

*Letter of Transmittal*

To: NYS Department of Environmental  
Conservation  
Division of Environmental Remediation  
(Bureau C, 11<sup>th</sup> Floor)  
625 Broadway  
Albany, New York 12233

Date: 4-8-08	Earth Tech I.D. 93190
Submittal No.	
Attention: Bernard Franklin	
Subject: Final Remedial Action Construction Certification Report NYSEG Former MGP Oneonta	

WE ARE SENDING YOU:

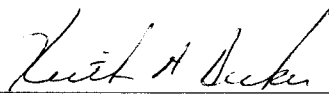
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|--|---------------------------------------|---|
| <input checked="" type="checkbox"/> Attached | <input type="checkbox"/> Prints       | <input type="checkbox"/> Under separate cover via _____ the following items:                            |
| <input type="checkbox"/> Shop Drawings       | <input type="checkbox"/> Change Order | <input type="checkbox"/> Plans <input type="checkbox"/> Samples <input type="checkbox"/> Specifications |
| <input type="checkbox"/> Copy of Letter      |                                       | <input type="checkbox"/> _____  |

ITEM	COPIES	PARA.	DESCRIPTION
1	1		NYSEG Final Remedial Action Construction Certification Report Removal and Off-site Disposal of Coal Tar Impacted Soil on the Eastern and Western Plant Area Associated with Oneonta Former Manufactured Gas Plant Site James Georgeson Ave City of Oneonta, Otsego County, New York

THESE ARE TRANSMITTED AS CHECKED BELOW:

- |   |   |   |
|---|---|---|
| <input checked="" type="checkbox"/> For Approval    | <input type="checkbox"/> Approved as submitted    | <input type="checkbox"/> Resubmit _____ copies for approval   |
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| <input type="checkbox"/> For Bids Due _____, 20____ |   |   |

REMARKS:

Signed:   
Keith Decker, Project Manager

APR 10 2008

APR 10 2008

# **NYSEG**

## **NEW YORK STATE ELECTRIC & GAS CORPORATION**

James A. Carrigg Center, 18 Link Drive, P.O. Box 5224  
Binghamton, New York 13902-5224

### **Final Remedial Action Construction Certification Report**

For Removal and Off-site Disposal of Coal Tar Impacted Soil  
On The Eastern and Western Plant Area

Associated With

Oneonta  
Former Manufactured Gas Plant Site  
James Georgeson Avenue  
City of Oneonta, Otsego County, New York

April 2008

Prepared By:  
Earth Tech, Inc.  
For  
NYSEG Environmental Compliance  
Site Investigation and Remediation



**NEW YORK STATE ELECTRIC & GAS CORPORATION**

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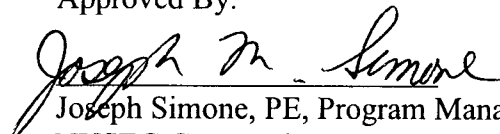
Oneonta  
Former Manufactured Gas Plant Site  
James Georgeson Avenue  
City of Oneonta, Otsego County, New York

April 2008

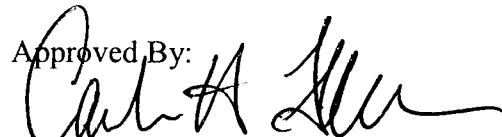
Reviewed By:

  
Bert W. Finch, Project Manager  
NYSEG Corporation

Approved By:

  
Joseph Simone, PE, Program Manager  
NYSEG Corporation

Approved By:

  
Carsten Floess, PE  
Earth Tech, Inc.

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## List of Acronyms

AS/SVE	Air Sparge/Soil Vapor Extraction
BBL	Blasland, Bouck & Lee
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene and xylenes
CAMP	Community Air Monitoring Plan
cPAHs	Carcinogenic Polycyclic Aromatic Hydrocarbons
ELAP	Environmental Laboratory Approval Programs
EPA	Eastern Plant Area
FS	Feasibility Study
GC	gas chromatograph
GCS-DN	gas chromatograph station - downwind
GCS-UP	gas chromatograph station - upwind
GPS	global positioning system
LKD	Lime Kiln Dust
MGP	manufactured gas plant
NAPL	non-aqueous phase liquid
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York state department of Health
NYSEG	New York State Electric & Gas Corporation
OSHA	Occupational Safety and Health Act or Administration
PAHs	polycyclic aromatic hydrocarbons
PID	photo ionization detector
POTW	Public Owned Treatment Works
ppb	parts per billion
PPE	personal protective equipment
ppm	parts per million
O&M	operation and maintenance
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
ROD	record of decision
STL	Severn Trent Laboratories
SVOCs	semi-volatile organic compounds
TAGM	technical and administrative guidance memorandum
TCLP	toxicity characteristic leachate procedure
TSS	Total Suspended Solids
UFPO	Underground Facility Protection Organization
VOCs	volatile organic compounds
VOA	volatile organic analysis
WPA	Western Plant Area

## Executive Summary

This Final Remedial Action Construction Certification Report documents remedial activities at the Oneonta former manufactured gas plant (MGP) Site, located in the City of Oneonta, Otsego County, New York. Site activities were conducted in accordance with NYSEG's Remedial Design Work Plan for the Eastern Plant Area May 2005 and Earth Tech's Remedial Action Design and Remedial Design Work Plan for Western Plant Area June 2006 prepared in accordance with Section VII of the Order on Consent (Index Number D0-002-9309) between NYSEG and the New York State Department of Environmental Conservation (NYSDEC).

The manufactured gas plant was constructed by Oneonta Gas Light Company in 1881 and operated through the early 1950s. The above ground manufactured gas plant structures, excluding the gas house, were dismantled in 1956. The property was sold to the City of Oneonta in 1966. The former gas house was retained and used as a storage building by the City until it was demolished in 2001.

Remedial activities conducted by Severson Environmental Services for the removal of MGP impacted soils and structures began in October 2005 and were completed in May 2007. The remediation was conducted in two separate phases; the eastern plant area and western plant area (see Figure 5). Arcadis/ Blasland, Bouck and Lee (BBL) performed the project coordination for the eastern plant area and Earth Tech performed the project coordination for the western plant area.

During excavation activities, a Community Air Monitoring Program (CAMP) was implemented. There were no offsite exceedances of the established air emissions limits. All work was completed safely without incident.

The remedial action successfully removed the vast majority of the MGP impacts from the site. Over 70,000 tons of soil and sediments representing the contaminant source areas, including the gas holder foundations, below grade structures and piping have been removed. In addition, a permeable infiltration trench has been installed to assist in treating offsite MGP impacts.

The site improvements made as part of the re-construction of the site has added significant value to the City of Oneonta with the addition of state of the art facilities for the minor league baseball team. The outcome of the project exemplifies the success of the project and future of the site.

**New York State Department of Environmental Conservation**  
**Division of Environmental Remediation**  
**Remedial Bureau C, 11th Floor**  
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March 18, 2008

Joseph Simone, PE, Program Manager  
Site Investigation and Remediation  
Environmental Compliance Team NY  
NYSEG  
P.O. Box 5224  
James A. Carrigg Center, 18 Link Drive  
Binghamton, NY 13902-5224

RE: Draft Construction Certification Report  
Oneonta Former Manufactured Gas Plant Site  
James Georgeson Avenue  
City of Oneonta, Otsego County  
Site # 4-39-001

Dear Mr. Simone:

The Department of Environmental Conservation (Department) has reviewed the referenced submittal dated February , 2008. Comments are as follows:

1. Construction Certification: edit "*general accordance*" to "substantial conformance"
2. Section 3.4.2, WPA Post Remediation Confirmation Sampling Results:
  - 1<sup>st</sup> paragraph, the sentence "*The results of the WPA bottom soil samples are provided in Table 1*" should be corrected to Table 2.
  - 2<sup>nd</sup> paragraph, the first sentence "*Five confirmation samples* " should be corrected to Thirteen, with the remaining contents of the paragraph adjusted to accurately reflect the contents of Table 2.
3. Section 4.0 Restoration: Please provide a detailed description of the source and quantity of imported fill pursuant to DER 10 Section 5.4(d). Analytical data for the backfill should be provided in electronic format.
4. Figure 5, Results of WPA Excavation Confirmation Sample, Column "Sample Identification": Phase 1A samples AREA 1A 001 BM, and AREA 1A 002 BM should be changed to OGEXBM001 and OGEXBM002 to be consistent with the map. Phase 1B samples OGEXBM003 and OGEXBM004 should have column "Depth Below Grade (feet)" values corrected from 8' to 16'.

With these changes, the Construction Completion Report will be approvable.



Please send the revised document both as a hard copy and electronically with the required PE certification.

Please call me at 518-402-9662 if you have any questions.

Sincerely,

*Bernard Franklin*

Bernard Franklin  
Environmental Engineer  
DER, Remedial Bureau C

cc: Bert Finch, NYSEG  
John Ruspantini, NYSEG

ec: G. Laccetti/C. Bethoney - DOH

bec: G. Heitzman  
B. Franklin

## Construction Certification

I hereby certify, as a Professional Engineer registered in the State of New York, that the remedial action performed at the Oneonta former manufactured gas plant site during the period between October 2005 and May 2007 was performed in substantial accordance with the NYSDEC approved Remedial Design Work Plan for the Eastern Plant Area May 2005 and Remedial Action Design Work Plan for Western Plant Area June 2006 and in accordance with accepted standards of practice.

Respectfully submitted,  
NYSEG

*Joseph M. Simone*  
Joseph M. Simone  
Registered Professional Engineer  
New York License No. 073728-1

*4/7/08*  
Date



## 1.0 INTRODUCTION

This Remedial Action Construction Certification Report certifies that the work performed at the Oneonta former manufactured gas plant site located in the City of Oneonta, Otsego County, New York was performed in accordance with the NYSEG's Remedial Design Work Plan May 2005, Earth Tech Remedial Action Design and Work Plan June 2006 and with Section VII of the Order on Consent (Index Number D0-0002-9309) between NYSEG and the NYSDEC.

Arcadis/BBL provided project coordination for the eastern plant area (EPA) remediation; Earth Tech provided project coordination for the western plant area (WPA) remediation. In this capacity, the project coordinator was responsible for oversight, documentation, and sampling to ensure that all on-site construction operations were performed by the Contractor per the requirements of the Remedial Action Design.

The following work activities were conducted as part of the Remedial Action:

- Pre-remediation sampling and analysis
- Site Set-up
- Limited demolition of on site structures within work area (WPA only)
- Construction of watertight sheet pile excavation support system
- Construction of temporary water treatment system and operation & maintenance (WPA only)
- Excavation of contaminated soils and sediment within excavation support system
- Off-site disposal of underground structures, their contents, associated piping, visible tarry waste, MGP impacted soil and sediments
- Collection of soil samples associated with the remedial action.
- Dewatering of excavation areas
- Collection of wastewater samples prior to discharge to the POTW (WPA only)
- Execution of the community air-monitoring program

The project objective was to excavate and dispose off site coal tar impacted soil and sediments within the project remediation limits that were 500 ppm or more total polycyclic aromatic hydrocarbons (PAHs) or 10 ppm or more total BTEX (benzene, toluene, ethyl benzene, and xylenes). All work activities conducted as part of the Remedial Action Design were performed to meet the project objective. Appendix A contains a photographic log of each phase of work.

### 1.1 Site Location and Description

The Oneonta former manufactured gas plant site is located in the western portion of the City of Oneonta, Otsego County, New York on James Georgeson Avenue (formerly known as Gas Avenue) which divides the 2-acre site (see Figure 1). The City of Oneonta uses the former WPA as facilities for Damaskchke Field, a minor league baseball stadium. The EPA is used as part of James Georgeson Avenue, David W. Brenner Road and parking for Damaskchke Field.

Bordering the site and Damaschke Field on the south, east and west is a large city-owned recreational facility, Neahwa Park. Bordering the site on the north is the Mill Race. Land use to the north, beyond the

Mill Race is both commercial and residential. Canadian Pacific railroad tracks are located along the northern bank of the Mill Race.

## 1.2 Site History

The manufactured gas plant was constructed by Oneonta Gas Light Company in 1881 and operated through the early 1950s. The layout of the facility during operations is shown on Figure 2. The EPA was used primarily for petroleum and tar storage tanks during the later years of the manufactured gas plant operations. On the WPA the above ground manufactured gas plant structures, excluding the gas house, were dismantled in 1956. The property was sold to the City of Oneonta in 1966. The former gas house was retained and used as a storage building by the city until it was demolished in 2001.

In 1996, as part of an interim remedial measure, NYSEG installed an air sparge/ soil vapor extraction (AS/SVE) system along the southern portions of the manufactured gas plant site to mitigate migration of the identified dissolved chemicals of concern. The AS/SVE system operation began on July 11, 1997 and ceased on July 26, 2001 to allow for a Remedial Investigation/Feasibility Study.

A detailed site history was prepared by TRC Environmental Consultants, Inc. for the investigation of the former coal gasification site in Oneonta, New York Task 1 Report Preliminary Site Evaluation, dated August 1986.

## 1.3 Previous Investigations and Reports

NYSEG's consultants completed the following Investigations and Reports:

February 1986	Task 1 Preliminary Site Evaluations by TRC Environmental Consultants, Inc.
August 1986	Task 1 Report – Preliminary Site Evaluations by TRC Environmental Consultants, Inc.
October 1988	Task 2 Report – Initial Field Investigations by TRC Environmental Consultants, Inc.
November 1989	Task 3 Report – Expanded Field Investigation by TRC Environmental Consultants, Inc.
February 1990	Task 4 Report – Technical Report by TRC Environmental Consultants, Inc.
January 1993	Supplemental Site Investigation by Atlantic Environmental Services, Inc.
October 1994	Conceptual Design Report Air Sparge/SVE Treatment System by Groundwater Technology
January 2002	Air Sparge/Soil Vapor Extraction Decommissioning and Retirement Completion Report by IT Corporation
May 2004	Supplemental Remedial Investigation Report by Blasland, Bouck & Lee, Inc. (BBL)
November 2004	Feasability Study Report by BBL
February 2006	Pre-Design Investigation Summary Report by BBL

All of the documents associated with these Investigation and Reports are available for public review at the following document repositories:

Huntington Memorial Library  
62 Chestnut Street  
Oneonta, New York 13802  
Attn: Ms. Marie Bruni  
(607) 432-1980  
(By appointment only)

New York State Department of Environmental Conservation  
Central Office, 625 Broadway 11<sup>th</sup> Floor  
Albany, New York 12233-7014  
Attn: Mr. Bernard Franklin  
(518) 402-9662  
(By appointment only)

## **2.0 PRE-REMEDIATION WORK ACTIVITIES**

The pre-remediation activities were performed in order to prepare the site(s) for remediation construction activities and to provide waste characterization of soils prior to excavation and off-site disposal. Pre-remediation activities followed the same procedure for both the EPA and WPA.

