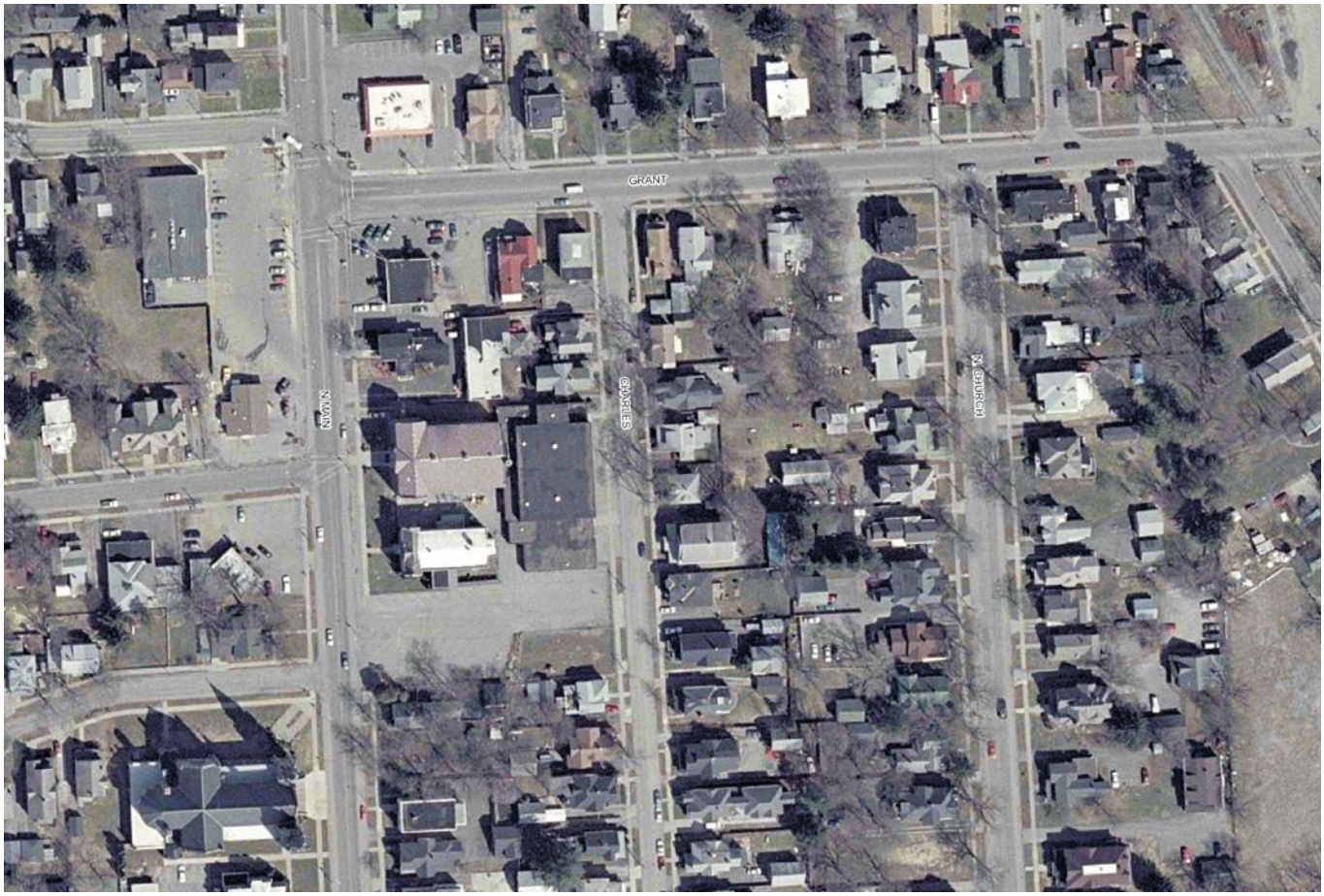
NYSEG

New York State Electric & Gas Corporation

Former Off-site Gasholder Associated
with the Homer Former MGP Site
Cortland, New York

REMEDIAL INVESTIGATION LETTER WORKPLAN
FEBRUARY 2008



Prepared For:
New York State Electric & Gas Corporation
Kirkwood Industrial Park
Binghamton, New York

URS

URS Corporation - New York

REMEDIAL INVESTIGATION LETTER WORK PLAN

FORMER OFF-SITE GASHOLDER ASSOCIATED WITH THE HOMER FORMER MGP SITE

CITY OF CORTLAND, NEW YORK

DEC SITE NUMBER 7-12-012

PREPARED FOR:

NEW YORK STATE ELECTRIC & GAS CORPORATION

PREPARED BY:

URS CORPORATION

77 GOODELL STREET

BUFFALO, NEW YORK 14203

FEBRUARY 2008

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1.0 INTRODUCTION

On behalf of New York State Electric & Gas Corporation (NYSEG), URS Corporation – New York (URS) has prepared this Letter Work Plan to perform additional field activities associated with the Remedial Investigation for the Remote Holder at the Cortland-Homer Remote Holder– located in Cortland, New York (see Figure 1). The former gasholder was located on the properties currently occupied by residences at 43 and 45 Charles Street (see Figure 2). This facility appears to have been associated with the former Manufactured Gas Plant (MGP) that was operated by the Homer & Cortland Gas Light Company. The former MGP site was located on Homer Avenue in the Village of Homer and was approximately one mile north of the former gasholder.

1.1 Purpose

The objective of the additional investigation is to: 1) determine the horizontal extent of potentially MGP-impacted subsurface soils; 2) to determine the horizontal and vertical extent of potentially MGP-impacted surface soils at the properties; and 3) complete a Remedial Investigation (RI) report for all of the data collected at the properties to date.

