[640]
Benzo(b)fluoranthene	(ug/kg)	220	[400]	13J	[3100]	[840]
Benzo(g,h,i)perylene	(ug/kg)	50000	180J	380U	1600J	270J
Benzo(k)fluoranthene	(ug/kg)	220	150J	38U	[1300]	[290]
Bis(2-ethylhexyl)phthalate	(ug/kg)	50000	No Test	380U	No Test	1200
Chrysene	(ug/kg)	400	300J	380U	[3100]J	[770]J
Dibenzo(a,h)anthracene	(ug/kg)	14.3	[260]U	[38]U	[440]J	[72]J
Dibenzofuran	(ug/kg)	6200	No Test	380U	No Test	320J
Dimethylphthalate	(ug/kg)	2000	No Test	380U	No Test	900U
Fluoranthene	(ug/kg)	50000	740J	21J	7000	2000
Fluorene	(ug/kg)	50000	200J	380U	2500J	540J
Indeno(1,2,3-cd)pyrene	(ug/kg)	3200	140J	38U	1500	340

Table 5
SVOCs Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 02/22/2001 thru 02/22/2001 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT			SITE	SED-10	SED-10	SED-11	SED-11
			SAMPLE ID	SED-10-4	SED-10-10	SED-11-3	SED-11-8
			DATE	02/22/2001	02/22/2001	02/22/2001	02/22/2001
			DEPTH (ft)	4.00	10.00	3.00	8.00
		NY-SCOL					
Naphthalene	(ug/kg)	13000		2600U	380U	5600U	100J
Phenanthrene	(ug/kg)	50000		950J	14J	8700	2100
Phenol	(ug/kg)	30		No Test	[380]U	No Test	[900]U
Pyrene	(ug/kg)	50000		790J	18J	6500	1600

Table 6
Total BTEX and Total PAHs Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 01/02/2001 thru 10/12/2004 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE DEPTH (ft)		FW-02 01/02/2001 8.00	SED-01 01/04/2001 4.00	SED-01 01/04/2001 10.00	SED-01A 02/19/2001 12.00	SED-01A 02/19/2001 20.00	SED-01B 02/19/2001 8.00
Starting Depth	(feet)		8.00	4.00	10.00	12.00	20.00	8.00
Ending Depth	(feet)		8.00	4.00	10.00	12.00	20.00	8.00
Total BTEX	(ug/kg)		10.7	96.8	6460	3.2	0	0
Total Carcinogenic PAHs	(mg/kg)		458	76.9	0.0	0.000	0.24	0.000
Total PAHs	(mg/kg)		1015.2	211.83	42.82	0.029	0.55	0.047

Table 6
Total BTEX and Total PAHs Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 01/02/2001 thru 10/12/2004 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT		SITE	SED-01B	SED-02	SED-02	SED-02A	SED-02A	SED-02B
		SAMPLE ID						
		DATE	02/19/2001	01/04/2001	01/04/2001	02/20/2001	02/20/2001	02/20/2001
		DEPTH (ft)	16.00	4.00	12.00	12.00	20.00	8.00
Starting Depth	(feet)		16.00	4.00	8.00	12.00	20.00	8.00
Ending Depth	(feet)		16.00	4.00	12.00	12.00	20.00	8.00
Total BTEX	(ug/kg)		3.1	22.9	162	4.4	3.6	3.5
Total Carcinogenic PAHs	(mg/kg)		0.00	421	11.75	0.000	0.00	0.000
Total PAHs	(mg/kg)		0.0	819.5	22.757	0.000	0.00	0.059

Table 6
Total BTEX and Total PAHs Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 01/02/2001 thru 10/12/2004 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE DEPTH (ft)	SED-02B 02/20/2001 20.00	SED-03 01/04/2001 4.00	SED-03A 02/20/2001 16.00	SED-03A 02/20/2001 20.00	SED-03B 02/22/2001 10.00	SED-04 01/04/2001 4.00
Starting Depth	(feet)	20.00	4.00	16.00	20.00	10.00	4.00
Ending Depth	(feet)	20.00	4.00	16.00	20.00	10.00	4.00
Total BTEX	(ug/kg)	0	19	0	0	104.3	310
Total Carcinogenic PAHs	(mg/kg)	0.000	33.14	0.190	0.15	4.047	7.50
Total PAHs	(mg/kg)	0.000	89.3	0.402	0.304	11.047	25.68

Table 6
Total BTEX and Total PAHs Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 01/02/2001 thru 10/12/2004 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE DEPTH (ft)	SED-04 01/04/2001 7.00	SED-04A 02/22/2001 3.00	SED-04A 02/22/2001 7.00	SED-04B 02/22/2001 7.00	SED-04B 02/22/2001 10.00	SED-05 02/19/2001 4.00
Starting Depth	(feet)	7.00	3.00	7.00	7.00	10.00	4.00
Ending Depth	(feet)	7.00	3.00	7.00	7.00	10.00	4.00
Total BTEX	(ug/kg)	0	0.7	0	0	0	3700
Total Carcinogenic PAHs	(mg/kg)	0	0.000	0.00	0.059	0.00	340.5
Total PAHs	(mg/kg)	0.04	0.000	0.00	0.145	0.014	761

Table 6
Total BTEX and Total PAHs Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 01/02/2001 thru 10/12/2004 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE DEPTH (ft)	SED-05 02/19/2001 12.00	SED-05A 02/19/2001 6.00	SED-05A 02/19/2001 20.00	SED-05B 02/19/2001 8.00	SED-05B 02/19/2001 20.00	SED-06 02/20/2001 4.00
Starting Depth	(feet)	12.00	6.00	20.00	8.00	20.00	4.00
Ending Depth	(feet)	12.00	6.00	20.00	8.00	20.00	4.00
Total BTEX	(ug/kg)	3	1.5	3.3	15.9	4.9	0
Total Carcinogenic PAHs	(mg/kg)	0.000	0.000	0.00	55.6	1.1	1.38
Total PAHs	(mg/kg)	0.0	0.000	0.00	123.19	2.48	2.39