### **2.1 Pre-remediation Sampling and Analysis**

As part of the Remedial Action Design, in situ sampling events at the EPA and WPA of the Oneonta manufactured gas plant site were performed prior to initiation of remediation activities. These samples were collected in order to characterize soils within the proposed excavation areas for off site disposal, off site treatment, or possible re-use on site. No soil from the site was characterized as RCRA Hazardous Waste and therefore no soil was sent to a RCRA permitted facility. A letter report was prepared by Arcadis/BBL for the EPA (Pre-remediation Sampling Summary Report September 22, 2006) and a letter report was prepared by Earth Tech for the WPA (Pre-Remediation In Situ Sampling & Analysis, August 21, 2006) and submitted to NYSEG. The letter report summarizes the sampling locations, protocol, techniques, and analytical results of soil samples collected for waste characterization. See Appendix B for a copy of the letter reports and analytical results of the pre-remediation sampling.

The results of the pre-remediation analytical data for the EPA indicated that all soils were RCRA Non-Hazardous Waste and below 500 ppm PAHs. Soils that had minimal staining was sent to Seneca Meadows Landfill, Waterloo, NY a NYSDEC permitted facility. Soil that was stained and/or had an odor was sent to ESMI Fort Edward, NY a permitted thermal treatment facility.

The results of the pre-remediation analytical data for the WPA indicated that all soil were either RCRA Non-Hazardous Waste or Conditionally Exempt MGP Remediation Waste. All soil and sediments from WPA was sent to ESMI permitted facilities at Fort Edwards NY, Loudon NH and Keasbey NJ.

## 2.2 Site Set-up

Prior to the start of remediation activities, the site was prepared with several general site preparation activities. These activities were performed by the Contractor and/or their Subcontractors. The project coordinator [Arcadis/BBL (EPA) and Earth Tech (WPA)] ensured all activities were conducted in accordance with the contract documents. The following activities were conducted as part of the site set-up activities:

- Utility Notification – Dig Safely New York was contacted prior to any construction activities and on site utilities identified and marked out.
- Site Security – A 6-foot high temporary chain link fence was installed around the perimeter of the work site(s). A main entrance gate was constructed for each work area for delivery trucks and off-site disposal trucks. Signage was posted on the fence and a project sign was erected to notify the public of site activities.
- Local traffic control – During the EPA work, traffic on David W. Brenner Road was detoured around the east side of the Damaschke Field parking lot. Access onto James Georgeson Avenue was maintained throughout the project. During the WPA remediation a new road was constructed under a separate contract by NYSEG that took traffic to the north and east around the lay down areas and the water treatment area. The north entrance to Neahwa Park on James Georgeson Avenue remained open at all times. Trucks were not allowed to travel over the bridge on Neahwa Place (western entrance to park) due to a 12 ton weight limit.
- Mobile office trailer – For both the EPA and WPA two project trailers were mobilized to the site. Each trailer was blocked and leveled, and equipped with office supplies. Electric, telephone, potable water was supplied to each of the trailers. Two portable toilets were provided and made available to all project personnel.
- Erosion and sedimentation controls – Silt fence and hay bales were placed along the Mill Race edge on the outside of the sheetpile alignment. During Mill Race sheetpile installation and work in the Mill Race, silt barrier/curtain and oil boom were placed directly downstream of the installation area. Additional silt fence and hay bales were maintained on-site during construction activities and replaced as necessary.
- Contaminate Reduction Pad – A decontamination pad for equipment was constructed by grading to a low point for a sump construction and compacting the area, placement of sand over area and earthen berms around perimeter. The area was then lined with a 30 mil PVC liner. The liner was then covered with sand and then #2 stone. All water collected within the decontamination pad was drained to a sump and recovered. The EPA water was transferred to on-site frac tanks via a submersible pump and hose. The WPA water was transferred to the on-site waste water treatment plant (WWTP) via a submersible pump and hose. At the

completion of the project, earthen material used to construct the pad was used as backfill in the Phase 3 excavation area.

- Stockpile Management Pad – a contaminated soil management or staging pad was constructed to stage excavated material prior to loading into off-site transport trucks. The soil management pad was constructed similar to the decontamination pad. The soil management pad was located within the footprint of the MGP site. During the EPA remediation the stockpile management pad was located in the WPA footprint. During the WPA remediation, most soils were staged inside the excavation area and direct loaded. No soil samples from the stockpile management pad were collected because all materials were removed and disposed of at the permitted facility.

The site layout for the EPA and the WPA is provided in Figure 3 and Figure 4 respectively.

### **2.3 Demolition**

During the WPA remediation it was necessary to demolish a number of structures associated with Damaschke Field in preparation for sheetpile installation and excavation activities. The structures demolished included the concession stand, locker room facility, restrooms, former air sparge/SVE building, small storage shed and bleachers. The demolition debris was segregated by material types. The demolition debris was transported off-site by Mangiardi Trucking for disposal at C&D Hakes Landfill located in Painted Post, New York.

A bullpen was removed from the work area and stored. One high mast light pole was removed during remediation and the other high mast light poles, stadium box seats, stadium dugout, grandstand, and existing northern bridge remained in place and they were not damaged during remediation or restoration activities. At the completion of construction activities one concrete light pole base along the first base line was replaced due to its close proximity to the sheeting and the permeable wall. The existing base had tilted a bit from settlement that occurred during sheetpile installation and removal.

## **3.0 REMEDIATION ACTIVITIES**

Remediation activities were performed in accordance with design documents to remove and dispose underground structures, their contents, associated piping, visible tarry waste, and MGP impacted soil and sediments. The main objective of the project was to excavate and dispose off site coal tar impacted soil within the remediation project limits that were greater than 500 ppm total PAHs or greater than 10 ppm BTEX. As part of the Remedial Design, NYSEG and NYSDEC agreed to excavate to a predetermined depth as follows: EPA, 12 feet below ground surface (bgs); WPA Phase 1A, 8 feet bgs; WPA Phase 1B, 16 feet bgs; WPA Phase 2, 20 feet bgs; and WPA Phase 3, 20 feet bgs.

### **3.1 Excavation Activities**

Lime kiln dust (LKD) and pelletized lime was applied as needed to wet soils during the course of excavation work. The use of LKD was addressed prior to use and approved for use by NYSDEC and NYSEG. LKD was added to wet soils utilizing super sacks and blended into soils using an excavator. The addition of



LKD was necessary to reduce the moisture content of the soil. A reduction in the moisture content allowed the soil to be handled and loaded into trailers for transport off site more efficiently. Less moisture content in the soil also prevented standing water in the trailer of the transport truck and less potential for MGP impacted water to leak from trailer during transport. A reduction in moisture content was also necessary for the soil to meet the specifications of the thermal treatment facility.

### **3.1.1 EPA Remediation Activities**

The EPA Remedial Design Work Plan was to excavate approximate 18 cells that are 15 feet x 50 feet to a depth 12 feet bgs (see Figure 3). During the initial excavation activities the amount of groundwater infiltration led to revising the excavation approach to include the installation of temporary sheetpiling. The project was temporarily stopped to design a watertight sheetpiling excavation support system. The sheetpiling support system was installed around the perimeter of the excavation area. Steel watertight sheeting was driven to a depth of approximately 40 feet. The excavation sequence was still maintained and included excavation of contaminated soils, inspection of bottom conditions and confirmation samples were collected and analyzed. A summary of analytical results are provided on Figure 5, Table 1 and laboratory analytical reports are provided on the CD as Appendix C. Orange construction fence was placed at the bottom the excavation as a demarcation layer and the area was backfilled to within a few feet of the next excavation cell.

### **3.1.2 WPA Remediation Activities**

Watertight sheetpiling and bracing was installed in the WPA in accordance to the certified sheetpile design contract documents. Minor variations or changes made in the field were minimal and did not significantly alter the design or the integrity of the excavation support system or the existing structures on the site.

The Contractor installed all watertight steel sheeting in pairs. Each pair of sheets had a welded interlock and the open interlock was sealed with water tight sealant. The sealant was applied to the entire length of the sheet interlock according to manufacturer's specifications.

Sheets were substantially installed to the proposed sheetpile layout and dimensions as identified in the design documents except for the following deviations:

- Phase 2 excavation area eastern sheeting line extended beyond the proposed end point at P-7 by approximately 4 feet. Inadvertently the Contractor used a surveyed off set as the end point and not the actual surveyed location for P-7. Because end point P-7 was installed further north than proposed, the northern sheeting line of cell Phase 2 and Phase 3 were also slightly altered;
- Phase 1A southern sheeting line was moved further south by approximately 8 feet or 2 pair of sheets to allow for efficient equipment access and mobility.

During the installation of tie back rods for the eastern wall of Phase 3 midway along the wall, a small amount of stained soils and NAPL in the groundwater were encountered approximately 6 feet below ground

surface. The stained soil was removed and placed inside the excavation support system of Phase 3. This soil was later disposed of during excavation and disposal of soil from Phase 3.

During remediation of the western plant area what is believed to have been a former storm sewer pipe from the plant site was identified during pre-remediation activities. The former storm sewer pipe was located across the Mill Race beyond the northern sheet boundary of Phase 1A. Per the direction of Earth Tech, the contractor broke the pipe open for inspection. Upon inspection, no MGP impacts or other materials (liquid or solid) were found in the pipe. The northern section of pipe was plugged with hydraulic cement and left in place. The southern portion of pipe leading back into the proposed sheet line was removed and disposed of off site. The remaining portion of pipe was later removed during excavation activities of Phase 1A and Phase 1B.

During sheeting and bracing installation, debris and obstructions were encountered (i.e. brick, concrete, steel pipe, and lumber). Debris and obstructions were removed by pre-excavating and spudding and staged within the sheeting system limits. This material was either processed on site with heavy equipment to meet the size specifications of the thermal treatment facility (i.e. brick, concrete) or segregated and loaded out for disposal as MGP impacted construction debris and shipped to Casie Protank or ESMI of NY. All MGP impacted construction debris (i.e. steel pipe and lumber) was placed in metal roll off containers and removed from the job site by Casie Protank and disposed of at their Vineland, NJ facility. A total of 83.92 tons of MGP impacted debris was disposed of at Casie Protank.

The Contractor performed vibration monitoring and crack monitoring on existing structures at the site. Two of the high mast light poles were monitored for plumbness through out the sheetpiling installation. Crack gauges were installed on existing cracks in the grandstand and vibration monitoring was performed at the grandstand when sheets were driven within 40 feet. No notifications were made to the Engineer regarding monitoring or potential disturbances to existing structures during sheetpile installation.

MGP impacted soil and sediment excavation was completed in four (4) phases of work respectively; Phase 1A, Phase 1B, Phase 2, and Phase 3. Excavation work for each phase was performed according to the Remedial Action Design Excavation Procedures.

Phase 1A consisted of the area in and along the Mill Race. The final excavation depth of the Phase 1A area was approximately 8 feet bgs. The NYSDEC requested that one additional confirmation sample (OGEXBM002) be collected and analyzed at the western end of the cell due to heavy contamination encountered during the excavation in this area.

Phase 1B was the western most excavation area located on site and encompassed the majority of a former 100,000 cubic foot distribution gas holder and surrounding area. The final excavation depth of Phase 1B was approximately 16 feet bgs. In addition to soil the gas holder foundation was removed and sent to one of ESMI's permitted thermal treatment facilities. During final excavation activities, Earth Tech observed a small area of a gravel lens located in the northeast quadrant of the Phase 1B. The NYSDEC confirmed no visible MGP impacts were present and confirmation samples (OGEXBM 009 and OGEXBM 010) were collected and analyzed. Bottom confirmation samples did not exceed project cleanup goals. This gravel lens could provide a preferential pathway through the silt/clay confining unit.

Phase 2 was the central cell and encompassed a former 28,000 cubic foot gas holder and a former 10,000 cubic foot gas holder in addition to the area surrounding both holders. The final excavation depth of Phase 2 was approximately 20 feet bgs. In addition to soil both former gas holder foundations and their contents were removed and A "drip pot" (a subsurface structure associated with the holder) containing tarry waste was also identified. The drip pot contents were blended with existing MGP impacted soils from the cell. The drip pot and associated steel piping was removed and placed in a roll off container from Casie Protank and disposed of at the Vineland, NJ facility. During the removal of sheeting from this area a decision was made to leave six pairs of steel sheets in place to protect the newly replaced light mast base.

Phase 3 was the eastern most area and encompasses the gas house, tar well and surrounding area. The final excavation depth of Phase 3 was approximately 20 feet deep bgs. In addition to soil the gas house foundation and tar well and its contents were sent to one of ESMI's permitted thermal treatment facilities. Remaining soils showed slight impact but had no significant staining or presents of NAPL.

A permeable wall was created along the southern portion of the west sheetpile wall and the entire length of the southern sheetpile wall. Approximately 500 cubic yards of washed, clean, round stone was placed to create a wall that was approximately 3 feet wide. Phase 1B was built from 16 feet below grade to 4 feet below grade or 12 feet high, Phase 2 was built from 20 feet below grade to 4 feet below grade or 16 feet high and Phase 3 was built from 20 feet below grade to 16 feet below grade or 4 feet high. The stone was wrapped in Mirafi 140N. The permeable wall will serve as an infiltration gallery to treat offsite MGP impacts. Figure 7 depicts the permeable wall and a profile of how wall was constructed.

A clay barrier approximately 10' wide and 10' high was constructed along the northern walls of Phase 1B, Phase 2 and Phase 3. This was constructed to create a low permeable barrier between the Mill Race and the site.

### **3.1.3 Off-site Purifier Waste Remediation Activities**

An off-site area in the park near the playground had been identified that contained traces of purifier waste (see Figure 6). On February 22, 2007, the area approximately 30 feet x 28 feet was excavated to a depth 2.5 feet bgs. The soil was directly loaded and sent to ESMI's Edward NY permitted thermal treatment facilities. Confirmation samples were collected and analyzed. The confirmation analytical results were non-detect for total cyanide. Orange construction fence was placed at the bottom the excavation as a demarcation layer and the area was backfilled. The excavation limits and confirmation samples were documented by Global Positioning System (GPS).

## **3.2 Groundwater, Storm Water and Wastewater Management**

### **3.2.1 EPA Groundwater, Storm Water and Wastewater Management**

During remediation of the EPA the original design did not include the on-site treatment and discharge of groundwater or storm water. Upon the initial excavation groundwater infiltration into the excavation area became an issue. The project was temporarily stopped to design a watertight sheetpiling excavation support system. The sheetpiling support system was installed around the perimeter of the excavation area.

Water from within the open excavation was pumped to on-site frac tank(s) for storage and eventual off-site disposal at Clean Harbors of Baltimore. See Appendix D for a summary of the water transported off-site.

