NYSEG

New York State Electric & Gas Corporation

Border City Former Manufactured Gas Plant
Geneva, New York

REMEDIAL INVESTIGATION WORK PLAN ADDENDUM #2

November 2005

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

URS

URS Corporation
77 Goodell Street
Buffalo, New York 14203

REMEDIAL INVESTIGATION WORK PLAN

ADDENDUM #2

BORDER CITY FORMER MANUFACTURED GAS PLANT

GENEVA, NEW YORK

PREPARED FOR:

NEW YORK STATE ELECTRIC & GAS CORPORATION

PREPARED BY:

URS CORPORATION

77 GOODELL STREET

BUFFALO, NEW YORK 14203

NOVEMBER 2005

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1.0 INTRODUCTION

This *Work Plan Addendum# 2* (Addendum) summarizes the work elements for the additional field investigations and activities to be conducted as part of the Remedial Investigation at the New York State Electric & Gas Corporation (NYSEG) Border City Former Manufactured Gas Plant (MGP) site in Border City, Seneca County, New York (Figure 1). This Addendum must be used in conjunction with the Supplemental Remedial Investigation Work Plan and the following supporting documents: Quality Assurance Project Plan (QAPP); Health and Safety Plan (HASP); and Field Sampling Plan (FSP) dated October 2002.

2.0 PURPOSE

Additional work elements needed to achieve the remedial investigation objectives have been identified based upon data gathered from the site to date, and after discussion with the New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH). Additional required work tasks are discussed below.

The NYSDEC has requested the installation of an additional bedrock monitoring well for use as part of a potential long term monitoring program in conjunction with previously installed bedrock monitoring wells. Based upon existing data, there is an easterly component of flow between BR-02 and BR-03 that is not fully delineated by the existing bedrock monitoring wells. URS collected additional water levels from the bedrock wells during recent fieldwork at the site and compared it with previously collected data. The data showed similar results. Therefore, an additional monitoring well will be installed to assess and evaluate the easterly component of groundwater flow. Based upon discussions with the Department, the well will not be cored and will be installed using rotary methods. The proposed well, BR-05, will be located southeast of the Eastern Waste Disposal Area (Figure 2).

The NYSDOH has requested soil vapor sampling in the vicinity of the East Office Building to assess the potential for future exposure to potentially impacted soil vapors. Five soil vapor monitoring points will be installed around the outside of the East Office Building.

3.0 SCOPE OF WORK

URS proposes the following work items:

- Installation of one bedrock monitoring well
- Installation of five soil vapor monitoring points
- Sampling of five soil vapor monitoring points

3.1 Bedrock Monitoring Well Installation

URS will supervise the installation of one bedrock well (BR-05) at the proposed location shown on Figure 2. The boring associated with the monitoring well will be advanced through the overburden material with mud-rotary drilling methods using a 6-inch roller bit to the top of bedrock which is estimated to be approximately 200 feet below ground surface (bgs). The boring will be advanced approximately 5 feet into bedrock to create a rock socket. A 4-inch inside diameter (ID), threaded, carbon-steel casing with a concrete plug will be installed into the rock socket and tremie grouted in place with a cement-bentonite grout. After allowing the cement-bentonite grout to cure a minimum of 24 hours, the boring will be advanced with air-rotary drilling methods using a 4-inch hammer bit to approximately 300 feet bgs.

Upon the completion of boring, the monitoring well will be constructed using 2-inch ID, Schedule 40 polyvinyl chloride (PVC) well screen (0.030-inch continuous wrap) threaded into 2-inch ID, solid, Schedule 40 PVC well riser. The monitoring well will be screened from 240 feet bgs to 300 feet bgs. A mechanical rubber packer will be placed around the outside of the riser at 240 feet bgs. No sand pack will be placed in the screened interval and no seal will be placed above the mechanical packer. Centralizers will be placed at 20-foot intervals along the entire length of the well string to keep the well plumb in the boring.