Table 6
Total BTEX and Total PAHs Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 01/02/2001 thru 10/12/2004 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE DEPTH (ft)	SED-06 02/20/2001 12.00	SED-07 02/20/2001 4.00	SED-07 02/20/2001 12.00	SED-08 02/22/2001 10.00	SED-09 02/22/2001 3.00	SED-09 02/22/2001 10.00
Starting Depth	(feet)	12.00	4.00	12.00	10.00	3.00	10.00
Ending Depth	(feet)	12.00	4.00	12.00	10.00	3.00	10.00
Total BTEX	(ug/kg)	0.9	7.3	0	0	39.2	0.7
Total Carcinogenic PAHs	(mg/kg)	0.0	0.06	0.07	0.00	4.094	0.000
Total PAHs	(mg/kg)	0.000	0.138	0.182	0.035	11.094	0.00

Table 6
Total BTEX and Total PAHs Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 01/02/2001 thru 10/12/2004 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE DEPTH (ft)	SED-10 02/22/2001 4.00	SED-10 02/22/2001 10.00	SED-11 02/22/2001 3.00	SED-11 02/22/2001 8.00	TTSED01 TtSED01_1.5-2.0 10/12/2004 2.00	TTSED02 TtSED02_1.5-2.0 10/12/2004 2.00
Starting Depth	(feet)	4.00	10.00	3.00	8.00	1.50	1.50
Ending Depth	(feet)	4.00	10.00	3.00	8.00	2.00	2.00
Total BTEX	(ug/kg)	6.1	0	337.9	0	No Test	No Test
Total Carcinogenic PAHs	(mg/kg)	1.49	0.01	14.84	3.782	3.75	101.2
Total PAHs	(mg/kg)	4.664	0.066	44.6	11.652	8.6	208

Table 6
Total BTEX and Total PAHs Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 01/02/2001 thru 10/12/2004 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT		SITE SAMPLE ID DATE DEPTH (ft)	TTSED03 TtSED03_1.5-2.0 10/12/2004 2.00	TTSED04 TtSED04_1.5-2.0 10/12/2004 2.00	TTSED05 TtSED05_1.5-2.0 10/12/2004 2.00
Starting Depth	(feet)		1.50	1.50	1.50
Ending Depth	(feet)		2.00	2.00	2.00
Total BTEX	(ug/kg)		No Test	No Test	No Test
Total Carcinogenic PAHs	(mg/kg)		42.2	0	1.26
Total PAHs	(mg/kg)		131.55	0	2.486

Table 7
PCBs Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 02/22/2001 thru 02/22/2001 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE DEPTH (ft)	NY-SCOLSUB	SED-03B SED-03B-10 02/22/2001 10.00	SED-08 SED-08-10 02/22/2001 10.00
Starting Depth	(feet)		10.00	10.00
Ending Depth	(feet)		10.00	10.00
Aroclor 1254	(ug/kg)	10000	1300	230U
Aroclor 1260	(ug/kg)	10000	660	230U

Table 8
Metals Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 02/22/2001 thru 02/22/2001 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT	SITE SAMPLE ID DATE DEPTH (ft)	NY-SCOL	SED-03B SED-03B-5 02/22/2001 5.00	SED-08 SED-08-8 02/22/2001 5.00
Starting Depth	(feet)		5.00	5.00
Ending Depth	(feet)		5.00	5.00
Aluminum	(mg/kg)		10400	11200
Antimony	(mg/kg)		3.9B	2.6U
Arsenic	(mg/kg)	7.5	[14.5]	5.1
Barium	(mg/kg)	300	230	101B
Beryllium	(mg/kg)	0.16	[0.81]B	[0.88]B
Cadmium	(mg/kg)	10	8.1	0.27U
Calcium	(mg/kg)		33200	17100
Chromium	(mg/kg)	50	[89.7]	18.6
Cobalt	(mg/kg)	30	14.1B	7.1B
Copper	(mg/kg)	25	[203]	[38.5]
Iron	(mg/kg)	2000	[52000]	[25400]
Lead	(mg/kg)	400	[836]	17.2
Magnesium	(mg/kg)		9810	4660
Manganese	(mg/kg)		575	230
Mercury	(mg/kg)	0.1	[6.4]	0.056U
Nickel	(mg/kg)	13	[79.3]	[27.4]
Potassium	(mg/kg)		1240B	1640B
Silver	(mg/kg)		6.7	0.47U
Sodium	(mg/kg)		182U	425B

Table 8
Metals Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 02/22/2001 thru 02/22/2001 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT			SITE	SED-03B	SED-08
			SAMPLE ID	SED-03B-5	SED-08-8
			DATE	02/22/2001	02/22/2001
			DEPTH (ft)	5.00	5.00
Vanadium	(mg/kg)	150		25.3	22.6B
Zinc	(mg/kg)	20		[1840]	[75.3]

Table 9
Cyanide Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 02/22/2001 thru 02/22/2001 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT			SITE	SED-03B	SED-08
			SAMPLE ID	SED-03B-5	SED-08-5
			DATE	02/22/2001	02/22/2001
		NY-SCOL	DEPTH (ft)	5.00	5.00
Starting Depth	(feet)			5.00	5.00
Ending Depth	(feet)			5.00	5.00
Cyanide	(mg/kg)			25.0U	25.0U

Table 10
Physical Parameters
Detected in Off-Site Swale Area Samples
National Grid Ilion (East Street) Site

PERIOD: From 02/22/2001 thru 02/22/2001 - Inclusive
SAMPLE TYPE: Soil

CONSTITUENT			SITE	SED-03B	SED-08
			SAMPLE ID	SED-03B-5	SED-08-8
			DATE	02/22/2001	02/22/2001
		NY-SCOL	DEPTH (ft)	5.00	5.00
Starting Depth	(feet)			5.00	5.00
Ending Depth	(feet)			5.00	5.00
Bromate	(mg/kg)			20.0U	20.0U
BTU	(mg/kg)			0.175	0.399
Sulfur	(mg/kg)			126	210
TPH	(mg/kg)			18700	25.0U

TABLE 11
FINGERPRINT ANALYSES
ILION (EAST STREET) SITE

SAMPLE LOCATION	DEPTH	SAMPLE DATE	SAMPLE CHARACTERIZATION
SED-03B	5.0	02/22/01	Severely biodegraded residual fuel oil; possibility of subordinate coal tar contribution
SED-04A	3.0	02/22/01	Insufficient signature
SED-05	4.0	02/19/01	Severely biodegraded residual fuel oil
SED-08	5.0	02/22/01	Very severely biodegraded residual fuel oil
SED-10	4.0	02/22/01	Severely biodegraded residual fuel oil
SED-11	3.0	02/22/01	Severely biodegraded residual fuel oil
SED-11	8.0	02/22/01	Very low amplitude signature - severely biodegraded residual fuel oil
SWALE-SED1	–	12/14/99	Severely biodegraded residual-grade fuel oil

Note: Most probable exposure time of residual fuel oil in samples, except locations SED-04A and SED-08, is twenty years or more. For location SED-08, the most probable exposure time is fifty years or more.