### **3.2.2 WPA Groundwater, Storm Water and Wastewater Management**

The WPA remediation projects design included the installation of a 50 gallon per minute groundwater treatment plant. In order to meet the goals of the Remedial Action Design, a modular temporary water treatment system was constructed on site. Any groundwater, storm water, and wastewater generated during the duration of the project was stored and treated on site prior to discharge to the City of Oneonta, New York local POTW. The majority of water generated on site was from dewatering activities completed within the excavation support systems and groundwater infiltration. In addition, storm water run-off from contaminated areas, decontamination water and water from other miscellaneous sources were also generated.

A combination of watertight sheetpiling and dewatering activities greatly reduced and controlled the amount of groundwater and surface water run off from precipitation within the excavation areas. Any water that accumulated in work areas was pumped from work areas and treated for potential contaminants such as benzene, MGP constituents, total suspended solids (TSS), and total dissolved solids prior to off site discharge.

The modular temporary water treatment system was constructed, operated, and maintained according to the Remedial Action Design contract documents. A series of start-up effluent water samples were collected post treatment at 10,000 gallons, 25,000 gallons, and 40,000 gallons. All three start-up water samples meet the acceptance criteria of the City of Oneonta sanitary sewer. Additional effluent water samples were collected during normal operations of the treatment system for each week of the first month of operation and once per month thereafter. See Table 3 for a summary of water treatment system conformance sample results.

The initial treated water was stored until analytical results were reviewed and approved. If necessary, system changes or upgrades were implemented to maintain system performance. A total of 1,300,000 gallons of water were treated and discharged to the City of Oneonta.

The temporary water treatment system was manually operated and controlled through a series of valves, visual reading gauges, and pump controls. The Contractor maintained a daily operations log recording process variables and all O&M activities related to the treatment system.

### **3.3 MGP Impacted Soil, Sediment and Debris Transport and Disposal**

MGP impacted soil, sediment, and debris were transported in accordance with the NYSEG Specifications for the Transportation of Solid or Liquid Materials. All loads of material transported off the job site were accompanied by a Conditionally Exempt Manufactured Gas Plant Remediation Waste Manifest or a Non-hazardous Solid Waste Manifest signed by the project coordinator (NYSEG agent) and the driver. All transporters utilized during the project maintained current NYSDEC Waste Transporter Permits (6NYCRR

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Part 364). A material disposition log was prepared to document all loads of solid waste that are transported off-site and is provided in Appendix D.

Facility ID	EPA	WPA	Material Description
Seneca Meadows Waterloo NY	2523.74 tons	None	Soil - Minimal Staining
ESMI Fort Edward NY	9292.18 tons	43,698.07 tons	Soil - MGP Impacted
ESMI Loudon NH	None	5206.16 tons	Soil - MGP Impacted
ESMI Keasbey NJ	None	588.23 tons	Soil - MGP Impacted
Clean Harbors Baltimore MD	276,364 gallons	None	Waste Water
Casie Protank Vineland NJ	None	83.92 tons	Debris - wood and piping

### 3.3.1 EPA MGP Impacted Soil Transport and Disposal

The results of the pre-remediation analytical data for the EPA indicated that all soils were RCRA Non-Hazardous Waste and below 500 ppm PAHs. Soils that had minimal staining was sent to Seneca Meadows Landfill, Waterloo, NY a NYSDEC permitted facility. Soil that was stained and/or had an odor was sent to ESMI Fort Edward, NY a permitted thermal treatment facility. There was no MGP impacted debris (i.e., lumber and steel pipe) for the EPA.

### 3.3.2 WPA MGP Impacted Soil, Sediment and Debris Transport and Disposal

The results of the pre-remediation analytical data for the WPA indicated that all soil were either RCRA Non-Hazardous Waste or Conditionally Exempt MGP Remediation Waste. All soil and sediments from WPA was sent to ESMI permitted thermal treatment facilities at Fort Edwards NY, Loudon NH and Keasbey NJ. All MGP impacted debris (i.e., brick, concrete) from the WPA that meet the size specification of the treatment facility was also sent to ESMI. Any MGP impacted debris (i.e. lumber and steel pipe) from the WPA that did not meet the acceptance requirements of the treatment facility was loaded into roll off containers and sent to Casie Protank Vineland NJ for treatment and disposal.

### 3.4 Post Remediation Confirmation Sampling Results

All confirmation bottom samples were collected and analyzed in accordance with design documents.

STL Buffalo is a NYSDOH ELAP and CLP approved laboratory and all bottom soil sample result packages were provided as NYSDEC ASP Category B Deliverables. Earth Tech subcontracted Alpha Geoscience to conduct a validation of each Category B package and provide a Data Usability Summary Report (DUSR). Each analytical data package and its associated DUSR have been provided in an electronic format (CD) in Appendix E.

#### 3.4.1 EPA Post Remediation Confirmation Sampling Results

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In the EPA Arcadis/BBL and the onsite NYSDEC representative inspected the bottom of the excavation to confirm that no significant visible coal tar impacted soil was present. Once no significant visible coal tar impacts were identified, Arcadis/BBL collected confirmation bottom soil sample and document the location using GPS. Confirmation samples were taken every 900 square feet or on a 30 foot by 30 foot grid pattern within the excavated area. Samples were submitted to Severn Trent Laboratories (STL), Buffalo, New York for BTEX analysis by USEPA SW-8463 Method 8260 and Total PAH analysis by USEPA SW-8463 Method 8270. All samples results achieved the cleanup objectives. The results of the EPA bottom soil samples are provided in Table 1. The GPS sample locations and total results are shown in Figure 5.

### **3.4.2 WPA Post Remediation Confirmation Sampling Results**

In the WPA Earth Tech and the onsite NYSDEC representation inspected the bottom of each excavation to confirm that no significant visible coal tar impacted soil was present. Once no significant visible coal tar impacts were identified, Earth Tech collected confirmation bottom soil sample and document the location using GPS. Confirmation bottom soil samples every 900 square feet or on a 30 foot by 30 foot grid pattern within the excavated area. The NYSDEC requested that one additional confirmation sample (OGEXBM002) be collected and analyzed at the western end of the Phase 1A cell due to heavy contamination encountered during the excavation in this area. Samples were submitted to Severn Trent Laboratories (STL), Buffalo, New York for BTEX analysis by USEPA SW-8463 Method 8260, Total PAH analysis by USEPA SW-8463 Method 8270, and Total Lead and Mercury by USEPA SW-8463 Method 6010 and Method 7471 (respectively). Four out of the 43 bottom soil samples were submitted to STL Buffalo for full Target Compound List (TCL) volatile and semi-volatile compound analysis. The results of the WPA bottom soil samples are provided in Table 2. The GPS sample locations and total results are shown in Figure 5.

Thirteen confirmation samples, OGEX-BM-003, OGEX-BM-005, OGEX-BM-010, OGEX-BM-017, OGEX-BM-018, OGEX-BM-021, OGEX-BM-022, OGEX-BM-024, OGEX-BM-039, OGEX-BM-040, OGEX-BM-041, OGEX-BM-042, and OGEX-BM-043 exceeded site cleanup goals. OGEX-BM-021, OGEX-BM-040 and OGEX-BM-041 exceeded for both Total PAHs and BTEX. OGEX-BM-005 exceeded site cleanup goals for Total PAHs only. OGEX-BM-003, OGEX-BM-010, OGEX-BM-017, OGEX-BM-018, OGEX-BM-022, OGEX-BM-024, OGEX-BM-039, OGEX-BM-042, and OGEX-BM-043 exceeded site clean up goals for BTEX only. Although these samples exceeded the site clean up goals, there was no significant soil staining or presence of free phase NAPL which would have warranted additional excavation. In all cases the negotiated excavation depths were achieved.

### **3.4.3 Off-site Purifier Waste Post Remediation Confirmation Sampling Results**

In the off-site area in the park near the playground where traces of purifier waste had been identified Earth Tech and the onsite NYSDEC representation inspected the bottom of each excavation to confirm that no visible purifier waste was present. Once no significant visible purifier waste was identified, Earth Tech collected confirmation bottom soil sample and document the location using GPS. Samples were submitted to Severn Trent Laboratories (STL), Buffalo, New York for total cyanide USEPA SW 846 9012. The GPS sample locations and total results are shown in Figure 6.

### **3.5 Construction Equipment, Vehicles and Water Treatment System Decontamination**

#### **3.5.1 Equipment and Vehicle Decontamination**

The tires, tracks, undercarriages, and excavation buckets of all construction equipment (excavator, wheel loaders, dozer, etc.) and tools that entered the Exclusion Zone were decontaminated at the Equipment Contamination Reduction Pad prior to entering the Support Zone. Decontamination procedures included the physical/mechanical removal of material through the use of shovels, picks, rotary air hammer, and high-pressure washing. All equipment used for remediation activities were decontaminated prior to use in restoration activities or demobilization from the site.

Decontamination waste and soils were collected and disposed of with the MGP impacted soils. Decontamination water was also collected and pumped from sump to on site treatment system or shipped off-site for disposal.

#### **3.5.2 Water Treatment System Decontamination**

Various components of the water treatment system (i.e. influent storage tanks, oil/water separator, soil and sludge storage tanks, pumps) were decontaminated prior to dismantling and removal from the site. Decontamination procedures included removal of material through use of high pressure washing, soaps/degreasers/abrasives, brushes, and squeegees.

Decontamination waste generated from cleaning water treatment system components was liquefied and maintained within the component. Decontamination waste was pumped to excavation area where it was blended with drier MGP impacted soils and loaded out for disposal at the thermal treatment system.

### **4.0 RESTORATION**

All waste material generated during site restoration was disposed of in accordance with applicable regulations. All liners, polyethylene sheeting used to cover materials and personal protective equipment was characterized and disposed of appropriately.

#### **4.1 EPA Restoration**

The EPA excavation was filled with eleven feet of bank-run gravel from a NYSDOT source.. The fill material was placed in lifts and compacted as necessary. Then one foot of crusher-run from a quarry was placed and compacted.

#### **4.2 WPA Restoration**

Phase 1A was filled with eight feet of 4-8 inch cobbles, approximately 5,248 tons. Material provided by Seward Sand & Gravel and approved NYSDOT source. No analytical collected due to the material being of a bedrock source.

Phase 1B, Phase 2 and Phase 3

- A clay barrier approximately 10' wide and 10' high, approximately 2,482 tons, was constructed along the northern walls of Phase 1B, Phase 2 and Phase 3. Material provided by Seward Sand & Gravel. Analytical results have been provided in Appendix F. This was constructed to create a low permeable barrier between the Mill Race and the site.
- Clean soil stockpile staged from previous construction activities in the southeast corner of the park was placed at the bottom of the excavations. The clean soil was placed in lifts and compacted as necessary. Any remaining material or debris from this area was disposed of off-site at ESMI of NY.
- Then bank-run gravel from Seward Sand & Gravel a NYSDOT source was used to fill the remaining excavation approximately 30,018 tons. The bank-run gravel was placed in lifts and compacted as necessary.
- A permeable wall was created along the southern portion of the west sheetpile wall and the entire length of the southern sheetpile wall. Approximately 450 tons of #1 stone was placed to create a wall that was approximately 3 feet wide. Phase 1B was built from 16 feet below grade to 4 feet below grade or 12 feet high, Phase 2 was built from 20 feet below grade to 4 feet below grade or 16 feet high and Phase 3 was built from 20 feet below grade to 16 feet below grade or 4 feet high. The stone was wrapped in Mirafi 140N. The permeable wall will serve as an infiltration gallery to treat offsite MGP impacts. Figure 7 depicts the permeable wall and a profile of how wall was constructed.
- Site was graded to allow surface water to runoff toward the Mill Race. Geotextile fabric was placed over gravel and twelve inches approximately 950 tons of crusher run from Seward Sand & Gravel was placed over the fabric.
- Geotextile fabric and 1-3 feet of armor stone approximately 670 tons was placed on the southern bank of the Mill Race.

## 5.0 AIR QUALITY MONITORING PROGRAM

As part of the Remedial Action Design, an Air-Quality Monitoring Program was implemented during the duration of the project. The objective of this Air-Quality Monitoring Program was to provide direct measurement of Volatile Organic Compounds (VOCs) and total suspended particulates that could potentially be released during excavation, handling, and transportation of MGP site residues at the site. The air-quality monitoring program consist of one (1) Exclusion Zone air-monitoring for evaluating construction worker health and safety; and two (2) community air-monitoring to determine the levels of VOCs and total suspended particulates at the perimeter of the Exclusion Zone.

### 5.1 Exclusion Zone Air-Monitoring

The air quality within the Exclusion Zone, including inside transporter's trailer and/or roll-off container, was monitored by the Contractor to ensure worker health and safety in accordance with requirements specified



in 29 CRFR 1910.120 as described in the Health And Safety Plan For Oneonta Former Manufactured Gas Plant Site. Documentation of Exclusion Zone air-monitoring is maintained by the Contractor and is not provided as part of this certification report.

## **5.2 Community Air Monitoring**

The Community Air-Monitoring was conducted per the guidance and criteria provided in the New York State Department of Health Generic Community Air-monitoring Plan (CAMP) and the Remedial Action Design contract documents. The provisions included real-time air-monitoring for VOCs and particulates (i.e., dust) at the upwind and downwind perimeter of the Exclusion Zone. Real-time air-monitoring and speciated real-time data was used to guide appropriate actions to reduce/minimize air emissions to acceptable levels.

On a daily basis, the air monitoring equipment is calibrated for total VOCs and total Suspended Particulate. Air monitors for each parameter were set out upwind and downwind at the Exclusion Zone limits and programmed to log data continuously at 15 minute intervals. To supplement real-time VOC monitoring, upwind and downwind air samples were collected periodically in a Tedlar Bag and analyzed on a field gas chromatograph (GC) to confirm real-time concentrations.

Daily Community Air Monitoring Reports were maintained recording real-time air monitoring concentrations, site conditions, work activities, and periodic weather conditions from an on site weather station. All information was correlated to determine compliance with action levels identified in the Remedial Action Design contract document. Daily Community Air Monitoring Reports were provided on a weekly basis to the NYSDOH, NYSDEC, and NYSEG. Copies of these reports and electronic real-time data have also been provided in Appendix F.

### **5.2.1 Odor Monitoring Plan**

The nature of manufactured gas plant site residues pose a concern regarding the generation of nuisance odors during excavation and material handling. As such, an odor control and monitoring plan was implemented as part of the project. If an odor complaint from a resident occurred they would speak with the NYSEG project coordinator or the NYSDEC on-site representative. An 800 number was also established to register an odor complaint to NYSEG. If a complaint was registered by the NYSEG customer service representative, the NYSEG customer service representative would contact NYSEG project manager. The NYSEG project manager would document the caller's concern and contact the appropriate project team members who will assess the reason for concern and apply the appropriate engineering controls. No such complaints were filed in this manner over the course of the project.

One odor complaint was received by the NYSDEC at the end of February 2007. The basis of the complaint was only provided verbally. Based on the fact that the complaint was referencing an alleged odor complaint a few months earlier there was no action to be taken.