1.2 Site History

In May 1867, the Homer & Cortland Gas Company purchased approximately one third of an acre of land from Sarah Adams for the future location of the former gasholder along with a 14-foot-wide right-of-way along her property. In July 1867, the Homer & Cortland Gas Company acquired the rights from Sarah Adams to install a gas pipeline extending from the former gasholder east through her property (eight feet south of her house) to North Church Street. Sanborn maps from 1887, 1892, 1902, and 1908 indicate the presence of a 22,000-cubic-foot former gasholder approximately 100 feet east of Saint Mary's of the Vale Catholic Church. In February 1913, the Homer & Cortland Gas Light Company sold the one third of an acre upon which the gasholder was located and the 14-foot right-of way to Edward S. Dalton and L.R. Chase. Sanborn maps from 1915 and 1926 indicate the gasholder was no longer present and the residences currently located at 43 and 45 Charles Street existed at that time.

2.0 SCOPE OF WORK

The scope of work consists of these three tasks outlined below:

- Task 1 – Direct Push Soil Borings/Soil Sampling
- Task 2 – Surface Soil Sampling
- Task 3 – Reporting

These tasks are summarized below.

2.1 Task 1 – Direct Push Soil Borings/Soil Sampling

Seven direct push Geoprobe® soil borings will be advanced in the vicinity of the former gasholder to delineate the extent of potentially impacted soils. The locations of five of the borings are shown on Figure 1. Two soil samples will be retained for offsite analytical testing from each boring. One soil sample would be collected from each boring from the interval exhibiting the highest level of contamination based on visual inspection and/or PID readings. The second soil sample would be collected from below the area of contamination to define the vertical limit of contamination. Soil samples collected from the Geoprobe® borings would be analyzed for the parameters listed in Table 1. Sample volume requirements are provided in Table 2. After each sample is collected, the Macro-Core samplers will be decontaminated before the next sample is collected and prior to leaving the site. A non-phosphate detergent and potable water with a potable water rinse will be used to decontaminate the Macro-Core samplers and the drill rods. Decontamination fluids will be containerized in NYSEG-approved containers and staged at a location designated by NYSEG. The other 2 borings will be advanced along/nearby subsurface service utility lines at each property. One soil sample collected from approximately 4.5 feet below ground surface will be retained for offsite analytical testing. Geoprobe borings will be advanced and sampled in a similar manner as the borings conducted during previous investigations. URS will procure a subcontractor to advance the Geoprobe® borings. A URS Geologist would supervise the subcontractor and be responsible for the collection of soil samples for analyses. The seven Geoprobe® borings would be advanced using an all-terrain Geoprobe® unit capable of operating in a limited access area. Soil samples would be collected using four-foot-long Macro-Core samplers. Discrete samplers would be used to advance the borings until

refusal or a confining layer is encountered for five of the soil borings. The two soil borings to be installed adjacent to the subsurface service utility lines at each property will be advanced to a maximum of five (5) feet below ground surface (assuming the lines are located at 4-4.5 feet below ground surface). Once a four-foot sample has been retrieved from the subsurface, the sample tube would be cut along its length and screened both visually and with a PID for the presence of contamination and placed in sample jars for potential analysis. Following the completion of each boring, the boring would be backfilled to the surface with cement-bentonite grout or bentonite pellets. Soil cuttings and Geoprobe® liners would be containerized in NYSEG-approved containers and staged at a location designated by NYSEG.

Soil sampling procedures are provided in Appendix A and sample volume requirements are provided in Table 2. After each sample is collected, the Macro-Core samplers will be decontaminated before the next sample is collected and prior to leaving the site.

2.2 Task 2 - Surface Soil Sampling

In order to further characterize the surface soils at the site, ten additional locations (i.e., 5 from each of the two properties) as depicted in Figure 1 will be sampled as follows: One surface soil sample will be collected from the 0 to 2-inch bgs interval; Immediately adjacent to the sample location, a shallow Geoprobe boring will be advanced to 2 feet bgs, and from the core, the 0 to 2 – inch bgs interval will be discarded and the 2 to 12-inch bgs interval will be sampled for the parameters listed in Table 1. In addition, the 12 to 24-inch bgs interval will also be collected and analyzed for the parameters listed in Table 1.

2.3 Task 3 – Remedial Investigation Reporting

URS will prepare a Remedial Investigation Report that summarizes the field observations and analytical results of the 2008 sampling event, as well as the data presented in the Preliminary Site Assessment finalized in 2007. The RI report will generally follow the requirements in NYSDEC DER-10. The report will include the following elements:

- A summary of field events and observations;
- Summary tables of analytical results;
- Map(s) depicting the locations of the sampling locations;

- Copies of field sampling sheets;
- Qualitative Human Exposure Assessment;
- A short Fate and Transport Assessment;
- Copies of laboratory analytical reports and validation summaries.