APPENDIX A

ew York State Department of Environmental Conservation
Division of Environmental Remediation
Bureau of Western Remedial Action, Room 352
625 Broadway, Albany, New York 12233-7017
Phone: (518) 402-9662 • FAX: (518) 402-9679
Website: www.dec.state.ny.us

Erin M. Crotty
Commissioner

MEMORANDUM

TO: Ernest Lucantonio, Bureau of Spill Prevention and Response, Region 6
FROM: Jeffrey A. Edwards, P.E., Bureau of Western Remedial Action
SUBJECT: Petroleum contamination
DATE: August 30, 2001

Enclosed is a summary of sediment cores taken from a swale behind the Village of Ilion DPW as part of the NIMO Ilion former MGP investigation. As you can see, petroleum was observed. The samples are from the same general area as Spill No. 0002999, which I previously reported. This contamination does not appear to be related to the former MGP.

Please call me at (518) 402-9662 if you have any questions or would like to discuss.

cc: R. Schick
M. Rivara - DOH Troy
G. Rys - DOH Herkimer
C. Willard - Niagara Mohawk

New York State Department of
Environmental Conservation

Spill Incidents Database Search

More information:

Environmental Remediation Databases
Glossary of Spills Database Terms

More searches:
New Spill Incidents Search

Other Links of Interest...

Spill Record

Administrative Information

DEC Region: 6
Spill Number: 0002999

Spill Date/Time

Spill Date: 06/09/2000 **Spill Time:** 04:28 PM
Call Received Date: 06/09/2000 **Call Received Time:** 04:28 PM

Location

Spill Name: ILION DPW
Address: 125 EAST STREET
City: ILION V **County:** Herkimer

Spill Description

Material Spilled:	Amount Spilled:
Waste Oil/Used Oil (Not Fuel)	0.0000 Gal.

Cause: Human Error
Source: Institutional, Educational, Gov., Other
Resource Affected: Soil
Waterbody:

Record Close

Region Close Date: 10/04/2001

If you have questions about this reported incident, please contact the Regional Office where the incident occurred.

Other Links of Interest

Information about the Spill Response and Remediation Program
Phone Numbers for Spill Response and Remediation

APPENDIX B

FOSTER WHEELER

LOG OF BORING FW-1

PROJECT: Niagara Mohawk Power Corp.
PROJECT NO: 2141.0000.0000.04000
PROJECT LOCATION: Ilion, New York

Geologist	: Luke Darragh	Groundwater Depth	:
Driller	: Lyon Drilling Co., Inc.	Gd Surface Elev:	:
Drilling Method	: Geoprobe Direct Push	X,Y Coordinates:	:
Date Started	: 01-02-01		
Date Completed	: 01-02-01		

Depth in feet Feet	Interval	Recovery (ft)	USCS	GRAPHIC	DESCRIPTION	Comments
0						
1			SM		Black Silty f-m SAND and Gravel; moist.	
2	0 - 4	2.5				
3			CH		Brown/Black f Sandy CLAY; moist, dense, medium to high plasticity.	
4						Some discoloration. Visible oil sheen.
5			SM		Black Silty f - m SAND; wet.	
6	4 - 8	2.5				Refusal at 6.2 ft bgs.
7						
8						
9						
10						
11						
12						
13						
14						
15						

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FOSTER WHEELER

LOG OF BORING FW-2

PROJECT: Niagara Mohawk Power Corp.
PROJECT NO: 2141.0000.0000.04000
PROJECT LOCATION: Ilion, New York

Geologist	: Luke Darragh	Groundwater Depth	:
Driller	: Lyon Drilling Co., Inc.	Gd Surface Elev:	:
Drilling Method	: Geoprobe Direct Push	X,Y Coordinates:	:
Date Started	: 01-02-01		
Date Completed	: 01-02-01		

Depth in feet Feet	Interval	Recovery (ft)	USCS	GRAPHIC	DESCRIPTION	Comments
0						
2	0 - 4	2.5	SM		Black Silty f to m SAND and angular to subangular 20 mm Gravel; moist, soft.	
4					Grading to wet.	Visible oil sheen.
6	4 - 8	2.0				
8						Sample: FW2-8
10	8 - 12	2.8	CH		Brown Silty CLAY; moist, stiff, high plasticity.	Odor and sheen detected.
12					Brown CLAY; moist, stiff, high plasticity.	Odor and sheen detected.
14	12 - 16	3.0	CH			
16						
18	16 - 20	3.2	ML			
20						Boring complete at 20 ft bgs.

10-07-2002 p:\NiMo - Ilion NY\Boring Logs\FW2.bor

FOSTER WHEELER

LOG OF BORING SED-1

PROJECT: Niagara Mohawk Power Corp.
PROJECT NO: 2141.0000.0000.04000
PROJECT LOCATION: Ilion, New York

Geologist	: Luke Darragh	Groundwater Depth	:
Driller	: Lyon Drilling Co., Inc.	Gd Surface Elev:	:
Drilling Method	: Geoprobe Direct Push	X,Y Coordinates:	:
Date Started	: 01-03-01		
Date Completed	: 01-03-01		

Depth in feet Feet	Interval	Recovery (ft)	USCS	GRAPHIC	DESCRIPTION	Comments
0					Black PEAT, some f Sand; wet.	Organic and petroleum odor.
1						
2	0 - 4	2.5				
3						
4						Sample: SED 1-4 Organic and petroleum odor.
5					Some small Shells.	
6	4 - 8	2.5	PT			
7						
8						Organic and petroleum odor.
9						
10						Sample: SED 1-10
11						
12						Boring complete at 12 ft bgs.
13						
14						
15						

10-07-2002 p:\NiMo - Ilion NY\Boring Logs\SED1.bor

FOSTER WHEELER

LOG OF BORING SED-1A

PROJECT: Niagara Mohawk Power Corp.
PROJECT NO: 2141.0000.0000.04000
PROJECT LOCATION: Ilion, New York