If site personnel detected odor or a complaint is received, engineering controls would be implemented, as outlined in the Vapor Emission Response Plan from the Remedial Action Design document, to reduce odor-causing emissions. Once odors become non-discernable, normal operations would resume. This determination will be subject to the approval of the on-site NYSDEC representative. If in the opinion of NYSDEC on-site representative the concentration of the site related odors are unacceptable, the NYSDEC on-site representative would instruct the NYSEG project coordinator to implement odor control measures.

## **5.2.2 Real-Time Air-monitoring – Total Suspended Particulates**

In conjunction with the real-time volatile emission monitoring, direct-reading monitoring equipment for particulate matter was used to collect real-time airborne particulate data on an every 15-minute basis. The instrument used for this sampling was a personal DataRAM™ (field modified for active sampling) or the Thermo Andersen ADR-1200S Ambient Particulate Monitoring System both of which operate on the principle of light scattering. Both units respond to particles in the size range of 0.1 to 10 micrometers and in the concentration range of 0.01 to 400 mg/M<sup>3</sup>. Particulate measurements were based on a 30-second, time-weighted average. The personal DataRAM™ was calibrated daily with a filtered air sample. Record measurements at the upwind and downwind monitoring locations were logged every 15-minutes. Equivalent back-up real-time air-monitoring equipment was available on-site in the event of an equipment malfunction.

The New York State Department of Health Generic Community Air-monitoring Plan recommended action level of 0.15 mg/M<sup>3</sup> for particulate matter less than 10 micrometers in size (PM-10) above background was used to determine whether modifications to given processes were required. If the downwind particulate measurement of less than 10 micrometers in size (PM-10) is greater than 0.15 mg/M<sup>3</sup> above the upwind background level, or if dust is observed leaving the project area, dust suppression techniques (i.e., misting surfaces with water or covering open piles) would be implemented to reduce the generation of fugitive dust. If the action level of 0.15 mg/M<sup>3</sup> (above background) is exceeded, the NYSEG project manager and NYSDEC on-site representative would be notified.

The NYSEG project manager will notify the Division of Air Resources in writing within five working days in accordance with NYSDEC Technical and Administrative Guidance Memorandum (TAGM): Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites, October 1989).

On April 2, 2007 a dust exceedance occurred at one of the perimeter monitors. After further investigation the results of the exceedance could not be confirmed. Based on the investigation there appeared to be a number of contributing factors, including mist from Bio-Solve application, steam from Lime addition and dust from vehicle traffic. In compliance with the notification process the Division of Air Resources and the NYSDOH were notified in writing. A copy of the letter is provided in Appendix G.

## **6.0 DEVIATIONS FROM REMEDIAL DESIGN WORK PLANS**

- The EPA remediation project was temporarily stopped to design a watertight sheetpiling excavation support system due to the amount of water encountered during open excavation activities. The sheetpiling support system was installed around the perimeter of the excavation area.

- The WPA a clay barrier approximately 10' wide and 10' high was constructed along the northern walls of Phase 1B, Phase 2 and Phase 3. This was constructed to create a low permeable barrier between the Mill Race and the site.
- The WPA a permeable wall was created along the southern portion of the west sheetpile wall and the entire length of the southern sheetpile wall. Approximately 500 cubic yards of washed, clean, round stone was placed to create a wall that was approximately 3 feet wide. Phase 1B was built from 16 feet below grade to 4 feet below grade or 12 feet high, Phase 2 was built from 20 feet below grade to 4 feet below grade or 16 feet high and Phase 3 was built from 20 feet below grade to 16 feet below grade or 4 feet high. The stone was wrapped in Mirafi 140N. The permeable wall will serve as an infiltration gallery to treat offsite MGP impacts. Figure 7 depicts the permeable wall and a profile of how wall was constructed.
- The WPA geotextile fabric 1-3 foot armor stone was placed on the southern bank of the Mill Race.
- An off-site area in the park near the playground had been identified that contained traces of purifier waste (see Figure 6). On February 22, 2007, the area approximately 30 feet x 28 feet was excavated to a depth 2.5 feet bgs. The soil was directly loaded and sent to ESMI's Edward NY permitted thermal treatment facilities. Confirmation samples were collected and analyzed. The confirmation analytical results were non detect for total cyanide. Orange construction fence was placed at the bottom the excavation as a demarcation layer and the area was backfilled. The excavation limits and confirmation samples were documented by Global Positioning System (GPS).

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## **TABLES**

TABLE 1

NYSEG - ONEONTA, NY  
EASTERN PLANT AREA  
POST EXCAVATION ANALYTICAL SUMMARY

Lab Name: STL - Buffalo  
Customer: New York State Electric & Gas

Client Sample	OGEX-BM-12004	OGEX-BM-12005	OGEX-BM-12006	OGEX-BM-12007	OGEX-BM-12008	OGEX-BM-12009	OGEX-BM-12010	OGEX-BM-12011	OGEX-BM-12012
Lab Sample	A5E60001	A5E60003	A6005101	A6005102	A6005103	A6034401	A6034402	A6034403	A6034404
Date Sampled	12/20/2005	12/22/2005	12/29/2005	12/30/2005	1/3/2006	1/4/2006	1/6/2006	1/9/2006	1/9/2006

METHOD 8270 - PAHs (SOIL) UG/KG									
ACENAPHTHENE	950	360	1800	5500	120	350	67	96	370
ACENAPHTHYLENE	250	360	1800	1400	1800	350	31	1800	370
ANTHRACENE	790	360	1800	4800	1800	21	79	1800	370
BENZO(A)ANTHRACENE	450	360	180	2900	110	36	79	93	370
BENZO(B)FLUORANTHENE	540	22	250	2200	100	24	77	1800	370
BENZO(K)FLUORANTHENE	550	23	100	780	1800	350	90	1800	370
BENZO(GH)PERYLENE	260	360	110	1600	100	24	43	1800	370
BENZO(A)PYRENE	380	360	110	2400	95	25	57	1800	370
CHRYSENE	400	360	220	2000	150	23	67	1800	370
DIBENZO(A,H)ANTHRACENE	63	360	1800	430	1800	350	350	1800	370
FLUORANTHENE	1700	41	380	4800	230	86	140	190	370
FLUORENE	680	360	130	3500	95	350	46	1800	370
INDENO(1,2,3-CD)PYRENE	210	360	110	1300	110	350	31	1800	370
2-METHYLNAPHTHALENE	490	19	1800	2700	200	350	350	1800	370
NAPHTHALENE	610	29	280	2500	280	350	19	120	370
PHENANTHRENE	2200	50	560	9100	410	30	82	200	370
PYRENE	1600	40	490	6500	370	120	190	270	370
DIBENZOFURAN	170	360	1800	580	1800	350	350	1800	370
TOTAL PAHS	12293	224	2920	6090	2370	389	1098	969	0

METHOD 8260 - TCL VOLATILE ORGANICS (SOIL) UG/KG									
ACETONE									43
BENZENE	6	5	85	2	66	5	5	80	6
ETHYLBENZENE	18	9	680	9	140	5	5	17	6
TOLUENE	2	2	500	3	7	5	5	35	2
TOTAL XYLENES	30	15	5800	40	160	16	16	99	17
BTEX	56	31	7065	54	373	0	0	231	2

NOTES:  
U - Non detect at or below method detection limits.  
J - Estimated value and reported with a higher level of uncertainty.  
D- Concentration reported from laboratory diluted sample

TABLE 1

NYSEG - ONEONTA, NY  
EASTERN PLANT AREA  
POST EXCAVATION ANALYTICAL SUMMARY

Lab Name: STL - Buffalo  
Customer: New York State Electric & Gas

Client Sample	OGEX-BM-12013	OGEX-BM-12014	OGEX-BM-12015	OGEX-BM-14017	OGEX-SW-03018	OGEX-SW-07019	OGEX-BM-12020
Lab Sample	A6057601	A6057602	A6057603	A6092001	A6090701	A6090702	A6092002
Date Sampled	1/11/2006	1/12/2006	1/13/2006	1/20/2006	1/23/2006	1/23/2006	1/24/2006

METHOD 8270 - PAHs (SOIL) UG/KG							
ACENAPHTHENE	380	J	360	U	240	J	11000
ACENAPHTHYLENE	840	J	360	U	68	J	2400
ANTHRACENE	440	J	360	U	250	J	7100
BENZO(A)ANTHRACENE	1100	J	360	U	220	J	4300
BENZO(B)FLUORANTHENE	1300	J	360	U	130	J	3200
BENZO(K)FLUORANTHENE	460	J	360	U	51	J	1100
BENZO(GH)PERYLENE	1100	J	360	U	120	J	2200
BENZO(A)PYRENE	1400	J	360	U	140	J	3900
CHRYSENE	1200	J	360	U	200	J	3800
DIBENZO(A,H)ANTHRACENE	220	J	360	U	29	J	450
FLUORANTHENE	1700	J	360	U	400	J	9800
FLUORENE	180	J	360	U	190	J	6600
INDENO(1,2,3-CD)PYRENE	840	J	360	U	77	J	1500
2-METHYLNAPHTHALENE	1800	U	360	U	63	J	5300
NAPHTHALENE	1800	U	360	U	94	J	13000
PHENANTHRENE	760	J	360	U	840	J	24000
PYRENE	2400	J	360	U	690	J	13000
DIBENZOFURAN	1800	U	360	U	19	J	570
TOTAL PAHS	14320	0	3821	113220	346100	240460	4916

METHOD 8260 - TCL VOLATILE ORGANICS (SOIL) UG/KG							
ACETONE							
BENZENE	5	U	5	U	5	U	31
ETHYLBENZENE	1	J	5	U	24	D	530
TOLUENE	5	U	5	U	5	J	20
TOTAL XYLENES	16	U	16	UJ	25	D	1200
BTEX	1	0	49	1781	38	233	964

NOTES:  
U - Non detect at or below method detection limits.  
J - Estimated value and reported with a higher level of uncertainty.  
D- Concentration reported from laboratory diluted sample

TABLE 2  
NYSEG - ONEONTA, NY  
WESTERN PLANT AREA  
POST EXCAVATION ANALYTICAL SUMMARY

Lab Name: STL - Buffalo  
Customer: New York State Electric & Gas

Client Sample	OGEXBM001	OGEXBM002	OGEXBM003	OGEXBM004	OGEXBM 005	OGEXBM 006	OGEXBM 007	OGEXBM 008	OGEXBM 009
Lab Sample	(a.k.a Area 1A 001 BM) A6C23101	(a.k.a Area 1A 002 BM) A6C23102	A6D09201	A6D09202	A6D31901	A6D31902	A6D31903	A6D31904	A6D31905
Date Sampled	10/16/2006	10/17/2006	11/3/2006	11/3/2006	11/8/2006	11/8/2006	11/8/2006	11/8/2006	11/8/2006

METHOD 8270 - PAHs (SOIL) UG/KG									
ACENAPHTHENE	85	280	22000	680	24000	860	2600	2000	26000
ACENAPHTHYLENE	380	76	6000	1200	170000	910	5600	340	14000
ANTHRACENE	70	62	13000	1100	88000	1000	3800	1200	23000
BENZO(A)ANTHRACENE	93	48	6300	520	39000	690	2400	680	10000
BENZO(B)FLUORANTHENE	120	34	5000	330	30000	590	1900	400	8600
BENZO(K)FLUORANTHENE	120	400	2000	110	3800	380	370	380	3400
BENZO(GH)PERYLENE	52	20	2500	200	14000	350	880	190	3800
BENZO(A)PYRENE	70	32	4600	380	29000	540	1800	400	8100
CHRYSENE	78	35	4700	400	28000	570	1700	670	7800
DIBENZO(A,H)ANTHRACENE	380	400	580	45	4000	92	250	65	1100
FLUORANTHENE	250	82	14000	1200	97000	1200	4400	1400	21000
FLUORENE	72	130	13000	1100	100000	870	4100	1000	21000
INDENO(1,2,3-CD)PYRENE	41	400	1900	140	12000	270	750	140	3300
2-METHYLNAPHTHALENE	97	550	49000	2500	350000	1300	16000	980	50000
NAPHTHALENE	190	1300	73000	4100	640000	2900	28000	1300	66000
PHENANTHRENE	300	220	42000	3400	280000	3100	16000	3800	63000
PYRENE	240	110	17000	1500	130000	1800	5600	2000	27000
DIBENZO(FURAN	19	33	2700	220	18000	170	900	210	5500
TOTAL PAHs	1897	3012	277280	19125	2053000	17212	96680	15475	359200

METHOD 8260 - TCL VOLATILE ORGANICS (SOIL) UG/KG									
ACETONE	15	J	290	450	36	510	150	130	13
BENZENE	54	J	5700	1300	290	1900	1900	760	370
ETHYLBENZENE	100		530	160	200	180	920	ND	100
TOLUENE	ND	B	6300	1100	340	1400	2600	810	470
TOTAL XYLENES	68	J							
BTEX	222	788	12820	3010	866	3990	5570	1700	953
TOTAL METALS (SOIL) MG/KG									
LEAD, TOTAL	27.7	10.9	7.7	J	15.4	11.7	41.2	12.6	10.8
MERCURY, TOTAL	0.027	0.021	0.019	U	0.026	0.024	0.023	0.025	0.02

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B - anlyte found in associated blank as well as the sample

TABLE 2

NYSEG - ONEONTA, NY  
WESTERN PLANT AREA  
POST EXCAVATION ANALYTICAL SUMMARY

Lab Name: STL - Buffalo  
Customer: New York State Electric & Gas

Client Sample	OGEXBM010	OGEXBM011	OGEXBM012	OGEXBM013	OGEXBM014	OGEXBM015	OGEXBM016	OGEXBM017	OGEXBM018
Lab Sample	A6D31906	A6D78001	A6D78002	A6D84901	A6D84902DL	A6D84903	A6E41902	A6E41901	A7133201
Date Sampled	11/8/2006	11/15/2006	11/15/2006	11/17/2006	11/17/2006	11/17/2006	11/30/2006	11/30/2006	2/8/2007
METHOD 8270 - PAHs (SOIL) UG/KG									
ACENAPHTHENE	15000	29000	330	1800	2000	420	680	210	2000
ACENAPHTHYLENE	9600	20000	540	3700	980	150	88	210	4400
ANTHRACENE	11000	22000	580	3500	2300	420	66	330	3100
BENZO(A)ANTHRACENE	6600	14000	420	2600	1800	180	82	340	1800
BENZO(B)FLUORANTHENE	5800	11000	350	2700	1400	170	84	250	1100
BENZO(K)FLUORANTHENE	1900	8500	400	2000	770	390	26	87	340
BENZO(GHI)PERYLENE	3100	6000	200	1400	730	94	70	200	670
BENZO(A)PYRENE	5800	10000	330	2300	1400	150	100	320	1300
CHRYSENE	5400	11000	330	2300	1400	160	65	300	1200
DIBENZO(A,H)ANTHRACENE	770	1200	46	320	170	390	410	42	160
FLUORANTHENE	14000	28000	770	4800	3300	430	140	710	3700
FLUORENE	12000	24000	470	2900	1600	330	100	380	3300
INDENO(1,2,3-CD)PYRENE	2400	4500	150	1000	540	62	52	140	530
2-METHYLNAPHTHALENE	36000	66000	940	8300	1200	680	1400	210	13000
NAPHTHALENE	64000	100000	3600	14000	3400	1800	5900	710	21000
PHENANTHRENE	42000	87000	1800	11000	5800	1200	190	1500	13000
PYRENE	19000	43000	1300	7600	4900	670	220	1100	5100
DIBENZOFURAN	2300	3600	70	580	250	73	410	32	670
TOTAL PAHS	254770	480300	12226	70800	33170	6989	9263	7071	76370
METHOD 8260 - TCL VOLATILE ORGANICS (SOIL) UG/KG									
ACETONE								10	
BENZENE	980	170	260	74	410	180	1100	D	470
ETHYLBENZENE	7800	890	270	54	450	180	270	DJ	3400
TOLUENE	2500	200	170	11	140	20	90	D	3300
TOTAL XYLENES	8900	2400	700	160	1300	280	990	J	8100
BTEX	20180	3660	1400	299	2300	660	2450	42960	15270
TOTAL METALS (SOIL) MG/KG									
LEAD, TOTAL	14.8	10.4	13.1	12.5	11.7	12.4	11.6	14.4	11.2
MERCURY, TOTAL	0.021	0.044	0.021	0.018	0.022	0.021	0.023	0.021	0.022
	U		U	U	U	U	U		U