TABLE 1
ANALYTICAL SUMMARY
FORMER OFF-SITE GASHOLDER ASSOCIATED WITH THE HOMER FORMER MGP SITE
CORTLAND, NY

Analytical Parameters/Methods[1]	No. of Samples Collected	Field Duplicates	Equipment Blanks	MS/MSD (Pairs)	Total No. of Samples Collected
Subsurface Soil Sampling					
TCL VOCs (USEPA Method 8260B)	12	1	1	1	16
TCL SVOCs (USEPA Method 8270C)	12	1	1	1	16
RCRA Metals (USEPA Methods 6010B/7470A/7471A)	12	1	1	1	16
Surface Soil Sampling					
TCL VOCs (USEPA Method 8260B)	20	1	1	1	24
TCL SVOCs (USEPA Method 8270C)	30	2	2	2	38
RCRA Metals (USEPA Methods 6010B/7470A/7471A)	30	2	2	2	38

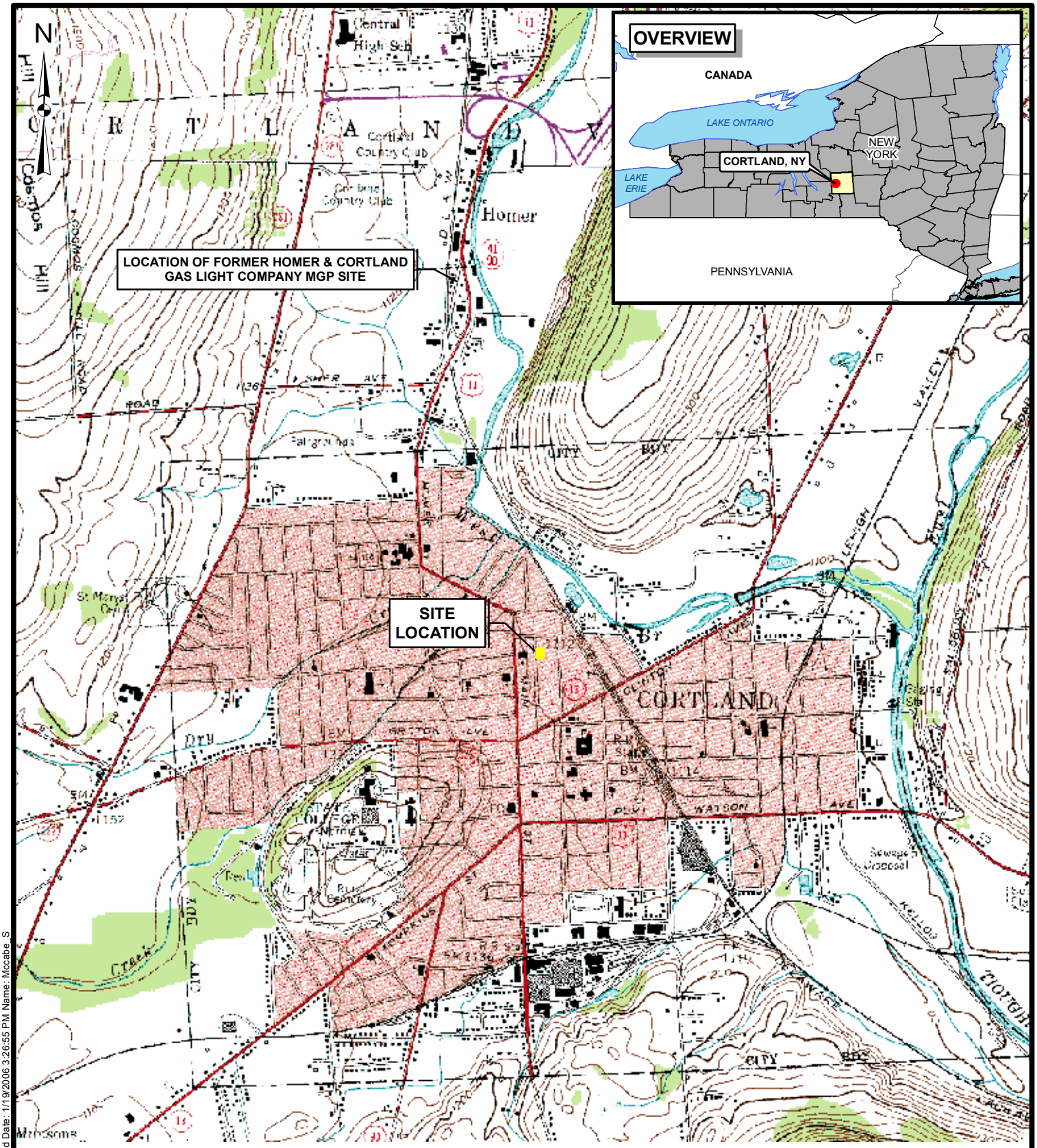
1. Test Methods for Evaluating Solid Waste, Physical Chemical Methods (SW-846) USEPA Final Update III, June 1997

TCL - USEPA Superfund Target Compound List
RCRA - Resource Conservation and Recovery Act
VOCs - Volatile Organic Compounds
SVOCs - Semivolatile Organic Compounds
MS/MSD - Matrix Spike/Matrix Spike Duplicate

TABLE 2
SAMPLE CONTAINER, PRESERVATION, AND HOLDING TIMES
FORMER OFF-SITE GASHOLDER ASSOCIATED WITH THE HOMER FORMER MGP SITE
CORTLAND, NY

Test Type	Container	Preservation	Holding time
NON-AQUEOUS SAMPLES (SOILS)			
TCL VOCs (USEPA Method 8260B)	2 x 2 oz. Glass jar, Teflon cap	Cool 4 ^{o} C	Analyze within 14 days.
TCL SVOCs (USEPA Method 8270C)	1 x 4oz. Glass jar, Teflon cap	Cool 4 ^{o} C	Extract within 14 days; analyze within 40 days.
RCRA Metals (USEPA Method 6010B/7471A)	1 x 4oz. Glass jar, Teflon cap	Cool 4 ^{o} C	Analyze within 6 months/28 days for mercury.
AQUEOUS SAMPLES (EQUIPMENT BLANKS)			
TCL VOCs (USEPA Method 8260B)	2 x 40 ml septa vials, Glass	HCl to pH < 2	Analyze within 14 days.
TCL SVOCs (USEPA Method 8270C)	2 x 1L Amber Glass	Cool 4 ^{o} C	Extract within seven days; analyze within 40 days
RCRA Metals (USEPA Method 6010B/7471A)	1 x 500 mL Plastic	HNO_3 to pH < 2	Analyze within 6 months/28 days for mercury.