Geologist	: Luke Darragh	Groundwater Depth	:
Driller	: Lyon Drilling Co., Inc.	Gd Surface Elev:	:
Drilling Method	: Geoprobe Direct Push	X,Y Coordinates:	:
Date Started	: 12-19-01		
Date Completed	: 12-19-01		

Depth in feet Feet	Interval	Recovery (ft)	USCS	GRAPHIC	DESCRIPTION	Comments
0	0 - 4	3	PT		PEAT, some roots, stems and white ash.	No odors.
8	4 - 8	3.5	CH		Grey silty CLAY, some roots, stems and shells; moist, soft, medium plasticity.	
10	8 - 12	4	PT		PEAT, some white ash, roots and stems.	Sample: SED1A-12 No odors.
12			CH		Grey Silty CLAY, some roots and stems; wet, soft, medium plasticity.	
14	12 - 16	2-				
16			ML		Grey Clayey SILT, trace f sand; wet, very soft.	
18	16 - 20	3				Sample: SED 1A-20 Boring complete to 20 ft bgs.
20						

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FOSTER WHEELER

LOG OF BORING SED-1B

PROJECT: Niagara Mohawk Power Corp.
PROJECT NO: 2141.0000.0000.04000
PROJECT LOCATION: Ilion, New York

Geologist	: Luke Darragh	Groundwater Depth	:
Driller	: Lyon Drilling Co., Inc.	Gd Surface Elev:	:
Drilling Method	: Geoprobe Direct Push	X,Y Coordinates:	:
Date Started	: 12-19-01		
Date Completed	: 12-19-01		

Depth in feet Feet	Interval	Recovery (ft)	USCS	GRAPHIC	DESCRIPTION	Comments
0		2	AR		FILL material: Gravel and red Brick; wet.	No odors.
4		3.5	CH		Grey Silty CLAY, some roots and stems; wet, soft, high plasticity.	Sample: SED1B-8
8		4	PT		PEAT.	
11			ML		Light grey SILT, some small shells; soft.	
12		3.5	CH		Grey silty CLAY; wet, very soft, medium plasticity.	Sample: SED1B-16 Boring complete to 16 ft bgs.
16						
20						

10-07-2002 p:\NMo - Ilion NY\Boring Logs\SED1B.bor

FOSTER WHEELER

LOG OF BORING SED-2

PROJECT: Niagara Mohawk Power Corp.
PROJECT NO: 2141.0000.0000.04000
PROJECT LOCATION: Ilion, New York

Geologist	: Luke Darragh	Groundwater Depth	:
Driller	: Lyon Drilling Co., Inc.	Gd Surface Elev:	:
Drilling Method	: Geoprobe Direct Push	X,Y Coordinates:	:
Date Started	:		
Date Completed	:		

Depth in feet Feet	Interval	Recovery (ft)	USCS	GRAPHIC	DESCRIPTION	Comments
0		2.5	CH		Brown silty CLAY, some roots and stems; moist, soft, high plasticity.	Organic and Petroleum odors.
4			PT		Brown PEAT, some roots and stems; wet, soft.	Sample: SED-02-4 Organic and Petroleum odors.
8						Organic and Petroleum odors.
10						Sample: SED02-10
12						Boring complete to 12 ft bgs.
15						

10-07-2002 p:\NiMo - Ilion NY\Boring Logs\SED2.bor

FOSTER WHEELER

LOG OF BORING SED-2A

PROJECT: Niagara Mohawk Power Corp.
PROJECT NO: 2141.0000.0000.04000
PROJECT LOCATION: Ilion, New York

Geologist	: Luke Darragh	Groundwater Depth	:
Driller	: Lyon Drilling Co., Inc.	Gd Surface Elev:	:
Drilling Method	: Geoprobe Direct Push	X,Y Coordinates:	:
Date Started	: 02-20-01		
Date Completed	: 02-20-01		

Depth in feet Feet	Interval	Recovery (ft)	USCS	GRAPHIC	DESCRIPTION	Comments
0						
1					Light brown Silty f - m SAND, some wood chips and roots; moist, loose.	
2	0 - 4	1				
3						
4			SM			
5						
6	4 - 8	1				
7						
8			CH		Grey CLAY, trace f Sand; very moist, soft, high plasticity.	
9			PT		Reddish-brown PEAT.	
10	8 - 12	3.5	CH		Grey CLAY, trace f Sand; very moist, soft, high plasticity.	
11						
12			PT		Reddish brown PEAT; very moist, soft.	Sample: SED2A-12
13						
14	12 - 16	4				
15			CH		Grey CLAY; very moist, soft, high plasticity.	
16						
17			PT		Reddish brown PEAT; very moist.	
18	16 - 200	2.5				
19			SM		Grey Silty f SAND, some small shells; wet, loose.	
20						Sample: SED2A-20 Boring Complete at 19.6 ft bgs.

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FOSTER WHEELER

LOG OF BORING SED-2B

PROJECT: Niagara Mohawk Power Corp.
PROJECT NO: 2141.0000.0000.04000
PROJECT LOCATION: Ilion, New York

Geologist	: Luke Darragh	Groundwater Depth	:
Driller	: Lyon Drilling Co., Inc.	Gd Surface Elev:	:
Drilling Method	: Geoprobe Direct Push	X,Y Coordinates:	:
Date Started	: 02-20-01		
Date Completed	: 02-20-01		

Depth in feet Feet	Blow Count	Recovery (ft)	USCS	GRAPHIC	DESCRIPTION	Time	Date	Sample I.D.	Comments
0					0.0 - 4.0' Brown Sandy SILT, some Wood (Fill) and Roots and Stems; damp, soft.				
2		3.5	ML				02-20-01		
4					4.0 - 8.0' Grey CLAY, some Roots and Stems; moist, soft, high plasticity.				
6		3.5					02-20-01	SED2B-8	
8					8.0 - 10.0' Grey CLAY, some Roots and Stems; moist, soft, high plasticity.				
10		3			10.0 - 12.0' PEAT, some Roots; moist.		02-20-01		
12					12.0 - 15.5' Grey CLAY; very moist, soft, high plasticity.				
14		4					02-20-01		
15					15.5 - 16.0' Grey Silty f - m SAND, trace small Shells; wet, loose.				
18		4					02-20-01	SED2B-20	
20									