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TABLE 2

NYSEG - ONEONTA, NY  
WESTERN PLANT AREA  
POST EXCAVATION ANALYTICAL SUMMARY

Lab Name: STL - Buffalo  
Customer: New York State Electric & Gas

Client Sample	OGEXBM019	OGEXBM020	OGEXBM021	OGEXBM022	OGEXBM023	OGEXBM024	OGEXBM025	OGEXBM026	OGEXBM027	OGEXBM028
Lab Sample	A7133202	A7147701	A7147702	A7170801	A7170802	A7191601	A7191602	A7197101	A7197102	A7220201
Date Sampled	2/8/2007	2/12/2007	2/12/2007	2/21/2007	2/21/2007	2/28/2007	2/28/2007	3/2/2007	3/2/2007	3/6/2007

METHOD 8270 - PAHs (SOIL) UG/KG										
ACENAPHTHENE	410	400	13000	1100	59	7200	1300	7000	650	140
ACENAPHTHYLENE	530	63	130000	2500	660	29000	1900	14000	830	110
ANTHRACENE	480	39	47000	1700	110	15000	1300	9100	540	98
BENZO(A)ANTHRACENE	330	32	24000	1000	70	8000	860	4900	300	63
BENZO(B)FLUORANTHENE	200	400	15000	720	44	6300	650	4000	240	45
BENZO(K)FLUORANTHENE	80	400	4400	250	19	2100	2000	2100	430	390
BENZO(GHI)PERYLENE	130	400	8300	460	26	3300	360	1400	79	22
BENZO(A)PYRENE	240	21	17000	820	49	6000	640	3800	210	38
CHRYSENE	250	21	17000	790	53	5600	630	4000	230	43
DIBENZO(A,H)ANTHRACENE	32	400	2200	100	460	840	95	400	23	390
FLUORANTHENE	670	49	49000	2100	130	16000	1600	11000	570	110
FLUORENE	510	38	51000	1900	140	16000	1600	9800	580	120
INDENO(1,2,3-CD)PYRENE	100	400	6700	350	19	2500	48	1100	63	19
2-METHYLNAPHTHALENE	1300	160	280000	6200	660	69000	4000	37000	2200	480
NAPHTHALENE	2000	940	610000	9300	12000	130000	5500	78000	5300	910
PHENANTHRENE	1700	140	190000	5800	380	52000	4400	32000	1800	320
PYRENE	920	76	87000	2900	170	23000	2200	14000	760	150
DIBENZOFURAN	100	400	12000	430	34	3800	340	2100	140	25
TOTAL PAHS	9982	1579	1563600	38420	14623	393540	27423	233600	14515	2693

METHOD 8260 - TCL VOLATILE ORGANICS (SOIL) UG/KG										
ACETONE										
BENZENE	27	3	880	930	220	3300	1600	1000	1100	ND
ETHYLBENZENE	90	ND	9500	3400	1200	20000	3400	2400	3100	ND
TOLUENE	73	4	8400	2900	120	12000	1200	1800	590	ND
TOTAL XYLENES	160	8	14000	5500	1600	26000	3700	2800	1900	ND
BTEX	350	15	32780	12730	3140	61300	9900	8000	6690	0
TOTAL METALS (SOIL) MG/KG										
LEAD, TOTAL	11.6	8.8	12.5	10.8	18.3	17.4	13	10.3	13.1	10.2
MERCURY, TOTAL	0.019	0.02	0.041	0.02	0.024	0.03	0.021	0.021	0.022	0.02

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TABLE 2

NYSEG - ONEONTA, NY  
WESTERN PLANT AREA  
POST EXCAVATION ANALYTICAL SUMMARY

Lab Name: STL - Buffalo  
Customer: New York State Electric & Gas

Client Sample	OGEXBM029	OGEXBM30	OGEXBM31	OGEXBM32	OGEXBM33	OGEXBM034	OGEXBM035	OGEXBM036	OGEXBM037
Lab Sample	A7220202	A7380401	A7380402	A7380403	A7380404	A7417401	A7417402	A7417403	A7417404
Date Sampled	3/8/2007	4/10/2007	4/10/2007	4/12/2007	4/12/2007	4/16/2007	4/16/2007	4/18/2007	4/18/2007

METHOD 8270 - PAHs (SOIL) UG/KG									
ACENAPHTHENE	2500	710	47	52	2000	41	200	830	81
ACENAPHTHYLENE	6700	120	12	11	320	10	41	150	170
ANTHRACENE	4000	580	36	27	1700	29	140	290	120
BENZO(A)ANTHRACENE	2400	390	37	26	920	32	110	110	78
BENZO(B)FLUORANTHENE	1900	330	25	21	770	17	61	78	58
BENZO(K)FLUORANTHENE	2000	510	410	390	410	200	25	210	210
BENZO(GH)PERYLENE	890	200	19	13	410	13	47	41	26
BENZO(A)PYRENE	1700	320	29	18	750	24	84	75	52
CHRYSENE	1800	330	24	17	740	19	80	85	56
DIBENZO(A,H)ANTHRACENE	240	45	410	390	92	200	9	12	210
FLUORANTHENE	4700	820	66	42	2000	52	220	220	140
FLUORENE	4400	420	24	24	1000	16	100	380	130
INDENO(1,2,3-CD)PYRENE	740	150	14	9	300	9	32	28	21
2-METHYLNAPHTHALENE	15000	820	49	96	2300	28	220	1400	340
NAPHTHALENE	24000	1100	130	200	3500	82	400	2500	490
PHENANTHRENE	13000	1900	160	110	4900	120	540	1200	440
PYRENE	6200	1100	94	62	2700	77	350	310	220
DIBENZO-FURAN	940	61	410	390	160	200	12	89	42
TOTAL PAHs	91110	9396	766	728	24562	569	2671	7798	2464

METHOD 8260 - TCL VOLATILE ORGANICS (SOIL) UG/KG									
ACETONE									
BENZENE	ND	8	ND	ND	39	3	ND	45	110
ETHYLBENZENE	300	480	4	ND	1300	ND	42	150	2100
TOLUENE	ND	22	ND	ND	52	2	2	140	1400
TOTAL XYLENES	430	550	ND	ND	1300	10	79	180	2900
BTEX	730	1060	4	0	2691	15	123	515	6510
TOTAL METALS (SOIL) MG/KG									
LEAD, TOTAL	10.2	24.9	18	9.4	19.1	9.6	9.9	9.5	9.3
MERCURY, TOTAL	0.022	0.032	0.022	0.022	0.038	0.021	0.023	0.021	0.022

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TABLE 2  
NYSEG - ONEONTA, NY  
WESTERN PLANT AREA  
POST EXCAVATION ANALYTICAL SUMMARY

Lab Name: STL - Buffalo  
Customer: New York State Electric & Gas

Client Sample	OGEXBM038	OGEXBM039	OGEXBM040	OGEXBM041	OGEXBM042	OGEXBM043
Lab Sample	A7417405	A7417406	A7441901	A7441902	A7441903	A7441904
Date Sampled	4/20/2007	4/20/2007	4/23/2007	4/23/2007	4/24/2007	4/24/2007

METHOD 8270 - PAHs (SOIL) UG/KG						
ACENAPHTHENE	500	1100	32000	150000	3400	2400
ACENAPHTHYLENE	720	1100	120000	640000	13000	1600
ANTHRACENE	120	810	52000	260000	9600	13000
BENZO(A)ANTHRACENE	86	440	28000	60000	22000	9900
BENZO(B)FLUORANTHENE	67	230	17000	100000	23000	6200
BENZO(K)FLUORANTHENE	200	100	5500	2200	10000	2400
BENZO(GH)PERYLENE	30	140	11000	53000	12000	1200
BENZO(A)PYRENE	57	290	20000	120000	18000	2200
CHRYSENE	61	290	21000	45000	19000	2400
DIBENZO(A,H)ANTHRACENE	8	36	2800	15000	3600	310
FLUORANTHENE	160	820	51000	260000	39000	10000
FLUORENE	250	1000	59000	340000	5000	2400
INDENO(1,2,3-CD)PYRENE	22	110	8700	46000	11000	1200
2-METHYLNAPHTHALENE	2200	4200	310000	1600000	3000	1800
NAPHTHALENE	3400	6500	560000	3100000	21000	3400
PHENANTHRENE	490	3000	200000	270000	28000	3600
PYRENE	230	1100	60000	320000	29000	4800
DIBENZO(FURAN	47	280	13000	62000	2900	2400
TOTAL PAHs	8448	21546	1571000	7441000	251500	59210

METHOD 8260 - TCL VOLATILE ORGANICS (SOIL) UG/KG						
ACETONE	130					
BENZENE	260	U				
ETHYLBENZENE	730					
TOLUENE	120					
TOTAL XYLENES	590					
BTEX	1700					
		5170000	63800	466000	70700	588000
TOTAL METALS (SOIL) MG/KG						
LEAD, TOTAL	9.5	9.5	10.2	12.8	16.4	14.2
MERCURY, TOTAL	0.022	0.021	0.02	0.023	0.03	0.024

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TABLE 3  
NYS/EG - ONEONTA, NY  
WESTERN PLANT AREA  
TREATED GROUNDWATER SAMPLING RESULTS

Lab Name: STL - Buffalo				System Start Up				Discharge to POTW									
Client Sample ID Totalizer Reading Lab Sample ID Date Sampled				SYSTEM EFF 10K gallon A6B97501 10/12/2006	SYSTEM EFF 25K gallon A6C21401 10/18/2006	SYSTEM EFF 40K gallon A6C63101 10/25/2006	SYSTEM EFF (WD) 232K gallon A6C99501 11/2/2006	SYSTEM EFF(WD) 433K gallon A6D39001 11/9/2006	SYSTEM EFF WEEK 2 Not Recorded A6D78301 11/16/2007	SYSTEM EFF (WD) 528K gallon A6E39101 11/30/2007	SYSTEM EFF (WD) 537K gallon A7025501 1/9/2007	SYSTEM EFF 660K gallon A7175601 2/23/2007	SYSTEM EFF (WD) 761K gallon A7290401 3/26/2007	SYSTEM EFF 952K gallon A7350001 4/9/2007			
METHOD 624 - PRIORITY POLLUTANT VOLATILES (AQUEOUS) UG/L	1,1,1-TRICHLOROETHANE	50	U	5	U	5	U	5	U	5	U	5	U	5			
	1,1,2,2-TETRACHLOROETHANE	50	U	5	U	5	U	5	U	5	U	5	U	5			
	1,1,2-TRICHLOROETHANE	50	U	5	U	5	U	5	U	5	U	5	U	5			
	1,1-DICHLOROETHANE	50	U	5	U	5	U	5	U	5	U	5	U	5			
	1,1-DICHLOROETHYLENE	50	U	5	U	5	U	5	U	5	U	5	U	5			
	1,2-DICHLOROETHYLENE	50	U	5	U	5	U	5	U	5	U	5	U	5			
	1,2-DICHLOROETHANE	50	U	5	U	5	U	5	U	5	U	5	U	5			
	1,2 DICHLOROETHENE (TOTAL)	50	U	5	U	5	U	5	U	5	U	5	U	5			
	1,2 DICHLOROETHANE (TOTAL)	50	U	5	U	5	U	5	U	5	U	5	U	5			
	1,2-DICHLOROPROPANE	50	U	5	U	5	U	5	U	5	U	5	U	5			
	1,3-DICHLOROBENZENE	50	U	5	U	5	U	5	U	5	U	5	U	5			
	1,4-DICHLOROBENZENE	50	U	5	U	5	U	5	U	5	U	5	U	5			
	2-CHLOROETHYL VINYL ETHER	50	U	5	U	5	U	5	U	5	U	5	U	5			
	ACROLEIN	50	U	5	U	5	U	5	U	5	U	5	U	5			
	ACRYLONITRILE	50	U	5	U	5	U	5	U	5	U	5	U	5			
	BENZENE	50	U	5	U	5	U	5	U	5	U	5	U	5			
	DICHLOROBROMOMETHANE	50	U	5	U	5	U	5	U	5	U	5	U	5			
	BROMOFORM	50	U	5	U	5	U	5	U	5	U	5	U	5			
	METHYLBROMIDE	50	U	5	U	5	U	5	U	5	U	5	U	5			
	CARBON TETRACHLORIDE	50	U	5	U	5	U	5	U	5	U	5	U	5			
	CHLOROBENZENE	10	U	5	U	5	U	5	U	5	U	5	U	5			
	CHLOROETHANE	10	U	5	U	5	U	5	U	5	U	5	U	5			
	CHLOROFORM	100	U	5	U	5	U	5	U	5	U	5	U	5			
	CHLOROMETHANE	100	U	5	U	5	U	5	U	5	U	5	U	5			
	CIS-1,3-DICHLOROPROPENE	5	U	5	U	5	U	5	U	5	U	5	U	5			
	CHLORODIBROMOMETHANE	5	U	5	U	5	U	5	U	5	U	5	U	5			
	ETHYLBENZENE	5	U	5	U	5	U	5	U	5	U	5	U	5			
	METHYLENE CHLORIDE	5	U	5	U	5	U	5	U	5	U	5	U	5			
	TETRACHLOROETHENE	5	U	5	U	5	U	5	U	5	U	5	U	5			
	TOLUENE	5	U	5	U	5	U	5	U	5	U	5	U	5			
	TRANS-1,3-DICHLOROPROPENE	5	U	5	U	5	U	5	U	5	U	5	U	5			
	TRICHLOROETHENE	5	U	5	U	5	U	5	U	5	U	5	U	5			
	TRICHLOROFLUOROMETHANE	5	U	5	U	5	U	5	U	5	U	5	U	5			
	VINYL CHLORIDE	5	U	5	U	5	U	5	U	5	U	5	U	5			
TOTAL XYLENES	5	U	5	U	5	U	5	U	5	U	5	U	5				
15																	
METHOD 625 - P.P. BASE NEUTRAL/ACID EXTRACTABLES (AQUEOUS) UG/L	1,2,4-TRICHLOROBENZENE	0.12	U	0.12	U	0.12	U	0.13	U	0.13	U	0.13	U	0.13			
	1,2-DICHLOROBENZENE	0.036	U	0.036	U	0.037	U	0.037	U	0.037	U	0.037	U	0.037			
	1,2-DIPHENYLDIAZINE (as AZOBENZENE)	0.029	U	0.029	U	0.029	U	0.029	U	0.029	U	0.029	U	0.029			
	1,3-DICHLOROBENZENE	0.066	U	0.066	U	0.066	U	0.067	U	0.067	U	0.067	U	0.067			
	1,4-DICHLOROBENZENE	0.085	U	0.085	U	0.086	U	0.087	U	0.087	U	0.087	U	0.087			
	BIS(2-CHLOROISOPROPYL) ETHER	0.082	U	0.082	U	0.083	U	0.083	U	0.083	U	0.083	U	0.083			
	2,4,6-TRICHLOROPHENOL	0.9	U	0.9	U	0.91	U	0.91	U	0.91	U	0.91	U	0.91			
	2,4-DICHLOROPHENOL	0.064	U	0.064	U	0.064	U	0.066	U	0.066	U	0.066	U	0.066			
	2,4-DIMETHYLPHENOL	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.32	U	0.13			
	2,4-DINITROPHENOL	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U	1.7			
	2,4-DINITROTOLUENE	0.7	U	0.7	U	0.7	U	0.72	U	0.72	U	0.72	U	0.72			
	2,6-DINITROTOLUENE	0.27	U	0.27	U	0.27	U	0.27	U	0.27	U	0.27	U	0.27			
	2-CHLORONAPHTHALENE	0.064	U	0.064	U	0.064	U	0.066	U	0.066	U	0.066	U	0.066			
	2-CHLOROPHENOL	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U	0.15			
	2-NITROPHENOL	0.045	U	0.045	U	0.045	U	0.045	U	0.045	U	0.045	U	0.045			
	3,3-DICHLOROBENZIDINE	0.077	U	0.077	U	0.077	U	0.078	U	0.078	U	0.078	U	0.078			
	4,6-DINITRO-O-CRESOL	4.8	U	4.8	U	4.8	U	4.8	U	4.9	U	4.9	U	4.9			
	4-BROMOPHENYL PHENYL ETHER	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	0.11			
	4-CHLORO-3-METHYLPHENOL	0.036	U	0.036	U	0.036	U	0.036	U	0.037	U	0.037	U	0.037			
	4-CHLOROPHENYL PHENYL ETHER	0.088	U	0.088	U	0.088	U	0.088	U	0.089	U	0.089	U	0.089			
	4-NITROPHENOL	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U	1.3			
	ACENAPHTHENE	0.087	U	0.087	U	0.087	U	0.088	U	0.088	U	0.088	U	0.088			
	ACENAPHTHYLENE	0.034	U	0.034	U	0.034	U	0.033	U	0.033	U	0.058	U	0.12			
	ANTHRACENE	0.05	U	0.05	U	0.05	U	0.051	U	0.051	U	0.69	U	0.5			
	NA																