TCL - USEPA Superfund Target Compound List
RCRA - Resource Conservation and Recovery Act
VOCs - Volatile Organic Compounds
SVOCs - Semivolatile Organic Compounds
MS/MSD - Matrix Spike/Matrix Spike Duplicate



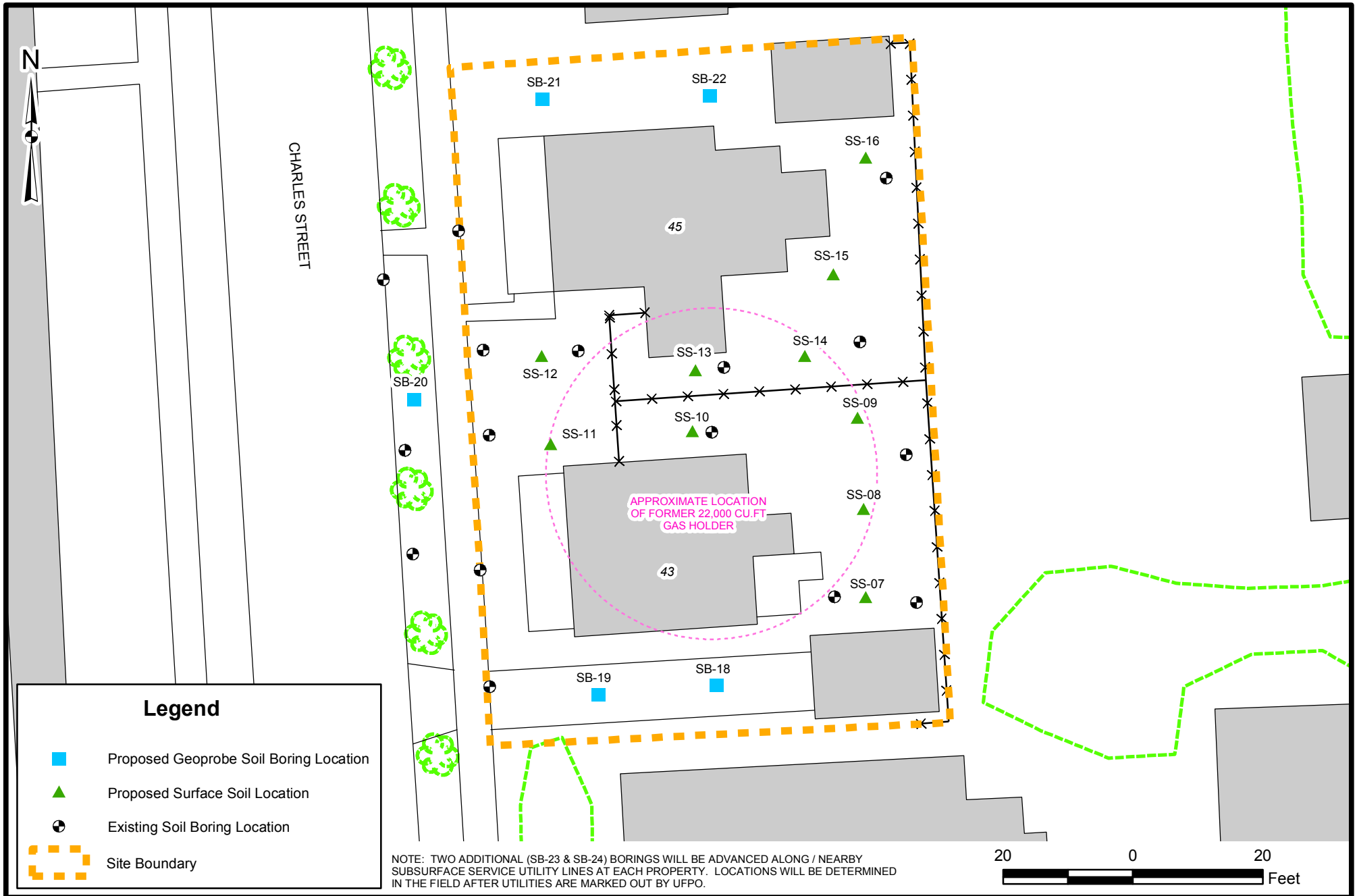
SOURCE: USGS 7.5 Minute Quadrangles - Cortland, NY - 1955 and Homer, NY - 1988.

2,000 0 2,000
Feet

URS	NYSEG - CORTLAND SITE LOCATION MAP	FIGURE 1

N:\11174305.00000\DB\GIS\SITE LOCATION.mxd Date: 1/19/2006 3:26:55 PM Name: Mccabe_S

N:\11174305.00000\DB\GIS\Proposed SS.mxd 2/7/2008 Montz, Eric



URS

NYSEG - CORTLAND
PROPOSED SOIL BORING & SURFACE SOIL SAMPLING LOCATIONS

FIGURE 2

APPENDIX A-1

SUBSURFACE SOIL SAMPLING PROCEDURES

SUBSURFACE SOIL SAMPLING PROCEDURES

Soil borings will be advanced and overburden soil samples will be obtained continuously to verify the geologic profile and assure proper placement of the well screens. Subsurface soil samples may be collected using Macro-Core discrete samplers with a direct push drill rig.