10-07-2002 p:\NiMo - Ilion NY\Boring Logs\SED2B.bor

FOSTER WHEELER

LOG OF BORING SED-3

PROJECT: Niagara Mohawk Power Corp.
PROJECT NO: 2141.0000.0000.04000
PROJECT LOCATION: Ilion, New York

Geologist	: Luke Darragh	Groundwater Depth	:
Driller	: Lyon Drilling Co., Inc.	Gd Surface Elev:	:
Drilling Method	: Geoprobe Direct Push	X,Y Coordinates:	:
Date Started	:		
Date Completed	:		

Depth in feet Feet	Interval	Recovery (ft)	USCS	GRAPHIC	DESCRIPTION	Comments
0	.5		PT		Brown PEAT, some Roots and Stems; wet soft.	No petroleum odor.
4	2.1		CH		Brown Silty CLAY, some Roots and Stems; moist, very soft, high plasticity.	Sample: SED3-4
8						Boring complete at 8 ft bgs.

10-07-2002 p:\NiMo - Ilion NY\Boring Logs\SED3.bor

FOSTER WHEELER

LOG OF BORING SED-3A

PROJECT: Niagara Mohawk Power Corp.
PROJECT NO: 2141.0000.0000.04000
PROJECT LOCATION: Ilion, New York

Geologist	: Luke Darragh	Groundwater Depth	:
Driller	: Lyon Drilling Co., Inc.	Gd Surface Elev:	:
Drilling Method	: Geoprobe Direct Push	X,Y Coordinates:	:
Date Started	: 02-20-01		
Date Completed	: 02-20-01		

Depth in feet Feet	Interval	Recovery (ft)	USCS	GRAPHIC	DESCRIPTION	Comments
0			PT		PEAT.	
2	4		CL		Grey Silty CLAY, some f Sand; dry, stiff, low plasticity.	
4			AR		Light grey ASH, some ang Gravel, some m Sand	Fill-like material.
6	1.5					
8					No Recovery.	
10	0					
12			PT		Reddish brown PEAT; moist.	
14	4		SM		Grey CLAY; moist, soft, high plasticity.	Sample: SED3A-16
16						
18	4		CH		Grey Silty f - m SAND; wet, dense.	Sample: SED3A-20
20						Boring complete at 20 ft bgs.

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FOSTER WHEELER

LOG OF BORING SED-3B

PROJECT: Niagara Mohawk Power Corp.
PROJECT NO: 2141.0000.0000.04000
PROJECT LOCATION: Ilion, New York

Geologist	: Luke Darragh	Groundwater Depth	:
Driller	: Lyon Drilling Co., Inc.	Gd Surface Elev:	:
Drilling Method	: Geoprobe Direct Push	X,Y Coordinates:	:
Date Started	: 02-22-01		
Date Completed	: 02-22-01		

Depth in feet Feet	Interval	Recovery (ft)	USCS	GRAPHIC	DESCRIPTION	Comments
0						
1						
2	.6		GP		SAND and Gravel, some Roots.	
3						
4						
5			SM		Grey Silty f SAND, some m Sand; wet.	
6	4					
7			PT		Reddish brown PEAT; moist, soft.	
8						Slight odor.
9	2		CH		Grey CLAY, some Peat; moist soft, high plasticity.	Sample: SED-3B-10 Slight odor.
10						
11						
12						
13						
14						
15						

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FOSTER WHEELER

LOG OF BORING SED-4

PROJECT: Niagara Mohawk Power Corp.
PROJECT NO: 2141.0000.0000.04000
PROJECT LOCATION: Ilion, New York

Geologist	: Luke Darragh	Groundwater Depth	:
Driller	: Lyon Drilling Co., Inc.	Gd Surface Elev:	:
Drilling Method	: Geoprobe Direct Push	X,Y Coordinates:	:
Date Started	: 01-04-01		
Date Completed	: 01-04-01		

Depth in feet Feet	Interval	Recovery (ft)	USCS	GRAPHIC	DESCRIPTION	Comments
0					0.0 - 4.0 Grey Silty f SAND; wet, loose.	Petroleum odor.
1						
2		1.2	SM			
3						
4					4.0 - 8.0 Brown Silty CLAY, some f Sand; wet, soft, low plasticity.	Organic and Petroleum odors. Sample SED4-4
5						
6		3.0				
7						Sample SED4-8 Organic and Petroleum odors.
8			CL			
9						
10		2.5				
11						
12						Boring complete at 12 ft bgs.
13						
14						
15						

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FOSTER WHEELER

LOG OF BORING SED-4A

PROJECT: Niagara Mohawk Power Corp.
PROJECT NO: 2141.0000.0000.04000
PROJECT LOCATION: Ilion, New York

Geologist	: Luke Darragh	Groundwater Depth	:
Driller	: Lyon Drilling Co., Inc.	Gd Surface Elev:	:
Drilling Method	: Geoprobe Direct Push	X,Y Coordinates:	:
Date Started	: 02-22-01		
Date Completed	: 02-22-01		

Depth in feet Feet	Interval	Recovery (ft)	USCS	GRAPHIC	DESCRIPTION	Comments
0	0 - 4	1.1	CH		Grey Silty CLAY, some f Sand, trace m Sand; very moist, soft, high plasticity.	
4	4 - 8	3.7	ML		Grey Sandy SILT, some f Sand; wet, soft.	Sample SED: 4A-3
8	8 - 12	1	SM		Grey Silty f SAND, some m Sand; wet, loose.	Sample SED: 4A-7
10						Boring complete at 10 ft bgs.
15						

10-07-2002 p:\NiMo - Ilion NY\Boring Logs\SED4A.bor

FOSTER WHEELER

LOG OF BORING SED-4B

PROJECT: Niagara Mohawk Power Corp.
PROJECT NO: 2141.0000.0000.04000
PROJECT LOCATION: Ilion, New York

Geologist	: Luke Darragh	Groundwater Depth	:
Driller	: Lyon Drilling Co., Inc.	Gd Surface Elev:	:
Drilling Method	: Geoprobe Direct Push	X,Y Coordinates:	:
Date Started	: 02-22-01		
Date Completed	: 02-22-01		