TABLE 3  
NYSEG - ONEONTA, NY  
WESTERN PLANT AREA  
TREATED GROUNDWATER SAMPLING RESULTS

Lab Name: STL - Buffalo				System Start Up			Discharge to POTW									
Client Sample ID	SYSTEM EFF	SYSTEM EFF	SYSTEM EFF	SYSTEM EFF (WD)	SYSTEM EFF(WD)	SYSTEM EFF WEEK 2	SYSTEM EFF (WD)	SYSTEM EFF (WD)	SYSTEM EFF (WD)	SYSTEM EFF	SYSTEM EFF (WD)	SYSTEM EFF				
Totizer Reading	10K gallon	25K gallon	40K gallon	232K gallon	433K gallon	Not Recorded	528K gallon	537K gallon	660K gallon	781K gallon	952K gallon					
Lab Sample ID	A6B97501	A6C21401	A6C63101	A6C99501	A6D39001	A6D78301	A6D93101	A7025501	A6717501	A7294401	A7350001					
Date Sampled	10/12/2006	10/18/2006	10/25/2006	11/2/2006	11/9/2006	11/16/2007	11/30/2007	1/8/2007	2/23/2007	3/26/2007	4/9/2007					
City of Onondaga Industrial Use Ordinance Allowable Daily Average Effluent Limit (ug/l)																
BENZIDINE	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4				
BENZO(A)ANTHRAcene	0.041	0.041	0.041	0.041	0.042	0.42	0.48	2.2	0.81	0.81	3.2	U				
BENZO(A)PYRENE	0.055	0.055	0.055	0.055	0.056	0.056	0.056	2.2	0.6	0.6	4.4					
BENZO(B)FLUORANTHENE	0.059	0.059	0.059	0.059	0.06	0.06	0.39	2.3	0.74	0.74	4.5					
BENZO(GH)PERYLENE	0.1	0.28	0.097	0.25	0.097	0.097	0.32	1.1	0.3	0.3	3					
BENZO(K)FLUORANTHENE	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.39	0.04	0.04	0.04	U				
BIS(2-CHLOROETHOXY)METHANE	0.081	0.081	0.081	0.081	0.082	0.082	0.082	0.082	0.082	0.082	0.082	U				
BIS(2-CHLOROETHYL)ETHER	0.091	0.091	0.091	0.091	0.093	0.093	0.093	0.093	0.093	0.093	0.093	U				
BIS(2-ETHYLHEXYL)PHTHALATE	5	5	5	5	5.1	5.1	5.1	5.1	5.1	5.1	5.1	U				
BUTYL BENZYL PHTHALATE	4.2	4.2	4.2	4.2	4.3	4.3	4.3	4.3	4.3	4.3	4.3	U				
CHRYSENE	0.034	0.034	0.034	0.034	0.035	0.035	0.035	1.9	0.54	0.54	2.4	U				
Decane	0.67	0.67	0.67	0.67	0.68	0.68	0.68	0.68	0.68	0.68	1.2	U				
DIA-BUTYL PHTHALATE	0.27	0.27	0.27	0.27	0.28	0.28	0.29	0.31	0.27	0.27	0.27	U				
DIA-OCTYL PHTHALATE	4.2	4.2	4.2	4.2	4.3	4.3	4.3	4.3	4.3	4.3	4.3	U				
DIBENZO(A,H)ANTHRACENE	0.053	0.053	0.053	0.053	0.054	0.054	0.054	0.26	0.053	0.053	0.81	U				
DIETHYL PHTHALATE	0.05	0.05	0.05	0.05	0.051	0.051	0.051	0.051	0.051	0.051	0.051	U				
DIMETHYL PHTHALATE	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	0.036	U				
FLUORANTHENE	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.036	0.036	0.036	0.036	U				
FLUORENE	0.041	0.041	0.041	0.041	0.041	0.041	0.041	2.9	0.42	0.42	0.8	U				
HEXACHLORO(BENZENE)	0.06	0.06	0.06	0.06	0.061	0.061	0.061	0.42	0.061	0.061	0.25	U				
HEXACHLORO(1,3,5)TRIADENE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.061	0.061	0.15	U				
HEXACHLORO(CYCLO)PENTADIENE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.061	0.061	0.061	U				
HEXACHLORO(ETHANE)	5.6	5.6	5.6	5.6	5.7	5.7	5.7	5.7	5.7	5.7	5.7	U				
INDENOL(1,2,3-OD)PYRENE	0.067	0.067	0.067	0.067	0.069	0.069	0.069	0.069	0.069	0.069	0.069	U				
ISOPHORONE	0.042	0.26	0.041	0.036	0.041	0.041	0.26	0.22	0.069	0.22	2.3	U				
N-NITROSODI-N-PROPYLAMINE	0.036	0.036	0.036	0.036	0.037	0.037	0.037	0.037	0.037	0.037	0.037	U				
N-NITROSODIMETHYLAMINE	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	U				
N-NITROSODIPHENYLAMINE	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.93	U				
N-NITROSODIPHENYLAMINE	0.057	0.057	0.057	0.057	0.058	0.058	0.058	0.058	0.058	0.058	0.058	U				
NAPHTHALENE	0.076	0.076	0.076	0.076	0.078	0.078	0.078	0.078	0.078	0.078	0.078	U				
NITROBENZENE	0.1	0.1	0.1	0.1	0.11	0.11	0.11	0.11	0.11	0.11	0.11	U				
Oxadecane	0.67	0.67	0.67	0.67	0.68	0.68	0.68	0.68	0.68	0.68	1.1	U				
PENTACHLORO(PHENOL	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	U				
PHENANTHRENE	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.72	0.47	0.47	1.5	U				
PHENOL	0.023	0.023	0.023	0.023	0.024	0.024	0.024	0.024	0.024	0.024	0.37	U				
PYRENE	0.039	0.039	0.039	0.039	0.04	1.9	0.68	3.8	1.2	1.2	1.4	U				
TOTAL METALS (AQUEOUS) MG/L																
ARSENIC, TOTAL	1000	0.01	0.01	0.01	0.027	0.01	0.01	0.01	0.01	0.01	0.014	U				
BARIUM, TOTAL	2000	0.083	0.086	0.11	0.28	0.11	0.084	0.087	0.087	0.087	0.035	U				
BERYLLIUM, TOTAL	150	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	U				
CADMIUM, TOTAL	1000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	U				
CHROMIUM, TOTAL	2000	0.004	0.004	0.004	0.045	0.004	0.004	0.004	0.004	0.004	0.004	U				
COPPER, TOTAL	5000	0.01	0.01	0.01	0.078	0.01	0.01	0.01	0.01	0.01	0.014	U				
LEAD, TOTAL	500	0.011	0.011	0.021	0.12	0.005	0.005	0.016	0.013	0.013	0.005	U				
MANGANESE, TOTAL	1000	1.5	1.4	1.8	0.9	2.7	1.2	0.6	0.92	0.92	0.0041	U				
MERCURY, TOTAL	250	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	U				
NICKEL, TOTAL	2000	0.01	0.01	0.01	0.057	0.01	0.01	0.01	0.01	0.01	0.01	U				
SELENIUM, TOTAL	1000	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	U				
SILVER, TOTAL	1000	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	U				
TOTAL ZINC	5000	0.01	0.01	0.01	0.25	0.01	0.01	0.02	0.01	0.01	0.01	U				
WET CHEMISTRY ANALYSIS (AQUEOUS) MG/L-N																
AMMONIA	30000	1.1	0.97	0.95	0.31	0.6	0.19	0.64	0.3	2.1	0.54	U				
BROMIDE	1000	5	5	5	5	5	5	5	5	5	5	U				
CYANIDE, TOTAL	500	10	10	10	27.2	14.1	73.5	248	619	243	39.4	U				
FLUORIDE	10000	0.14	0.21	0.16	0.16	0.19	0.15	0.27	0.11	0.27	0.14	U				
Oil & Grease		5	5	5	5	5	5	5	5	5	5	U				
SULFIDE		1	1	1	2	174	1	1	1.2	1	1	U				
TOTAL ALKALINITY		212	243	141	68.3	170	170	172	73.3	73.3	27.8	U				
Total Dissolved Solids		462	410	358	1030	355	431	594	366	443	280	U				
TOTAL KJELDAHL NITROGEN		0.2	0.26	0.94	2.2	1	0.71	1.2	1.6	2.4	1.3	U				
TOTAL ORGANIC CARBON		1	1	1	1	1	1.7	3	2	5.6	9.4	U				
PHOSPHOROUS, TOTAL (as P)		0.093	0.056	0.077	1.4	0.073	0.024	0.059	0.038	0.038	0.04	U				
TOTAL RECOVERABLE PHENOLICS		0.01	0.01	0.01	0.01	0.01	0.08	0.01	0.01	0.01	0.01	U				
CHLORINE, TOTAL RESIDUAL		0.03	0.05	0.03	0.02	0.03	0.08	0.05	0.02	0.12	0.05	U				
TOTAL SUSPENDED SOLIDS		4	4	7	228	4	4	4	4	4	9	U				

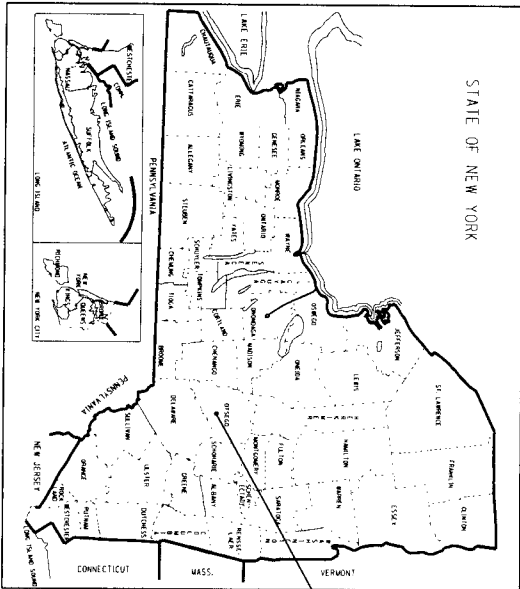
**NOTES**  
Final totalizer reading for water treatment system was 1,285,000 gallons on 4-23-07.  
System shut down and demobilized after this date.  
U - Non detect at or below method detection limits.  
NA - Analytical method not analyzed