Field Equipment

Some or all of the following equipment will be used during soil sampling:

- Field boring log sheet and field notebook;
- Photo-ionization detector (PID);
- Stainless-steel knife, trowels, spoons, scoops, and bowls;
- Personal protective equipment (PPE);
- Disposable gloves;
- Distilled/deionized water;
- Cleaning detergents and decontamination chemicals;
- Five-gallon pails for decontamination;
- Brushes;
- Sample bottles;
- Cooler;
- Sufficient ice or freezer packs to maintain the samples at four degrees Celsius; and
- Chain of Custody (COC) forms.

Soil Sampling Using Direct Push Drilling Equipment

Discrete samplers will be used to collect samples obtained with a direct push (Geoprobe®) drill rig. These samplers have an open tube design and measure approximately two-inches in diameter (outer) by 44-inches long. The samplers will be fitted with a removable cutting shoe. The sampler will be advanced to the desired depth. Each of the samplers will be

fitted with a new acetate liner prior to collection of a sample. The acetate liner will be split open to collect the soil. The soil samples from the zero to four foot below ground surface (bgs) interval will be collected using Macro-Core open samplers. Soil samples collected deeper than four feet bgs will be collected using the Macro-Core equipped with a discrete sampling device. This device prevents any collapsed material from entering the sampler.

The length of sample recovery, percent recovery, and soil description, including odors, will be recorded on the boring log. A copy of a field boring log sheet is provided in Appendix A-4.

Immediately upon retrieval of the sampler, an aliquot of soil will be transferred to the VOC sample containers. The VOC sample containers will be completely filled in order to minimize headspace in the containers. The filled VOC sample container will be placed in a cooler with sufficient ice to maintain a temperature of 4 degrees Celsius.

A second aliquot of soil from the sampler will be retained for headspace analysis using a PID. Headspace analysis procedures are described below. The rationale behind this sequence of procedures (i.e., collecting a sample first, and then screening) is to minimize the loss of VOCs from samples that will be sent to a laboratory for analysis.

The remaining soil will be placed in a clean stainless-steel bowl. After removal of any stones, large twigs, or other vegetation, the sample will be thoroughly homogenized by mixing the sample in the bowl with a stainless-steel spoon. The sample will then be quartered in the bowl and each quarter will be mixed separately, before finally mixing the entire sample again and placing it in containers for non-volatile constituent analysis.

Field personnel will wear disposable nitrile gloves for the collection and handling of all samples and the disposable gloves will be changed between each sample. A stainless-steel scoop or trowel may be used to fill the sample containers.

The samples will be packed into sample coolers containing sufficient bags of ice or freezer packs to maintain the samples at 4 degrees Celsius.

All acetate liners will be discarded after use. Upon completion of sampling at each location, all sampling equipment will be decontaminated in accordance with the procedures

described in Appendix A-3. Quality assurance samples, including duplicate samples and equipment rinseate blanks will be collected as necessary in accordance with Table 2. The sample custody procedures are described in Appendix A-2.

Headspace Analysis Procedures

Field screening of collected soil samples will be completed using headspace analysis using a PID equipped with a 10.6 electron volt (eV) lamp to detect the presence of VOCs.

Immediately upon retrieval of a soil sample, two aliquots of soil will be collected. One aliquot will be used to completely fill the VOC sample containers and the second aliquot will be used for headspace analysis using a PID. The rationale behind this sequence of procedures (i.e., collecting a sample first, and then screening) is to minimize the loss of VOCs from samples that will be sent to a laboratory for analysis.

The soil to be used for headspace analysis will be placed in new sealable polyethylene bags. Each bag will be labeled with the location, depth interval, and date of the soil sample. The soil will be allowed to warm to ambient temperature to allow the vapors in the soil to equilibrate with the air in the bag. If ambient temperature is less than 68° Fahrenheit (i.e., room temperature) the samples may be placed indoors to allow the soil to warm to room temperature. A measurement will be collected by inserting the probe of the PID through an opened corner of the bag. Care will be taken to avoid uptake of water droplets and soil particles. The highest meter response will be recorded as the headspace concentration. Each PID measurement will be recorded on the appropriate soil-boring log or in a field notebook.

APPENDIX A-2

SAMPLE HANDLING AND CUSTODY

SAMPLE HANDLING AND CUSTODY

All samples will be collected and handled in a manner such that sample agitation, cross-contamination, and contact with the atmosphere is reduced or kept to minimum. Field personnel will wear new disposable gloves when collecting and handling samples, and will change gloves between sampling locations.

Sample chain of custody will be initiated by the laboratory with the selection and preparation of the sample containers. To reduce the chance for error, the number of personnel assuming custody of the sample and sample containers will be held to a minimum. Personnel involved in the chain of custody and transfer of samples will be briefed on the procedures and their purposes prior to the initiation of sampling.

Field Sample Custody

A Chain of Custody (COC) form (Appendix A-4) will accompany the sample from initial sample container selection and preparation commencing at the laboratory, to the field for sample containment and preservation, through its return to the laboratory.

The Project Manager will notify the laboratory of upcoming field sampling activities and the subsequent transfer of samples to the laboratory. This notification will include information concerning the number and type of samples to be shipped as well as the anticipated date of arrival. Sample shipping containers (coolers or "shuttles") will be provided by the laboratory. The shipping containers will be insulated. All sample bottles within each shipping container will be individually labeled for identification.