The well location is a significant distance from the Eastern Waste Disposal Area and will be advanced through native materials where no known or suspected MGP related contaminants

exist. Soil and rock cuttings generated during well installation will be raked onto the ground surface nearby the well location.

3.1.1 Development and Sampling

The drilling subcontractor will perform well development. Development will be performed by air lifting methods until visual clarity is achieved. Well development water will be discharged to the ground surface in the vicinity and down slope of the monitoring well.

3.2 Soil Vapor Point Installation

A direct push drilling system (Geoprobe® or equivalent) will be used to facilitate the installation of five soil vapor points around the outside of the East Office Building (Figure 2). Soil vapor samples will be collected from the soil vapor points. The data will be used to assess and evaluate potential impacts to the East Office Building. The soil vapor point locations are subject to final approval in the field by the NYSEG based on the presence of sub-surface utilities. The borings associated with the soil vapor points will be advanced to a depth comparable to the depth of the foundation footing of the East Office Building or to approximately 1-foot above the top of water table, if the water table is less than 6 feet bgs. The New York State Department of Health (NYSDOH) *Guidance for Evaluating Soil Vapor Intrusion in the State of New York* document recommends that a minimum of a three-foot thick bentonite seal be placed over the soil vapor point and sand/glass bead pack to prevent outdoor air infiltration. The NYSDOH guidance document also recommends that a minimum of a one-foot thick zone must be monitored with each soil vapor point. Therefore, the soil vapor points will not be installed to a depth of less than 4 feet bgs.

3.2.1 Direct Push Procedures

Each of the soil vapor points will be "permanent" monitoring points. The monitoring points will be installed using the following direct-push procedures.

Direct Push Procedures:

1. Inspect the equipment to ensure proper working condition.

2. Thoroughly decontaminate the down hole equipment prior to and between locations using laboratory grade soap and water.

3. Attach the drive head assembly to the sample rods.

4. Drive probe rods to the desired depth using a Point Holder (AT-13B) and an Implant.

5. Anchor/Drive Point (PR-14) with a hydraulic press. DO NOT disengage the drive point when desired depth is achieved.

6. Soil vapor points will be installed in the borings using the methods for construction described below.

3.2.2 Soil Vapor Point Installation and Construction Procedures

Summary: A method for construction of soil vapor points within unconsolidated material, which enables acquisition of soil vapor samples for laboratory testing. The soil vapor points will be advanced to a depth comparable to the depth of foundation footing of the East Office Building or to approximately 1-foot above the top of water table, if the water table is less than 6 feet bgs. The soil vapor points will not be installed to a depth of less than 4 feet bgs to comply with the NYSDOH guidance document. The soil vapor points will be installed using the procedures described below.

Installation Procedures:

1. Implants shall be 6 inches in length (e. g., Geoprobe® AT86 series) and are to be constructed of double woven stainless steel wire screen. Implants shall have a pore diameter of 0.0057 inch, which is equivalent to a 0.007 slot well screen. The bottom of the implants must have a post run tubing (PRT) style thread, the same fitting style used with Geoprobe® PRT vapor sampling tools. The top connection with the

Teflon or polyethylene tubing shall be stainless steel swage-lock or clamp fitting to prevent leakage during sample collection. The connection to the sampling summa canister shall be made through the use of 1/8th inch ID Teflon or polyethylene tubing.

2. Once the rods have been advanced to the desired depth, attach appropriate tubing to the implant to be installed. **Allow at least 48 inches of tubing length longer than the required depth of the implant.** Cover or plug the end of the tubing.

3. Remove the pull cap from the rods and lower the implant and tubing down inside the diameter of the rods until the implant hits the top of the Anchor/Drive Point. Note the length of the tubing to ensure proper depth has been reached.

4. Rotate tubing counterclockwise while exerting a gentle downward force to engage the PRT threads. Pull up on the tubing lightly to test the connection. DO NOT cut excess tubing.