**NYSEG**

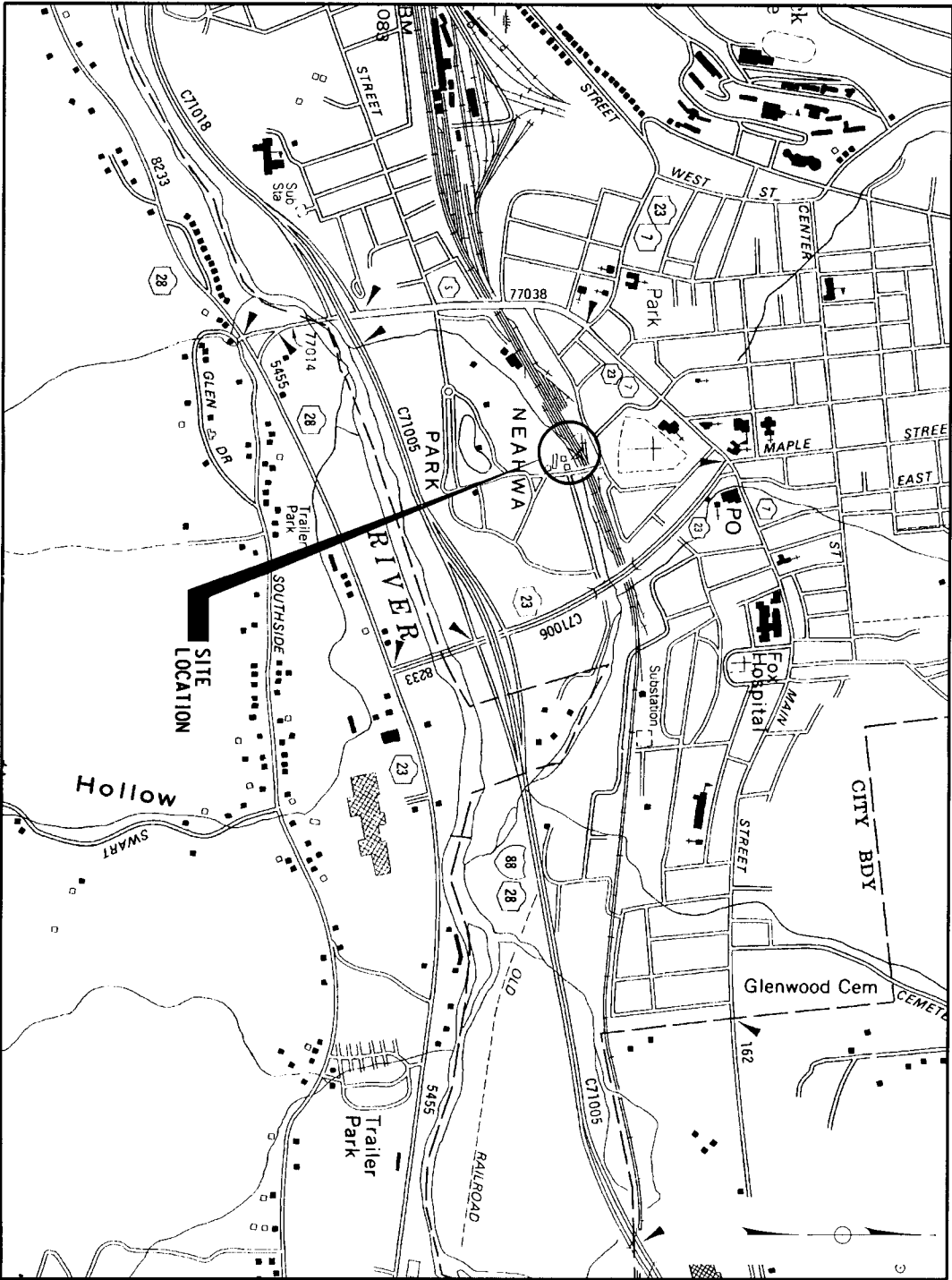
Oneonta James Georgeson Avenue Former Manufactured Gas Plant Site

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## **FIGURES**



# PREPARED FOR NEW YORK STATE ELECTRIC AND GAS TOWN OF ONEONTA OTSEGO COUNTY, NY



PROJECT LOCATION MAP  
NOT TO SCALE

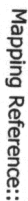
PLANS PREPARED BY:

 **EarthTech**  
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ONEONTA MCP	
NEW YORK STATE ELECTRIC AND GAS	
TOWN OF ONEONTA	
OTSEGO COUNTY	
FIGURE NO.	
1	

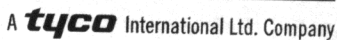






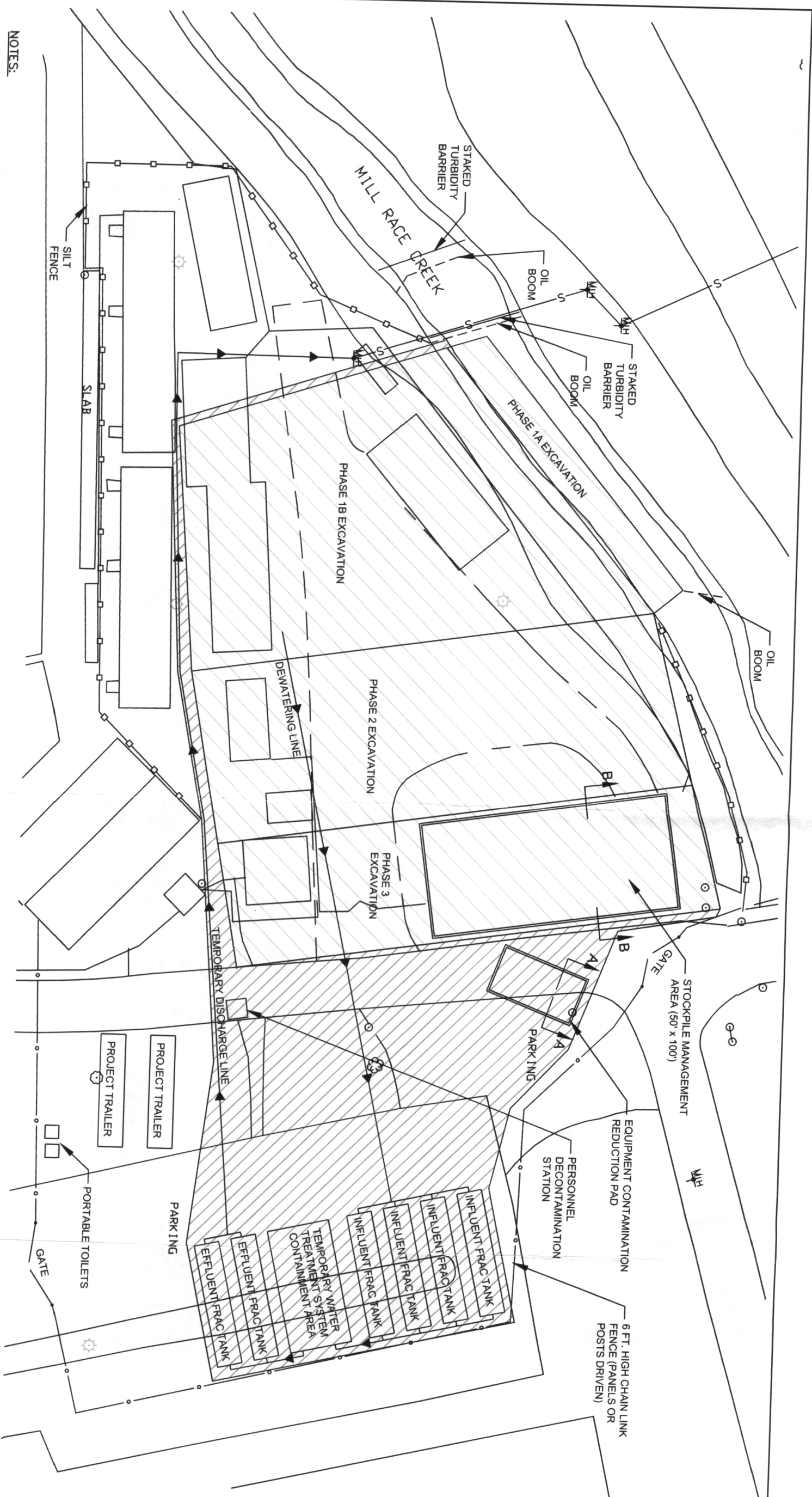
## PLAN

ONEONTA MGP  
NEW YORK STATE ELECTRIC AND GAS  
ONEONTA, NEW YORK



40 BRITISH AMERICAN BOULEVARD  
LATHAM, NEW YORK 12110  
(518) - 951-2200

NO	REVISIONS	DRN	CHK	DATE
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**FIGURE 4**  
**WESTERN PLANT AREA**  
**SITE LAYOUT**

ONEONTA MGP  
NEW YORK STATE ELECTRIC AND GAS  
ONEONTA, NEW YORK



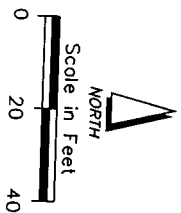
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DIES	-		-
CKD	-		-
APP	-		-

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NO	REVISIONS	DRN	CHK	DATE

- Mapping Reference:
1. Base mapping from plan titled "Sample & Test Locations, Oneonta MGP Site (Neahwa Park), Oneonta, NY" by NYSEG Engineering Services, Binghamton, NY, date 12/23/02.
  2. Soil sample locations from a GPS survey performed by NYSEG.
  3. Eastern Plant Area shown digitized from plan titled "Cantilevered Sheet Piling Plan & Section, & Notes, by Severson Environmental, dated 11/15/05.



PLAN

LEGEND

OGEXBM007 ● SOIL SAMPLE LOCATION



Results of EPA Excavation Confirmation Samples							
Phase	Northing	Easting	Sample Identification	Collection Date	Depth Below Grade (feet)	Total Pails (ppm)	BTEX (ppm)
1A	897483.38	1231653.02	OGEXBM001	10/16/06	6'	1,692	0.222
	897212.23	1231687.88	OGEXBM002	10/17/06	8'	3.01	0.786
	897215.90	1231728.13	OGEXBM003	11/03/06	16'	277.28	12.82
	897196.30	1231704.61	OGEXBM004	11/03/06	16'	19.1	3.01
	897183.04	1231682.11	OGEXBM005	11/03/06	16'	2053	0.866
	897161.73	1231660.22	OGEXBM006	11/08/06	16'	17.2	3.99
	897140.38	1231676.85	OGEXBM007	11/08/06	16'	96.7	5.97
	897151.08	1231692.94	OGEXBM008	11/08/06	16'	15.475	1.7
	897166.34	1231713.41	OGEXBM009	11/08/06	16'	359.2	0.953
	897185.00	1231740.59	OGEXBM010	11/08/06	16'	254.8	20.2
	897095.99	1231669.76	OGEXBM011	11/15/06	16'	480.3	3.66
	897073.36	1231680.15	OGEXBM012	11/15/06	16'	12.23	1.4
	897119.04	1231702.07	OGEXBM013	11/17/06	16'	70.8	0.299
	897109.72	1231713.09	OGEXBM014	11/17/06	16'	33.17	2.3
	897103.36	1231731.58	OGEXBM015	11/17/06	16'	6.989	0.66
	897073.18	1231745.05	OGEXBM016	11/30/06	16'	9.283	2.46
1B	897226.50	1231764.16	OGEXBM017	11/30/06	16'	7.07	42.06
	897238.29	1231793.46	OGEXBM018	02/08/07	20'	76.37	16.370
	897203.65	1231797.01	OGEXBM019	02/08/07	20'	9.98	0.350
	897200.61	1231770.53	OGEXBM020	02/12/07	20'	1.58	0.015
	897170.07	1231775.87	OGEXBM021	02/12/07	20'	1563.60	32.780
	897140.07	1231780.89	OGEXBM022	02/21/07	20'	38.42	12.738
	897146.06	1231809.8	OGEXBM023	02/21/07	20'	14.62	3.140
	897116.49	1231813.82	OGEXBM024	02/28/07	20'	393.34	61.3
	897111.69	1231765.40	OGEXBM025	03/02/07	20'	27.42	9.9
	897084.61	1231791.86	OGEXBM026	03/02/07	20'	233.60	8
	897088.69	1231823.10	OGEXBM027	03/06/07	20'	14.52	6.690
	897268.95	1231843.79	OGEXBM028	03/06/07	20'	91.11	0.73
	897267.70	1231817.03	OGEXBM029	04/10/07	20'	3.40	1.060
	897245.77	1231853.71	OGEXBM030	04/12/07	20'	0.765	0.004
	897236.73	1231824.06	OGEXBM031	04/12/07	20'	0.728	0
	897205.98	1231828.66	OGEXBM032	04/16/07	20'	24.56	2.661
2	897211.29	1231835.08	OGEXBM033	04/16/07	20'	0.569	0.016
	897188.71	1231859.81	OGEXBM034	04/16/07	20'	2.87	0.123
	897181.98	1231835.28	OGEXBM035	04/18/07	20'	7.80	0.515
	897152.71	1231837.58	OGEXBM036	04/18/07	20'	2.46	6.510
	897160.76	1231864.81	OGEXBM037	04/20/07	20'	8.45	1.7
	897110.00	1231844.55	OGEXBM038	04/23/07	20'	21.55	5176
	897087.99	1231864.31	OGEXBM039	04/23/07	20'	1571.00	63.8
	897126.38	1231874.44	OGEXBM040	04/23/07	20'	7441.00	486
	897091.59	1231874.40	OGEXBM041	04/24/07	20'	251.50	70.7
	897091.59	1231874.40	OGEXBM042	04/24/07	20'	59.21	588
	897091.59	1231874.40	OGEXBM043	04/24/07	20'	59.21	588
	897091.59	1231874.40	OGEXBM044	04/24/07	20'	59.21	588
	897091.59	1231874.40	OGEXBM045	04/24/07	20'	59.21	588
	897091.59	1231874.40	OGEXBM046	04/24/07	20'	59.21	588
	897091.59	1231874.40	OGEXBM047	04/24/07	20'	59.21	588
	897091.59	1231874.40	OGEXBM048	04/24/07	20'	59.21	588
3	897314.32	1231973.69	OGEXBM12004	12/20/05	12'	12,293	0.56
	897271.28	1231962.13	OGEXBM12005	12/22/05	12'	0.224	0.031
	897220.94	1231966.61	OGEXBM12006	12/22/05	12'	2.92	7.065
	897291.78	1231936.10	OGEXBM12007	12/30/05	12'	6.09	0.064
	897241.18	1231930.25	OGEXBM12008	01/03/06	12'	2.37	0.373
	897205.82	1231939.13	OGEXBM12009	01/04/06	12'	0.389	0
	897257.28	1231919.14	OGEXBM12010	01/06/06	12'	1.088	0
	897201.91	1231920.45	OGEXBM12011	01/08/06	12'	0.969	0.231
	897276.44	1231900.20	OGEXBM12012	1/9/2006	12'	0	0.002
	897197.05	1231882.64	OGEXBM12013	01/11/06	12'	14.32	0.007
	897263.73	1231873.23	OGEXBM12014	01/12/06	12'	0	0
	897197.44	1231872.53	OGEXBM12015	01/13/06	12'	3.821	0.049
	897189.15	1231886.07	OGEXBM12016	01/20/06	12'	113.22	1.781
	897189.15	1231886.07	OGEXBM12017	01/20/06	3'	346.1	0.038
	897189.15	1231886.07	OGEXBM12018	01/23/06	7'	240.46	0.233
	897234.33	1231904.99	OGEXBM12020	01/24/06	12'	4.915	0.954

\* NOTE: Northing and Easting coordinates have been interpolated from the 30' X 30' sample grid.