Depth in feet Feet	Interval	Recovery (ft)	USCS	GRAPHIC	DESCRIPTION	Comments
0						
1					Grey Silty CLAY; moist, soft, high plasticity.	
2		.5				
3			CH			
4						Slight odor.
5						
6		4			Grey Silty f - m SAND, Some Clay; wet, loose, m density.	
7						Sample: SED4B-7
8			SM			
9		2				
10						Sample: SED4B-10 Boring complete at 10 ft bgs.
11						
12						
13						
14						
15						

10-07-2002 p:\NiMo - Ilion NY\Boring Logs\SED4B.bor

FOSTER WHEELER

LOG OF BORING SED-5

PROJECT: Niagara Mohawk Power Corp.
PROJECT NO: 2141.0000.0000.04000
PROJECT LOCATION: Ilion, New York

Geologist	: Luke Darragh	Groundwater Depth	:
Driller	: Lyon Drilling Co., Inc.	Gd Surface Elev:	:
Drilling Method	: Geoprobe Direct Push	X,Y Coordinates:	:
Date Started	: 12-19-01		
Date Completed	: 12-19-01		

Depth in feet Feet	Interval	Recovery (ft)	USCS	GRAPHIC	DESCRIPTION	Comments
0						
1			SM		Black Silty f - m SAND, some Roots and Stems; wet, loose.	Petroleum odor.
2	0 - 4	3.1	PT		PEAT, some Roots and Stems; wet.	
3			CH		Grey CLAY, some Roots; wet, very soft, high plasticity.	
4					Grey CLAY, some Roots; wet, very soft, high plasticity.	
5						
6	4 - 8	3.5				
7						
8			CH		Grey Silty CLAY; wet, very soft, high plasticity.	
9						
10	8 - 12					
11						
12						Boring complete at 12 ft bgs. No samples collected.
13						
14						
15						

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FOSTER WHEELER

LOG OF BORING SED-5A

PROJECT: Niagara Mohawk Power Corp.
PROJECT NO: 2141.0000.0000.04000
PROJECT LOCATION: Ilion, New York

Geologist	: Luke Darragh	Groundwater Depth	:
Driller	: Lyon Drilling Co., Inc.	Gd Surface Elev:	:
Drilling Method	: Geoprobe Direct Push	X,Y Coordinates:	:
Date Started	: 12-19-01		
Date Completed	: 12-19-01		

Depth in feet Feet	Blow Count	Recovery (ft)	USCS	GRAPHIC	DESCRIPTION	Time	Date	Sample I.D.	Comments
0									Slight odor.
1					0.0 - 0.5' FILL (Grey GRAVEL for parking lot). 0.5 - 4.0' Brown Silty f - m SAND, some small Gravel, trace c Sand; moist.				
2		2.5	AR/SM			1418	12-19-01		
3									
4					4.0 - 6.0' Brown Silty f - m SAND, some small Gravel, trace c Sand; moist.				
5									
6		4	CO/46		6.0 - 7.0' PEAT, some Roots; moist.	1420	12-19-01	SED5-6	
7					7.0 - 8.0' Grey CLAY, trace f Sand; soft, moist, high plasticity.				
8					8.0 - 12.0' No recovery.				
9									
10		0				1422	12-19-01		
11									
12					12.0 - 16.0' Grey CLAY, trace f Sand; moist, soft, high plasticity.				
13									
14		2				1427	12-19-01		
15									
16									
17									
18		3.5				1430	12-19-01	SED5-20	
19									
20									

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FOSTER WHEELER

LOG OF BORING SED-5B

PROJECT: Niagara Mohawk Power Corp.
PROJECT NO: 2141.0000.0000.04000
PROJECT LOCATION: Ilion, New York

Geologist	: Luke Darragh	Groundwater Depth	:
Driller	: Lyon Drilling Co., Inc.	Gd Surface Elev:	:
Drilling Method	: Geoprobe Direct Push	X,Y Coordinates:	:
Date Started	: 12-19-01		
Date Completed	: 12-19-01		

Depth in feet Feet	Interval	Recovery (ft)	USCS	GRAPHIC	DESCRIPTION	Comments
0	0 - 4	2	SP		Grey SAND and Gravel.	
1						
2					Grey SAND, Gravel and red Brick.	
3						
4						
5	4 - 8	2	CH		Black Silty CLAY, some roots, trace f Sand, moist, soft, high plasticity.	
6						
7						
8						
9	8 - 12	0			No recovery.	
10						
11						
12						
13	12 - 16	1.8	CH		Grey CLAY, some Roots and Stems; moist, very soft, high plasticity.	
14						
15						
16					Grey CLAY, some f - m Sand; wet, very soft, high plasticity.	
17						
18	16 - 20	1.5				
19						
20						Boring complete at 20 ft bgs.

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FOSTER WHEELER

LOG OF BORING SED-6

PROJECT: Niagara Mohawk Power Corp.
PROJECT NO: 2141.0000.0000.04000
PROJECT LOCATION: Ilion, New York

Geologist	: Luke Darragh	Groundwater Depth	:
Driller	: Lyon Drilling Co., Inc.	Gd Surface Elev:	:
Drilling Method	: Geoprobe Direct Push	X,Y Coordinates:	:
Date Started	: 12-20-01		
Date Completed	: 12-20-01		

Depth in feet Feet	Interval	Recovery (ft)	USCS	GRAPHIC	DESCRIPTION	Comments
0						
1						
2	0 - 4	2.5	CH		Grey Silty CLAY, some small roots and organic material; wet soft medium plasticity.	
3						
4						Sample: SED6-4
5					Reddish brown PEAT, some roots and stems; very moist.	
6	4 - 8	3.5				
7						
8			PT			
9						
10	8 - 12	3.5				
11						
			SM		Grey brown Silty f - m SAND, wet, loose.	Sample: SED6-12
12						Boring complete at 11.8 ft bgs.
13						
14						
15						

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FOSTER WHEELER

LOG OF BORING SED-7

PROJECT: Niagara Mohawk Power Corp.
PROJECT NO: 2141.0000.0000.04000
PROJECT LOCATION: Ilion, New York

Geologist	: Luke Darragh	Groundwater Depth	:
Driller	: Lyon Drilling Co., Inc.	Gd Surface Elev:	:
Drilling Method	: Geoprobe Direct Push	X,Y Coordinates:	:
Date Started	: 2-20-01		
Date Completed	: 2-20-01		