5. Position a probe rod pull plate or manual probe rod jack on the top of the probe rod. Exert downward pressure on the tubing while pulling the probe rods up. Pull up about 12 inches.

6. Thread excess tubing through the bottom of a funnel and position funnel over top of probe rod. The funnel will be used to facilitate installation of glass beads or sand into the borehole around the screened portion of the implant.

7. Pour glass beads or sand into the funnel and down the inside diameter of the probe rods around the outside of the tubing and around the screen of the implant. Use tubing to "stir" beads or sand into place. [NOTE: beads, sand, and bentonite can only be installed in the vadose (unsaturated zone above the water table).

8. Lift up an additional 18 to 24 inches and insert a bentonite seal above beads or sand. It may be necessary to use distilled water to "chase" the seal down the rods.

9. Pull remaining rods out of the hole and complete with grout.

10. Cut any excess tubing and cut the flush-mount well risers just below the ground surface. Plug the tubing with a cap or plug.

11. Backfill to 6 inches below the top with concrete.

12. Install a protective casing (road box) and set it into the concrete backfill.

13. Lock the protective casing cover.

14. Document vapor point construction in the field notebook and later on a Soil Vapor Implant Construction Detail diagram (Appendix B).

3.3 Soil Vapor Point Sampling

Summary: To collect representative soil vapor samples, the soil vapor point tubing must be adequately sealed to prevent ambient air from being sampled. The soil vapor points must be purged prior to sampling. Sampling should commence immediately after purging.

The soil vapor points will be sampled at least 24-hours after installation. The samples will be labeled following procedures described below. The samples will be analyzed for the parameters indicated in Table 1. Sample volume requirements and holding times are provided in Table 2.

Using Flow Controllers With a Built-in Pressure Gauge

1. Open the soil vapor point road box (if present) and inspect the existing tubing. Check for any signs of cracks, clogging or any other characteristics that may impact the collection of a representative sample.

2. Connect the tubing to the vacuum pump. Use only new teflon tubing if needed for length and new silicone tubing for leak free unions. Do not reuse any tubing between sample locations.

3. Purge the soil gas monitoring well for five minutes. Flow rates for purging and sampling must not exceed 0.2 liters per minute (L/min) to minimize outdoor air infiltration during purging/sampling. Low flow rates for purging may require the use of low-flow modules for some types of pumps (e.g., Gilian GilAir 3 or 5 sampling pumps). Record start and stop time. Verify air is being drawn from the monitoring well by placing finger on the vacuum pump outlet tube to check for positive pressure.

4. Attach the flow controller provided by the laboratory to the Summa canister inlet (you must have one for each summa canister). **Do not reuse flow controllers** between locations. Each flow controller is pre-set by the laboratory to collect the sample over a one hour period.

5. Attach tubing from the soil vapor point to the flow controller on the Summa canister. All tubing used in this step should be the same tubing that was used in the purging process.

6. Open Summa canister valve completely and record the time and pressure. If the canister does not show a vacuum, do not use.

7. After one hour, close the Summa canister valve completely and record the time and pressure.

8. Disconnect the tubing.

9. There should still be a slight vacuum in the Summa canister. If no vacuum remains in the canister, do not send the canister for analysis. Retake the sample using the same procedure with a fresh canister.

10. Remove the flow controller.

11. If the canister does not show a significant net loss in vacuum after sampling, evaluate and document the problem. If necessary, use another summa canister to recollect the sample and **contact the project manager immediately.**

12. Replace the box cover.

13. Ship canister standard overnight, with COC, to STL Knoxville for TO-15 analysis.

Using Flow Controllers Without a Built-in Pressure Gauge

1. Open the soil vapor point road box (if present) and inspect the existing tubing. Check for any signs of cracks, clogging or any other characteristics that may impact the collection of a representative sample.

2. Connect the tubing to the vacuum pump. Use only new teflon tubing if needed for length and new silicone tubing for leak free unions. Do not reuse any tubing between sample locations.