FIGURE 5  
EASTERN & WESTERN PLANT AREA  
SOIL SAMPLE LOCATIONS



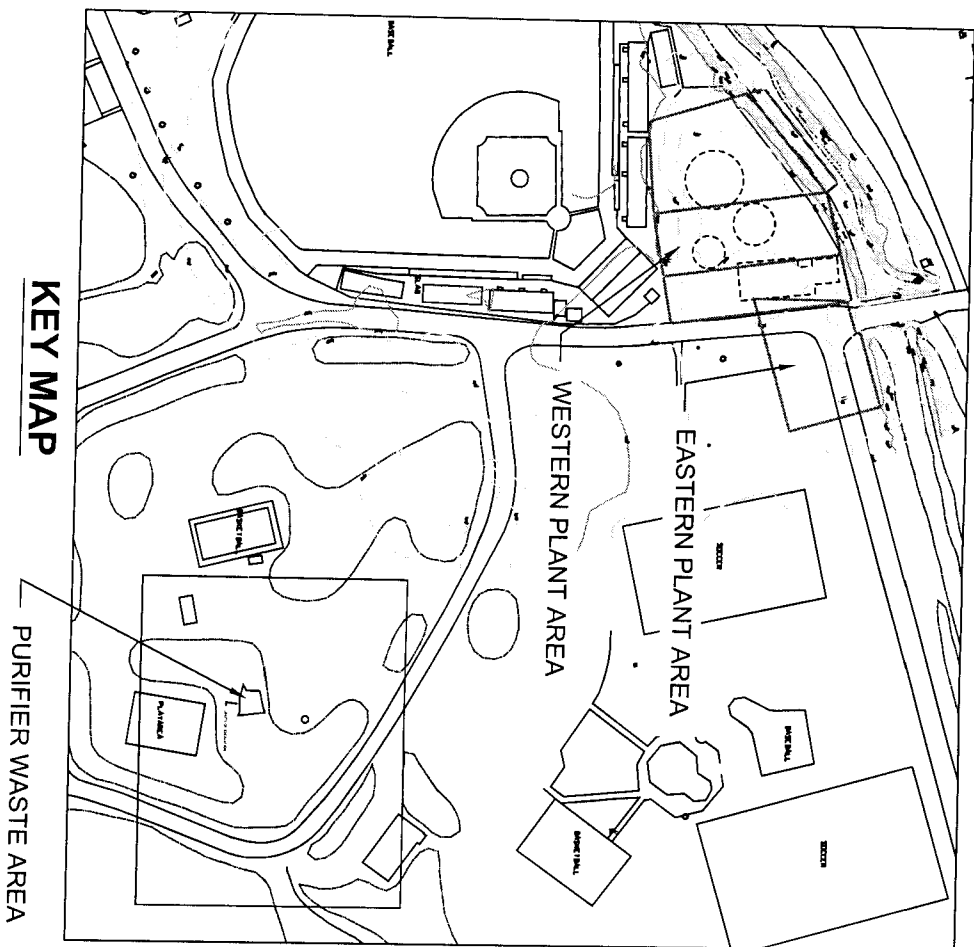
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NEW YORK STATE ELECTRIC AND GAS  
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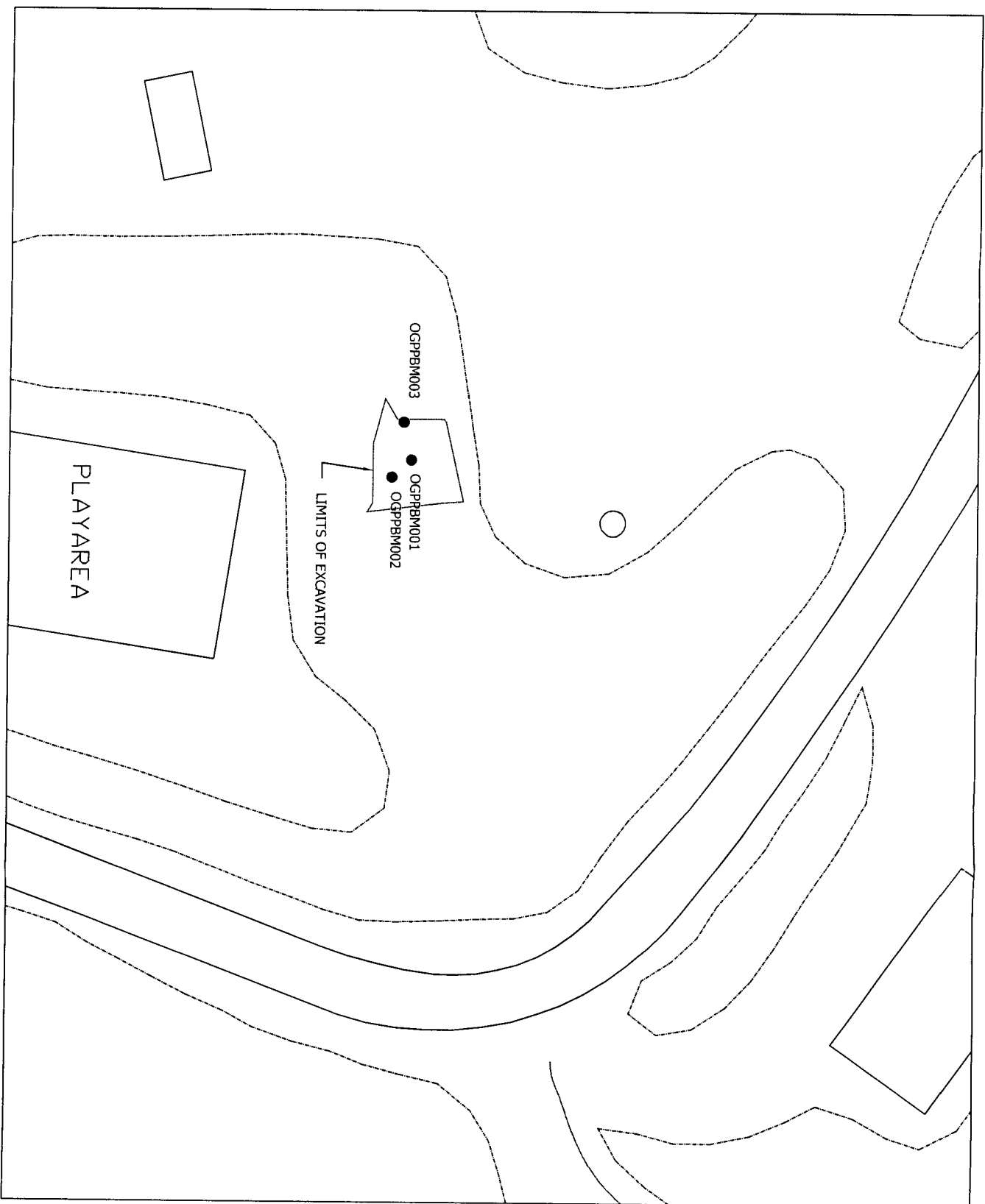




Number	Monitoring	Earthing	Sample Identification	Collection Date	Depth Below Grade (feet)	Total Cyanide (ppm)
1	886641.5	1233203.22	OCFPEBM 001	03/01/07	2	ND
2	8866336.8	1233208.19	OCFPEBM 002	03/01/07	2	ND
3	886639.23	1233292.23	OCFPEBM 003	03/01/07	2	ND

Mapping Reference:

1. Bose mopping from plan titled " Sample & Test Locations, Oneonta MGP Site (Nehwa Park), Oneonta, NY" by NYSEG Engineering Services, Binghamton, NY, date 12/23/02.
2. Soil sample locations from a GPS survey performed by NYSEG.

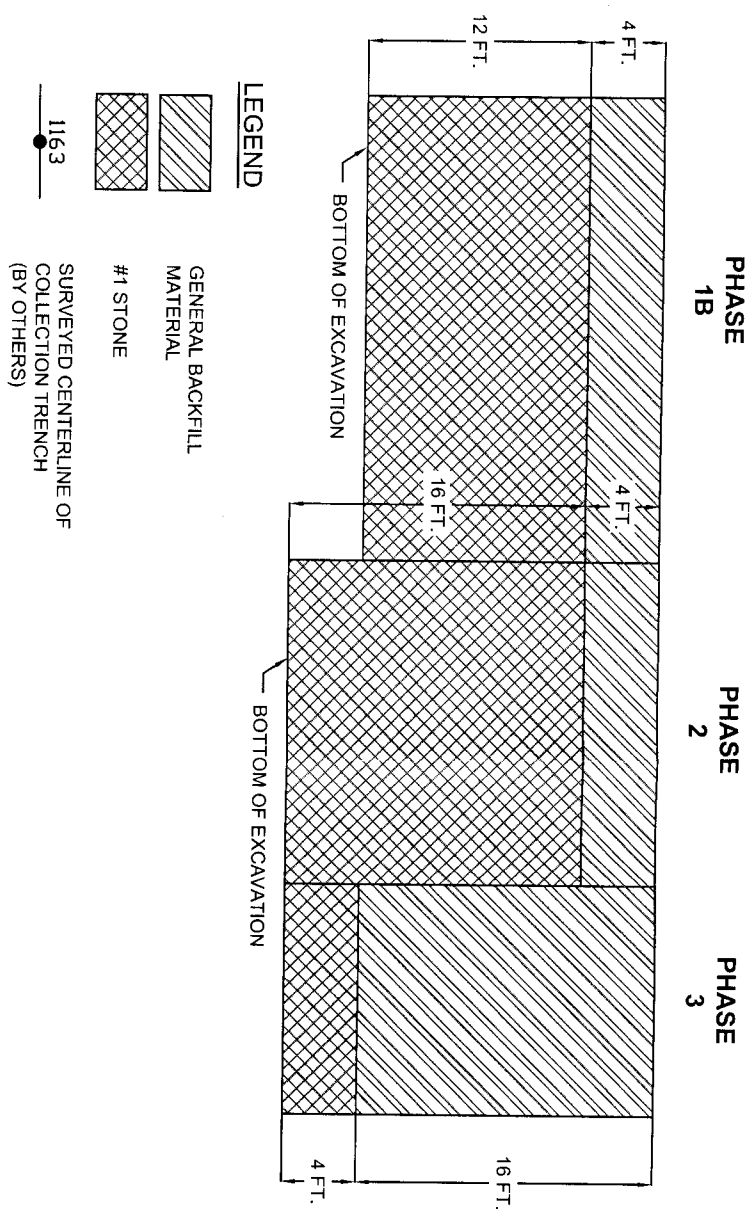
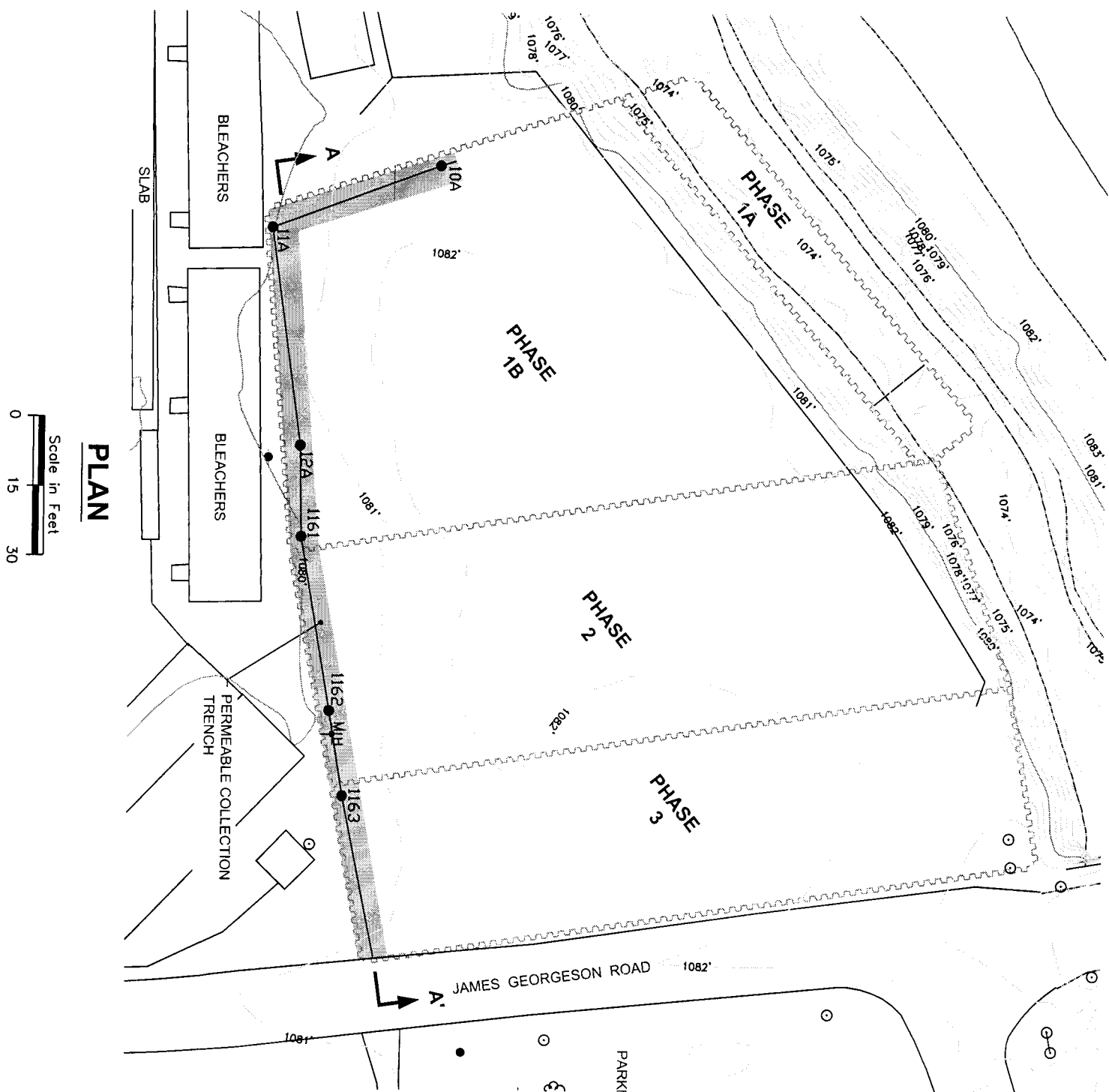


**FIGURE 6**  
PURIFIER WASTE AREA  
SOIL SAMPLE LOCATIONS

ONEONTA MGP  
NEW YORK STATE ELECTRIC AND GAS  
ONEONTA, NEW YORK



40 BRITISH AMERICAN BOULEVARD LATHAM, NEW YORK 12110 (518) - 951-2200									
DRN	-		-						
DES	-		-						
CKD	-		-						
APP	-		-						
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**Mapping Reference:**

1. Base mapping from plan titled "Sample & Test Locations, Oneonta MGP Site (Neahwa Park), Oneonta, NY" by NYSEG Engineering Services, Binghamton, NY, date 12/23/02.

**FIGURE 7**  
**WESTERN PLANT AREA**  
**PERMEABLE COLLECTION TRENCH**

**ONEONTA MGP**  
**NEW YORK STATE ELECTRIC AND GAS**  
**ONEONTA, NEW YORK**



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