The labels will include the following information:

- Site name;
- Sample number;
- Name of collector;
- Date and time of collection;
- Place of collection;

- Type of sample;
- Sample volume;
- Analyses required; and
- Preservative (if used).

If a sample shipping container has been assigned a unique identification number by the laboratory, then this number will be recorded on the COC.

Personnel receiving the sample containers will check each cooler for the integrity of the seals. Coolers or shuttles with broken seals will be returned to the laboratory, and the sample containers will not be used. The receiving personnel will break the seal, inspect the contents for breakage, and record and sign on the COC form that the sample containers have been received. A temporary seal will be affixed to each cooler until the sample containers are filled.

Sample Location Designation

Each soil boring advanced will be designated by a "GB," Followed by a number

Sample identifications will be designated using NYSEG's sample identification system.

Sample Designation

Each sample collected will be designated using NYSEG's sample identification system. NYSEG's sample identification system allows a unique code (a combination of up to 12 letters and numbers) to be established for every sample collected, even if samples are collected from different depths at the same location. By following NYSEG's sample identification system, persons familiar with the system can deduce the project location, the sample media, the depth interval of the sample, the year the well was installed or sample was collected, and the sampling location number from the sample name. NYSEG's sample identification system is described below.

For each subsurface soil sample collected from a soil boring location will be identified using the following code SBXXYY08ZZ where:

SB = soil boring;

XX = the starting depth (feet) of the interval from which the sample was collected;

YY = the end depth (feet) of the interval from which the sample was collected;

08 = year boring installed (2008); and

ZZ = the boring location number.

For example, a subsurface soil sample collected from 8-10 feet from soil boring SB-20 at in 2008 would be coded SB08100820.

QC samples can be coded using this same system and simply adding a MS or MSD (for matrix spike, or matrix spike duplicate) to the end of the code. Blind duplicates can be coded using this system with a fictitious location number. The locations of each blind duplicate will be recorded in its respective the field sampling sheet.

Once the sample containers are filled, the samples will be immediately preserved, as required and stored at 4 degrees Celsius until delivered to the laboratory. Preservation requirements are provided in Table 2. The samples will be kept cool at 4 degrees Celsius using insulated containers containing sufficient ice or ice packs. If ice is used, the ice will be double-bagged at a minimum. VOC sample jars will be placed in resealable plastic bags prior to placement in coolers. The field sampler will indicate sample designation/location number in the spaces provided on the appropriate COC for each sample of water or soil. The COC will be signed and placed in the cooler. The cooler will be sealed. The samples will be delivered to the laboratory no later than 24 hours after sample collection.

If samples are split and sent to different laboratories, a copy of the COC will accompany the replicate sample. The original COC will accompany the sample for the primary laboratory. The "remarks" column of the COC will be used to record specific considerations associated with sample acquisition such as: sample type, container type, sample preservation methods, and analyses to be performed. The laboratory will maintain on file the completed original forms. Copies will be submitted as a part of the final analytical report.

Samples will be hand-delivered or shipped in coolers with sufficient packing material and ice to insure that samples arrive at the laboratory intact, below 4 degrees Celsius, and within 18 hours of shipping.

APPENDIX A-3
SAMPLE EQUIPMENT DECONTAMINATION PROCEDURES

SAMPLING EQUIPMENT DECONTAMINATION PROCEDURES

Sampling equipment will be decontaminated in the laboratory or the field prior to site use and between sampling locations. The sampling device and equipment decontamination method will involve a non-phosphate detergent wash, tap water rinse, distilled/deionized water rinse, air drying, and a second distilled/deionized water rinse.

Drilling tools will be steam cleaned between each drilling location to prevent cross-contamination. If steam cleaning does not remove coal tar from the drilling tools or other equipment, then a biodegradable degreaser (CitruSolv) will be sprayed onto the drill tools and a scrub brush will be used to help breakdown the coal tar. A tap water rinse will be followed by another round of steam-cleaning. Decontamination will be conducted on the temporary decontamination pad constructed at a location onsite designated by NYSEG. The decontamination fluids will be containerized for proper off-site disposal by NYSEG.

APPENDIX A-4

FIELD FORMS

DAILY DRILLING RECORD

URS Corporation

PROJECT TITLE: _____ DATE: _____

CLIENT: _____ CONTRACTOR: _____

FROM	TO	PRODUCTIVE HOURS	ACTIVITIES/COMMENTS
TOTAL PRODUCTIVE HOURS			LEVEL B / LEVEL C / LEVEL D (CIRCLE ONE SELCTION)

LABOR:

UNITS	

MATERIALS / SUPPLIES:

UNITS	

WEATHER:

URS ONSITE COORDINATOR

CONTRACTOR REPRESENTATIVE

URS Corporation									TEST BORING LOG	
									BORING NO:	
PROJECT:									SHEET:	1 of 1
CLIENT:									JOB NO.:	
BORING CONTRACTOR:									BORING LOCATION:	
GROUNDWATER:					CAS.	SAMPLER	CORE	TUBE	GROUND ELEVATION:	
DATE	TIME	LEVEL	TYPE	TYPE		Macrocore			DATE STARTED:	
				DIA.		2"			DATE FINISHED:	
				WT.		–			DRILLER:	
				FALL		–			GEOLOGIST:	
				* POCKET PENETROMETER READING					REVIEWED BY:	

DEPTH	SAMPLE			BLOWS	REC%	DESCRIPTION				REMARKS	
FEET	STRATA	NO.	TYPE	PER 6"	RQD%	COLOR	CONSIST HARD	MATERIAL DESCRIPTION	USCS	PID	Moist
		1	2" MC								
5		2	2" MC								
10		3	2" MC								
15											
20											
25											
30											

COMMENTS: Geoprobe 5400 using 2" macrocore to a depth of	PROJECT NO.
	BORING NO.