3. Purge the soil gas monitoring well for five minutes. Flow rates for purging and sampling must not exceed 0.2 liters per minute (L/min) to minimize outdoor air infiltration during purging/sampling. Low flow rates for purging may require the use of low-flow modules for some types of pumps (e.g., Gilian GilAir 3 or 5 sampling pumps). Record start and stop time. Verify air is being drawn from the monitoring well by placing finger on the vacuum pump outlet tube to check for positive pressure.

4. Attach the pressure gauge provided by the laboratory to the summa canister, open valve completely, record reading, close valve completely, and remove the pressure gauge. If the canister does not show a vacuum, do not use.

5. Attach flow controller provided by the laboratory to the summa canister inlet (one for each summa canister). **Do not reuse flow controllers between locations**. Each flow controller is pre-set by the laboratory to collect the sample over a one hour period.

6. Attach tubing from the soil-gas conduit to the flow controller on the summa canister. All tubing used in this step should be the same tubing that was used in the purging process.

7. Open summa canister valve completely and record the time.

8. After one hour, close the summa canister valve completely. Record the time.

9. Disconnect tubing.

10. Remove the flow controller, attach the pressure gauge to the summa canister, open valve completely, record reading, close valve completely, and remove the pressure gauge. There should still be a slight vacuum in the summa canister. If no vacuum remains in the canister, do not send the canister for analysis. Retake the sample using the same procedure with a fresh canister.

11. If the canister does not show a significant net loss in vacuum after sampling, evaluate and document the problem. If necessary, use another summa canister to recollect the sample and **contact the project manager immediately**.

12. Replace box cover.

13. Ship canister standard overnight, with COC, to STL Knoxville for TO-15 analysis

Soil Vapor Sampling Quality Control

1. Field duplicates will be collected by attaching the T-fitting supplied by the laboratory to the end of the tubing from the soil-gas conduit. A summa canister with a flow controller is attached to each end of the T-fitting. For sampling, both summa canister valves are opened and closed simultaneously.

2. Ambient blanks will be collected by simply opening the summa canister (with a flow controller) valve for the designated one-hour time frame. One ambient blank is required for each day samples are collected.

3. Equipment blanks are collected by duplicating conditions, equipment, and supplies (e.g., tubing) used to collect the soil vapor samples. The sampling equipment is connected to a pressurized summa canister provided by the laboratory containing zero grade air for the designated one-hour time frame.

4. Care should be taken so that no samples are collected during or near an area where vehicle or other equipment exhaust is being discharged.

3.4 Documentation

The field sampling team must maintain a sample log sheet (Appendix B) summarizing the following data:

1. Sample Identification
2. Date and time of sample collection
3. Sampling depth
4. Identity of samplers
5. Sampling methods and devices
6. Purge volumes
7. Volume of soil vapor extracted
8. The Summa canister vacuum before and after samples collected
9. Chain of custody and shipping information

The URS geologist will log the time and material expenditures for later verification of contractor invoices. Upon completion of daily drilling activities, the geologist will complete the daily drilling record form (Appendix B). Following completion of the program, the geologist will transfer field notes onto standard forms for the investigation report.

The proper completion of the following forms/logs will be considered correct procedure for documentation during the drilling program:

1. Field Log Book - weather-proof hand-bound field book
2. Daily Drilling Records (Appendix B)

3.) Boring Logs (Appendix B)

4.) Soil Vapor Point Construction Detail Diagrams (Appendix B)

4.0 SAMPLE LABELING

Summary: In order to prevent misidentification and to aid in the handling of environmental samples collected during the field investigation, the following procedures will be used:

Procedure:

1. Affixed to each sample container will be a lab issued tag. The serial number of the canister will be noted on the sampling sheet and on the COC. The following information will be written on each tag with a pen:

   - Site name
   - Sample identification
   - Project number
   - Date/time
   - Sampler's initials
   - Analysis required

2. Each sample location (i.e., soil-gas conduit and ambient) will be assigned a unique identification alphanumeric code. An example of this code and a description of its components are presented below:

Examples

1. SG-1 8-8.5’

   SG-1 8-8.5 = Soil-Gas Conduit 1, 8-8.5 foot interval

2. YYYYMMDD-AB-1

   YYYYMMDD = date (e.g., 20050120 for January 20, 2005)
   -AB = outdoor air ambient blank
   -1 = first ambient blank sample of the day

3. YYYYMMDD-FD-2

   YYYYMMDD = date (e.g., 20050120 for January 20, 2005)
   -FD = field duplicate blank
   -2 = second field duplicate sample of the day

List of Abbreviations

Primary Sample Type

SG = Soil gas sample

Blank Sample Type

-AB = outdoor ambient blank air sample

-FD = field duplicate

-1 = indicates sequential number of particular blank (e.g., -1 indicates the sample is the first of this type of blank collected for that day).

5.0 SAMPLE SHIPPING

Summary: Proper documentation of sample collection and the methods used to control these documents are referred to as chain-of-custody procedures. Chain-of-custody procedures are essential for presentation of sample analytical chemistry results as evidence in litigation or at administrative hearings held by regulatory agencies. Chain-of-custody procedures also serve to minimize loss or misidentification of samples and to ensure that unauthorized persons do not tamper with collected samples.

Procedure:

1. The chain-of-custody (COC) record (Appendix B) should be completely filled out, with all relevant information.

2. The original COC goes with the samples. It should be placed in a Zip lock bag and placed inside the box containing a summa canister. The sampler should retain a copy of the COC.

3. Summa canisters are shipped in the same boxes the laboratory used for shipping.

4. Place the lab address on top of sample box. Affix numbered custody seals across box lid flaps. Cover seals with wide, clear tape.

5. Ship samples via overnight carrier the same day that they are collected if possible. Shipping samples one day after collection is permitted if required.

6.0 FIELD SAMPLING INSTRUMENTATION

URS-owned and rented field sampling equipment will require no maintenance beyond decontamination between sampling locations. The use of disposable filters for the PID is recommended. Calibration procedures for electronic instruments can be found in the equipment operating manuals. Calibration and maintenance procedures for the common instrumentation that will be used during field investigations are discussed in the equipment operating manuals. A copy of the manufacturer's operating manual for each instrument will be kept with the instrument or the operator. All field sampling equipment will be calibrated as recommended by the manufacturer. The calibration procedures and results will be recorded in the field notebook.

6.1 Preventative Maintenance

In case of an emergency, the equipment rental vendor, other URS offices, and/or the instrument manufacturer will be contacted. Instrumentation rental vendors, which provide overnight UPS/Federal Express service, are listed below.

Vendor:

Ashtead Technology Rentals: Rochester, New York: 1-800-242-3910

7.0 SAMPLING EQUIPMENT CLEANING PROCEDURES

Summary: To assure that no outside contamination will be introduced into the samples/data, thereby invalidating the samples/data, the following cleaning protocols will apply for all equipment used to collect samples/data during the field investigations. Geoprobe™ equipment and will be brush cleaned between locations.

Procedures:

1. Thoroughly clean equipment with laboratory-grade soap and water, until all visible contamination is gone.
2. Rinse with water, until all visible evidence of soap is removed.
3. Rinse several times with deionized water.
4. Air dry before using.
5. If equipment will not be used immediately, wrap in aluminum foil.

TABLES

TABLE 1
SUMMARY OF SAMPLING AND ANALYSIS PROGRAM
SOIL VAPOR INVESTIGATION

Analytical Method[1]	Matrix[2]	No. of Field Samples	Field Duplicates	Trip Blanks	MS/MSD (Pairs)	Total No. of Samples
Task 2: Soil Vapor Sampling						
TCL VOCs (USEPA Method TO-15 plus n-Alkanes and TICs)[3] -Implants	SV	5	1	0	0	6
TCL VOCs (USEPA Method TO-15plus n-Alkanes and TICs)[3] -Ambient Air	AA	1[4]	0	0	0	1