Depth in feet Feet	Interval	Recovery (ft)	USCS	GRAPHIC	DESCRIPTION	Comments
0	0 - 4	3.5	PT		Reddish brown PEAT; wet.	
1						
2			CH		Grey CLAY, some roots and stems; very moist, soft, high plasticity.	Sample ID: SED7-4
3						
4						
5						
6	4 - 8					
7			ML		Grey Sandy SILT, vf Sand; wet, soft.	
8			PT		Reddish brown PEAT.	
9						
10	8 - 12	4.0				
11			CH		Grey CLAY; v moist, v soft, high plasticity	Sample ID: SED7-12 Boring complete at 12 ft bgs.
12						
13						
14						
15						

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FOSTER WHEELER

LOG OF BORING SED-8

PROJECT: Niagara Mohawk Power Corp.
PROJECT NO: 2141.0000.0000.04000
PROJECT LOCATION: Ilion, New York

Geologist	: Luke Darragh	Groundwater Depth	:
Driller	: Lyon Drilling Co., Inc.	Gd Surface Elev:	:
Drilling Method	: Geoprobe Direct Push	X,Y Coordinates:	:
Date Started	: 2-22-01		
Date Completed	: 2-22-01		

Depth in feet Feet	Interval	Recovery (ft)	USCS	GRAPHIC	DESCRIPTION	Comments
0	0 - 4	.5	SM		Brown Silty SAND, trace subangular Gravel; wet, loose.	
4	4 - 8	2	PT		Reddish brown PEAT, some Grey Clay; wet, soft, high plasticity.	No odor
8	8 - 10	2	CH		Grey Sandy CLAY, some Roots and Stems, some reddish brown Peat; moist, v soft, low to medium plasticity.	No odor No odor Boring complete at 10 ft bgs.
10						
11						
12						
13						
14						
15						

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FOSTER WHEELER

LOG OF BORING SED-9

PROJECT: Niagara Mohawk Power Corp.
PROJECT NO: 2141.0000.0000.04000
PROJECT LOCATION: Ilion, New York

Geologist	: Luke Darragh	Groundwater Depth	:
Driller	: Lyon Drilling Co., Inc.	Gd Surface Elev:	:
Drilling Method	: Geoprobe Direct Push	X,Y Coordinates:	:
Date Started	: 2-22-01		
Date Completed	: 2-22-01		

Depth in feet Feet	Interval	Recovery (ft)	USCS	GRAPHIC	DESCRIPTION	Comments
0						
1						
2	0 - 4	1.5	SM		Grey Silty f - m SAND; wet, loose.	
3						
4			ML		Grey Sandy SILT, some f Sand; wet, soft.	Slight odor.
5						
6	4 - 8	3.5			Grey Silty f - m SAND, trace roots and stems; wet, loose.	
7			SM			
8						No odor.
9	8 - 10	2				No odor.
10						Boring complete at 10 ft bgs.
11						
12						
13						
14						
15						

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FOSTER WHEELER

LOG OF BORING SED-10

PROJECT: Niagara Mohawk Power Corp.
PROJECT NO: 2141.0000.0000.04000
PROJECT LOCATION: Ilion, New York

Geologist	: Luke Darragh	Groundwater Depth	:
Driller	: Lyon Drilling Co., Inc.	Gd Surface Elev:	:
Drilling Method	: Geoprobe Direct Push	X,Y Coordinates:	:
Date Started	: 2-22-01		
Date Completed	: 2-22-01		

Depth in feet Feet	Interval	Recovery (ft)	USCS	GRAPHIC	DESCRIPTION	Comments
0	0 - 4	.5	ML		Grey Sandy SILT, some Clay, trace fine Sand; wet, very soft.	Slight odor.
4	4 - 8	4	SM		Grey Silty f - m SAND; wet, medium density.	
9	8 - 10	2			Grey Silty f - m SAND, some rounded Gravel; wet, medium density.	Boring complete at 10 ft bgs.
10						
11						
12						
13						
14						
15						

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FOSTER WHEELER

LOG OF BORING SED-11

PROJECT: Niagara Mohawk Power Corp.
PROJECT NO: 2141.0000.0000.04000
PROJECT LOCATION: Ilion, New York

Geologist	: Luke Darragh	Groundwater Depth	:
Driller	: Lyon Drilling Co., Inc.	Gd Surface Elev:	:
Drilling Method	: Geoprobe Direct Push	X,Y Coordinates:	:
Date Started	: 2-22-01		
Date Completed	: 2-22-01		

Depth in feet Feet	Interval	Recovery (ft)	USCS	GRAPHIC	DESCRIPTION	Comments
0						
1						
2	0 - 4	2	ML		Grey Sandy SILT, some small rounded Gravel, trace fine Sand; wet, soft.	
3						
4						Slight odor.
5					Grey Silty f - m SAND, some rounded Gravel; wet, dense.	
6	4 - 8	3				
7			SM			
8						
9	8 - 10	1			Grey Silty f - m SAND, some rounded Gravel; wet, medium density.	No odor.
10						Boring complete at 10 ft bgs.
11						
12						
13						
14						
15						

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FIELD BORING LOG SHEET

BORING LOG SHEET

BORING NUMBER: Tt-SED-01

TETRA TECH FW INC.

PROJECT:	Ilion (East Street) - Niagara Mohawk
PROJECT NO.:	2907.0003.0002.00000
LOCATION:	Ilion, NY
TOTAL DEPTH (FT):	2
GEOLOGIST:	Donald Campbell
DRILLER:	Nothnagle
DRILLING/SAMPLING METHOD:	Geoprobe

DATE STARTED:	10/12/04
DATE COMPLETED:	10/12/04
GROUNDWATER DEPTH (FT):	Not Applicable
GROUND ELEVATION (FT):	
X COORDINATE:	
Y COORDINATE:	
DATUM:	UNKNOWN

Sample ID	Start Depth (feet)	End Depth (feet)	BLOWS per 6"	Recovery (ft)	Consolidated ? Y or N	USCS Soil Classification or Material	Geologic Unit Code	Color	Description	TIME	DATE	PID/FID (ppm)	Comments	Context (A, H, U)
Tt-SED-01-0-2	0	0.2		1.8		ML		0-0.2': Brown	clayey SILT, trace c Sand, wet	8:15	10/12/04		Sample ILN-TtSED01-(0.0-2.0) collected.	U
	0.2	2				ML		0.2-2.0': Dark Grey	SILT, and Clay, trace f-c Gravel, moist				Sample ILN-TtSED01-(1.5-2.0) collected.	U

NOTES: Boring terminated at 2 feet below swale bottom

FIELD BORING LOG SHEET

BORING LOG SHEET

BORING NUMBER: Tt-SED-02

TETRA TECH FW, INC.