APPENDIX A-5

HEALTH AND SAFETY PLAN

HEALTH AND SAFETY PLAN

NYSEG

FORMER OFF-SITE GASHOLDER

CITY OF CORTLAND, NEW YORK

1.0 PLAN-AT-A-GLANCE

HSP SUMMARY SHEET

THIS SUMMARY SHEET IS PROVIDED AS A QUICK-REFERENCE/OVERVIEW ONLY. THE REMAINDER OF THIS SITE-SPECIFIC HSP IS INTEGRAL TO THE SAFE CONDUCT OF SITE OPERATIONS AND MUST BE APPLIED IN ITS ENTIRETY.

EMERGENCY INFORMATION

Ambulance – 911
Fire – 911
Police – 911
Hospital – (607) 756-3588

Project Manager:	Michael Gutmann	(716) 856-5636
Health and Safety Representative:	Rob Murphy	(716) 856-5636
Regional Health and Safety Manager:	Steven J. Sherman	(716) 856-5636
National Response Center		(800) 424-8802

HOSPITAL DIRECTIONS:

Cortland Memorial Hospital
134 Homer Ave.
Cortland, NY 13045

To reach the hospital from the site, head north on Charles Street, turn left on Grant Street. Immediately turn right onto US-11 [SR-41]. Cortland Memorial Hospital is located on the right approximately four (4) miles. Total trip distance is 6 miles. Route to hospital map is attached.

CONSTITUENTS OF CONCERN

1. Coal Tar – BTEX and PAHs
2. Cyanides
3. Heavy Metals

PROJECT HAZARD ANALYSIS

Task	Chem. Hzds.	Heat/Cold Stress	Noise	Slip/Trip/ Fall	Lifting Hzds.	Mech'l. Hzds.	Electro-cution	Explosion	Excav-Ation
1.Geoprobe Borings/Surface Soil Sampling	med	med	med	low	low	med	n/a	n/a	n/a

High – Exposure likely more than 50% of the time
Med – exposure likely 10-50% of the time
Low – Exposure likely less than 10% of the time
n/a – Exposure not anticipated

TASK	MINIMUM PROTECTIVE CLOTHING/EQUIPMENT REQUIREMENTS
1	Steel-toed boots, hard hat, safety glasses, hearing protection, work gloves, Tyvek‡, nitrile gloves when handling potential contaminated materials, surgical nitriles for handling samples.

All work tasks will include hard hats and high-visibility traffic vests.

PROTECTIVE CLOTHING (First Action Level)

Chemical Protective Clothing
Outer Coveralls: Kleenguard® or Tyvek®‡
Outer Gloves: Nitrile
Inner Gloves: Surgical Nitriles
Chemical protective steel-toed boots or chemical resistant boot covers over steel-toed boots.

‡ Substitute poly-Coated or Saranex-coated Tyvek® if there is a potential for contact with liquids (groundwater, mud, etc.)

Each person should wash daily at the end of each work shift. Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the job site.

The HASP Preparer has conducted a Hazard Assessment for this project based upon information provided by the Project Manager, in accordance with 29 CFR 1910.132(d).

For more information on PPE and respiratory protection requirements, see the Action Levels table (Page A7-5).

ENGINEERING CONTROLS TO BE USED (as applicable)

- Water spray for dust suppression

- Natural wind forces to reduce exposure to airborne contaminants (i.e., work upwind)
- Forced air ventilation (fans) to reduce potential airborne exposures
- Light colored PPE to reduce solar load for heat stress control
- Dining canopy to provide shaded work/rest area for heat stress control

INSTRUMENTATION TO BE USED

_____ HNu PID w/ eV probe

__X__ OVM PID w/ 10.6 eV lamp

_____ Photovac Microtip PID w/ ___ eV lamp

__X__ Combustible Gas/O_2 Indicator

_____ Foxboro OVA (FID)

__X__ Miniram Real-time Dust Monitor

__X__ Other Monitox or equivalent cyanide monitor _____

PERSONAL EXPOSURE SAMPLING

_____ Will be conducted

__X__ Will be conducted if PID readings require the use of respiratory protection as described in the Action Level Table (Page A7-6).

_____ Is not anticipated

HAZ-COM MATERIALS INVENTORY

- TSP or Alconox (decontamination)
- Isobutylene – 10ppm (calibration gas)
- Sulfuric Acid (sample preservation)
- Hydrochloric Acid (sample preservation
- Citrusolve™ (decontamination)
- Nitric Acid (sample preservation)
- Simple Green™ (decontamination

ACTION LEVELS (for Photoionization Detector)

Analyzer Reading*	Location	Duration	Action	Personal Protective Equipment
5-<15 ppm	OBZ	>1 minute	Stop work. Monitor OBZ; don protective clothing	Minimum Site Ensemble
15-50 ppm **(2nd Action Level)**	OBZ	>1 minute	Monitor OBZ, provide respiratory protection.	Add full-face respirators with organic vapor/P100 cartridges
>50 ppm **(3rd Action Level)**	OBZ	>1 minute	Stop work; move upwind while vapors dissipate. If elevated levels remain, cover boring and cuttings, evacuate upwind and notify RHSM or PM.	As specified by RHSM.

*above ground readings
OBZ = Operator's Breathing Zone
RHSM = Regional Health and Safety Manager
‡ Substitute poly-Coated or Saranex Tyvek® if there is potential for contact with liquids (groundwater, mud, etc.)