Notes:

1. New York State Department of Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category B data deliveralbles for all parameters. TCL - Target Compound List as specified in NYSDEC ASP Exhibit C, Section I Superfund-CLP Organics.
2. SV - Soil Vapor, AA - Ambient Air
3. Includes : n-Alkanes (n-Alkane, n-Heptane, n-Hexane, n-Octane, Pentane, n-Decane, n-Dodecane, n-Undecane, Nonane, and n-Butane) and Tenatively Identified Compounds (TICs) (Butylcyclohexane, Indane, Indene, Isopentane, 1,2,3-Trimethylbenzene, 2,2,4-Trimethylpentane, 2,3-Dimethylheptane, and 2,3-Dimethylpentane).
4. Ambient air samples will be collected at the rate of one per sample day.

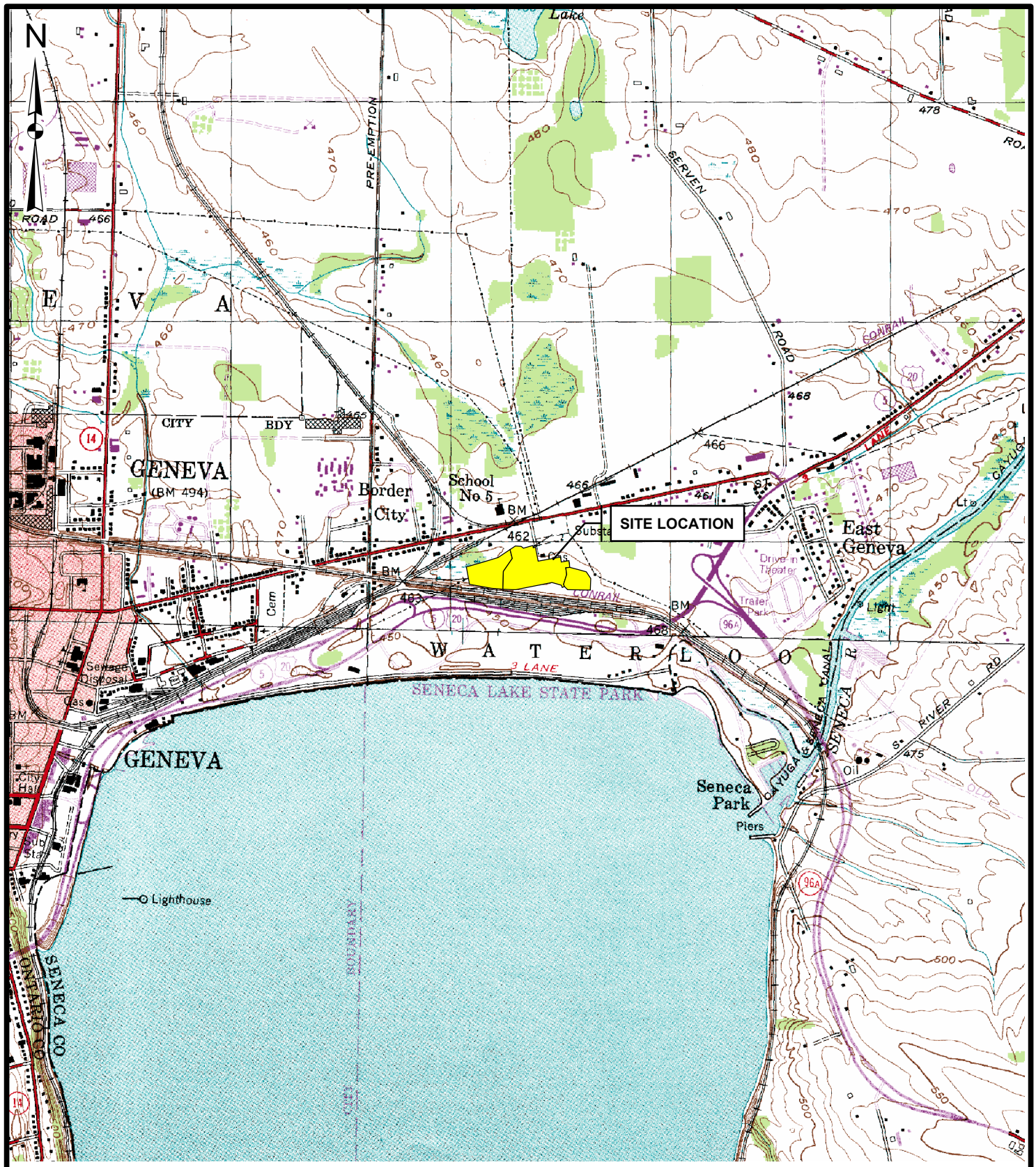
TABLE 2
SAMPLE CONTAINER, PRESERVATION, and HOLDING TIME REQUIREMENTS
SOIL VAPOR INVESTIGATION