PROJECT:	Ilion (East Street) - Niagara Mohawk	DATE STARTED:	10/12/04
PROJECT NO.:	2907.0003.0002.00000	DATE COMPLETED:	10/12/04
LOCATION:	Ilion, NY	GROUNDWATER DEPTH (FT):	Not Applicable
TOTAL DEPTH (FT):	2	GROUND ELEVATION (FT):	
GEOLOGIST:	Donald Campbell	X COORDINATE:	
DRILLER:	Nothnagle	Y COORDINATE:	
DRILLING/SAMPLING METHOD:	Geoprobe	DATUM:	UNKNOWN

Sample ID	Start Depth (feet)	End Depth (feet)	BLOWS per 6"	Recovery (ft)	Consolidated ? Y or N	USCS Soil Classification or Material	Geologic Unit Code	Color	Description	TIME	DATE	FID/PID (ppm)	Comments	Context (A, H, U)
Tt-SED-02-0-2	0	0.1		1.5		SM		0-0.1': Brown	m-f SAND, little Silt, trace Organic Material, wet	8:40	10/12/04			U
	0.1	2				ML		0.1-2': Dark Grey	SILT, and Clay, with occasional m-f Sand laminations, wet				Slight acrid petroleum odor. Trace sheen on water in sample. Sample ILN-TtSED02-(1.5-2.0)	U

NOTES: Boring terminated at 2 feet below swale bottom.

FIELD BORING LOG SHEET

BORING LOG SHEET

BORING NUMBER: Tt-SED-03

TETRA TECH FW, INC.

PROJECT:	Ilion (East Street) - Niagara Mohawk
PROJECT NO.:	2907.0003.0002.00000
LOCATION:	Ilion, NY
TOTAL DEPTH (FT):	2
GEOLOGIST:	Donald Campbell
DRILLER:	Nothnagle
DRILLING/SAMPLING METHOD:	Geoprobe

DATE STARTED:	10/12/04
DATE COMPLETED:	10/12/04
GROUNDWATER DEPTH (FT):	Not Applicable
GROUND ELEVATION (FT):	
X COORDINATE:	
Y COORDINATE:	
DATUM:	UNKNOWN

Sample ID	Start Depth (feet)	End Depth (feet)	BLOWS per 6"	Recovery (ft)	Consolidated Y or N	USCS Soil Classification or Material	Geologic Unit Code	Color	Description	TIME	DATE	FID/PID (ppm)	Comments	Contact (A, H, U)
Tt-SED-03-0-2	0	0.1		1.5		ML		Brown	0-0.1': SILT, loose, wet	9:00	10/12/04		Sample ILN-TtSED03-(0.0-2.0) collected.	U
	0.1	1				ML		Dark Grey	0.1-1.0': SILT, little Gravel, little Organic Material					U
	1	2				ML		Grey	1.0-2.0': SILT, some Clay, trace Roots, soft				Acrid petroleum odor along entire length and organic decay odor. Sample ILN-TtSED03-(1.5-2.0) collected.	U

NOTES: Boring terminated at 2 feet below swale bottom.

FIELD BORING LOG SHEET

BORING LOG SHEET

BORING NUMBER: Tt-SED-04

TETRA TECH FW, INC.

PROJECT:	Ilion (East Street) - Niagara Mohawk
PROJECT NO.:	2907.0003.0002.00000
LOCATION:	Ilion, NY
TOTAL DEPTH (FT):	2
GEOLOGIST:	Donald Campbell
DRILLER:	Nothnagle
DRILLING/SAMPLING METHOD:	Geoprobe

DATE STARTED:	10/12/04
DATE COMPLETED:	10/12/04
GROUNDWATER DEPTH (FT):	Not Applicable
GROUND ELEVATION (FT):	
X COORDINATE:	
Y COORDINATE:	
DATUM:	UNKNOWN

Sample ID	Start Depth (feet)	End Depth (feet)	BLOWS per 6"	Recovery (ft)	Consoli-dated ? Y or N	USCS Soil Classification or Material	Geologic Unit Code	Color	Description	TIME	DATE	PID/FID (ppm)	Comments	Contact (A, H, U)
Tt-SED-04-0-2	0	0.5		1.3		ML		0-0.5': Brown	SILT, some Clay, with trace Organic Material, soft, wet	9:55	10/12/04			U
	0.5	2				ML		0.5-2.0': Dark Grey	SILT, and Clay, medium dense, moist				Orange staining at contact between brown and grey SILT. Sample ILN-TtSED04-(1.5-2.0) collected.	U

NOTES: Boring terminated at 2 feet below swale bottom.

FIELD BORING LOG SHEET

BORING LOG SHEET

BORING NUMBER: Tt-SED-05

TETRA TECH FW, INC.

PROJECT:	Ilion (East Street) - Niagara Mohawk
PROJECT NO.:	2907.0003.0002.00000
LOCATION:	Ilion, NY
TOTAL DEPTH (FT):	2
GEOLOGIST:	Donald Campbell
DRILLER:	Nothnagle
DRILLING/SAMPLING METHOD:	Geoprobe

DATE STARTED:	10/12/04
DATE COMPLETED:	10/12/04
GROUNDWATER DEPTH (FT):	Not Applicable
GROUND ELEVATION (FT):	
X COORDINATE:	
Y COORDINATE:	
DATUM:	UNKNOWN

Sample ID	Start Depth (feet)	End Depth (feet)	BLOWS per 6"	Recovery (ft)	Consolidated ? Y or N	USCS Soil Classification or Material	Geologic Unit Code	Color	Description	TIME	DATE	PID/PID (ppm)	Comments	Contact (A, H, U)
Tt-SED-05-0-2	0	2		0.85		ML		0.0-2.0': Mottled Brown and Grey	SILT, and Clay, with trace white flat and elongate c Sand to Gravel-sized Ash Material	10:05	10/12/04		Sample ILN-TtSED05-(1.5-2.0) and sample ILN-TtSED05-(0.0-2.0) collected.	U

NOTES: Boring terminated at 2 feet below swale bottom.