ACTION LEVELS (for the Combustible Gas Indicator)

LEL Reading	Location	Action
<10% LEL	Point of Operations/General Work Area	Continue site operations and continue periodic monitoring
10-20% LEL	Point of Operations/General Work Area	Continue site operations and perform continuous monitoring
>20% LEL	Point of Operations/General Work Area	Shutdown operations, evaluate source, ventilate work area

LEL = Lower Explosive Limit

ACTION LEVELS (for Cyanide Monitor)

Monitor Reading	Location	Action
>5ppm over 15 minute period	OBZ/General Work Area	Discontinue work in that area, contact health and safety to assess conditions

For additional information on Action Levels and their implementation, see Sections 6.0 and 7.0.

HEALTH AND SAFETY EQUIPMENT LIST

Required	As Necessary	
X		URS Safety Management Standards (relevant to project – see next page
X		OSHA "Safety on the Job" Posters
X		Hardhats
X		Safety glasses
X		Ear plugs or muffs
	X	Cotton coveralls
	X	Traffic safety vest
X		Tyvek® coveralls
	X	Polycoated Tyvek® Q-23 Coveralls
X		Steel-toed boots
X		Chemical-resistant steel-toed boots or chemical-resistant boot covers
	X	Work gloves
X		Nitrile outer gloves
X		Surgical nitrile inner gloves
X		Plastic sheeting (visqueen)
	X	55 gallon 17-H drums (for contaminated soils)
	X	55 gallon 17-E drums (for liquids)
	X	Drum liners
	X	Barricade tape and barricades
	X	Wash tubs and scrub brushes
X		Decon solution (i.e., TSP)
	X	Folding chairs
	X	5 or 10 gallon portable eyewash
	X	Respirators sanitizing equipment
X		First Aid kit
X		Infection control kit
X		Drinking water
X		Gatorade or similar drink
X		Type ABC fire extinguishers
		Half-face respirators (NIOSH approved)
	X	Full-face respirators (NIOSH approved)
X		Respirator cartridges [**organic/P100 combo**
X		Photoionization Detector (PID) w/[**10.6**] lamp and calibration kit
	X	Combustible Gas Indicator and calibration kit
	X	Garden sprayer
	X	Compressed gas horn
X		Duct tape
X		Paper towels and hand soap
	X	Spill sorbent
X		Plastic garbage bags
	X	Broom and/or shovel
X		SCBA and associated confined space entry equipment

APPENDIX A-6

COMMUNITY AIR MONITORING PLAN

COMMUNITY AIR MONITORING PLAN

Real-time air monitoring for volatile organic compounds will be conducted at the perimeter of the Exclusion Zone during the drilling program as follows:

- Volatile organic compounds and dust particulates will be monitored at the downwind perimeter of the exclusion zone on a continuous basis. If total organic vapor levels exceed 5 parts per million (ppm) above background, work activities will be halted and monitoring continued under the provisions of a Vapor Emission Response Plan. All readings will be recorded and be available for NYSDEC and NYSDOH personnel to view if requested.

- If particulate levels at the downwind station exceed particulate levels at the upwind station by more than 100 micrograms per cubic meter (mcg/m^3), work activities will be halted and appropriate dust suppression measures will be employed. All readings will be recorded and be available for NYSDEC and NYSDOH personnel to review if requested.

Vapor Emission Response Plan

If ambient air concentration of total organic vapors at the downwind perimeter of the Exclusion Zone exceed 5 ppm above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities will resume with continued monitoring.

If the organic vapor level is above 10 ppm at the perimeter of the Exclusion Zone, activities must be shut down. When work shutdown occurs, downwind air monitoring as directed by the Site HSO will be implemented to ensure that vapor emission does not impact the nearest residential or commercial structure at levels exceeding those specified in the Major Vapor Emission Response Plan.

Major Vapor Emission Response Plan

If any organic vapor levels greater than 10 ppm over background are identified at the perimeter of the Exclusion Zone all work activities will be halted.
If, following the cessation of work activities, or as the result of an emergency, organic vapor levels persist above 10 ppm above background at the perimeter of the Exclusion Zone, then the air quality will be monitored within 20 feet of the perimeter of the nearest residential or commercial structure (20-foot zone).

If efforts to abate the emission source are unsuccessful and organic vapor levels approaching 5 ppm persist for more than 30 minutes in the 20-foot zone, then the Major Vapor Emission Response Plan shall automatically be placed into effect. Also, the Major Vapor Emission Response Plan shall be immediately placed into effect if 20-foot zone organic vapor levels are greater than 10 ppm above background.

Upon activation of the Major Vapor Emission Response Plan, the following activities will be undertaken:

- All Emergency Response authorities will immediately be contacted by the Site HSO and advised of the situation.

- Air monitoring will be conducted at 30 minute intervals within the 20-foot zone. If two successive readings below action levels are measured, air monitoring may be halted or modified by the Site HSO.

Particulate Monitoring, Response Levels and Actions

Particulate concentrations will be monitored continuously during test pit activities at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The

equipment will be equipped with an audible alarm to indicate exceedances of the action level. In addition, fugitive dust migration will be visually assessed during all work activities.

If the downwind PM-10 particulate is 100 mcg/m^3 greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the up wind level and provided that no visible dust is migrating from the work area.

If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the up wind level, work will be stopped and re-evaluation of activities initiated. Work will resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 above the upwind level and preventing visible dust migration.

All readings will be recorded and available for NYSDEC and NYSDOH personnel to review.