Test Type	Container	Preservation	Holding time
SOIL VAPOR/AMBIENT AIR SAMPLES			
VOCs (USEPA Method TO-15 plus n-Alkanes and TICs)[1]	6 L Summa Canister, 1 hour flow controller	None	Analyze for polar compounds within 7 days of receipt at the laboratory, all other compounds within 14 days of receipt.

Notes:

1. Includes : n-Alkanes (n-Alkane, n-Heptane, n-Hexane, n-Octane, Pentane, n-Decane, n-Dodecane, n-Undecane, Nonane, and n-Butane) and Tenatively Identified Compounds (TICs) (Butylcyclohexane, Indane, Indene, Isopentane, 1,2,3-Trimethylbenzene, 2,2,4-Trimethylpentane, 2,3-Dimethylheptane, and 2,3-Dimethylpentane).

FIGURES

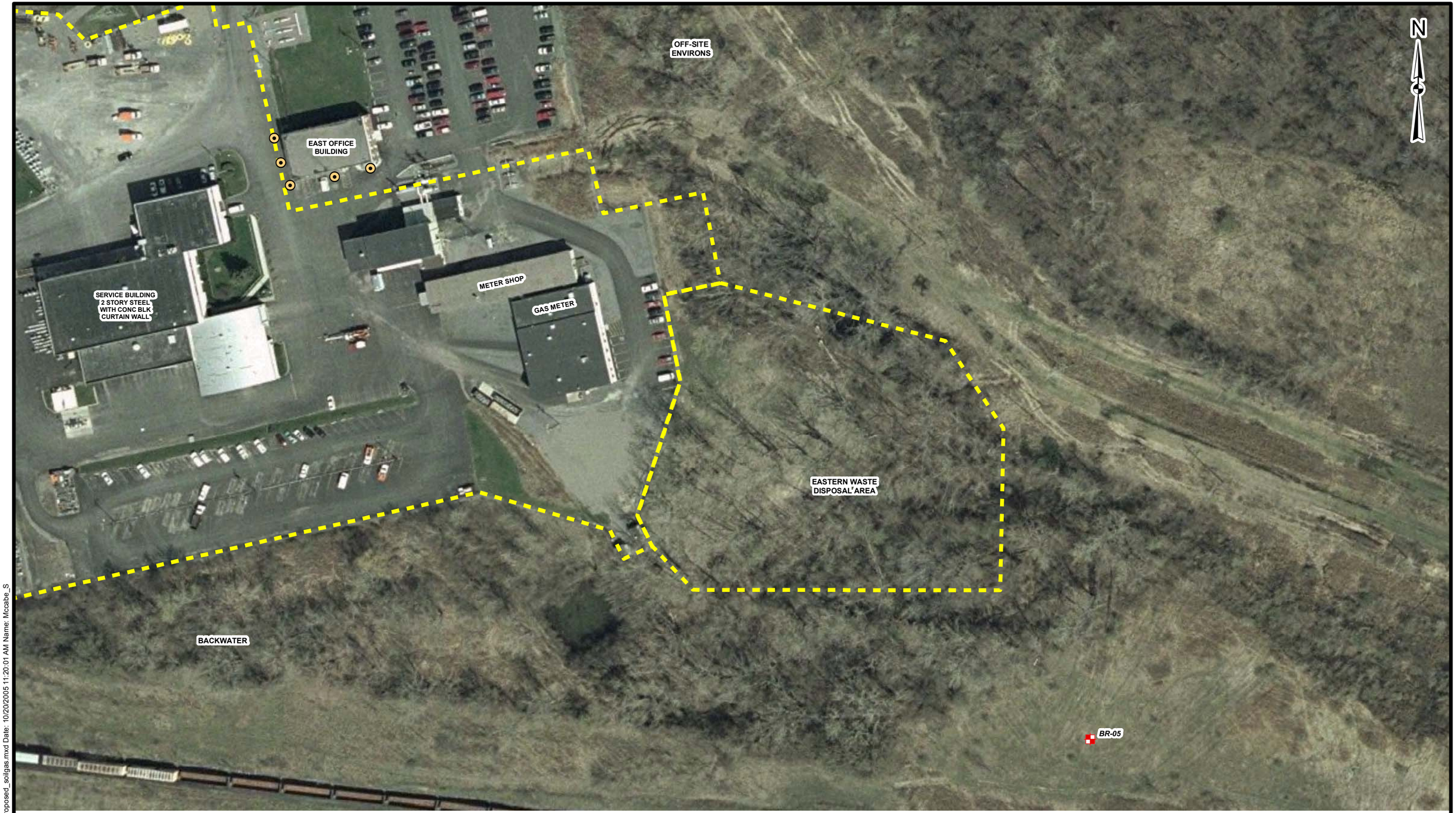


SOURCE: USGS 7.5' Quadrangle: Geneva North, New York - 1978 and Geneva South, New York - 1978.

0 1,000 2,000 4,000 Feet

URS	NYSEG - GENEVA SITE LOCATION MAP	FIGURE 1

N:\38393614.00000\DB\Gis\ArcMap\sitelocation.mxd Date: 10/20/2005 2:01:51 PM Name: Mccabe_S



Legend

- Proposed Monitoring Well Location
- Proposed Soil Gas Implant Location
- Approximate Site Boundary

0 50 100 200 Feet

NYSEG - GENEVA
PROPOSED MONITORING WELL AND SOIL GAS IMPLANT LOCATIONS

URS

FIGURE 2

N:\38393614.00000\DB\Gis\ArcMap\proposed_soilgas.mxd Date: 10/20/2005 11:20:01 AM Name: Mccabe_S

APPENDIX A

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.

APPENDIX B

FIELD ACTIVITY 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:		MATERIALS / SUPPLIES:	
UNITS		UNITS	

WEATHER:

URS ONSITE COORDINATOR

CONTRACTOR REPRESENTATIVE

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

	SAMPLE					DESCRIPTION				REMARKS
DEPTH FEET	STRATA SYMBOL	"S" NO.	"N" NO.	BLOWS PER 6"	REC% RQD%	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	USCS	MOISTURE PID
5										
10										
15										
20										
25										
30										

COMMENTS:	PROJECT NO.
	BORING NO.

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

	SAMPLE					DESCRIPTION				REMARKS
DEPTH FEET	STRATA SYMBOL	"S" NO.	"N" NO.	BLOWS PER 6"	REC% RQD%	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	USCS	MOISTURE PID
5										
10										
15										
20										
25										
30										

COMMENTS:	PROJECT NO.
	BORING NO.

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

	SAMPLE					DESCRIPTION				
DEPTH FEET	STRATA SYMBOL	"S" NO.	"N" NO.	BLOWS PER 6"	REC% RQD%	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	USCS	REMARKS
40										
45										
50										
55										
60										
65										

COMMENTS:	PROJECT NO.
	BORING NO.

DRILLING SUMMARY

Geologist:

Drilling Company:

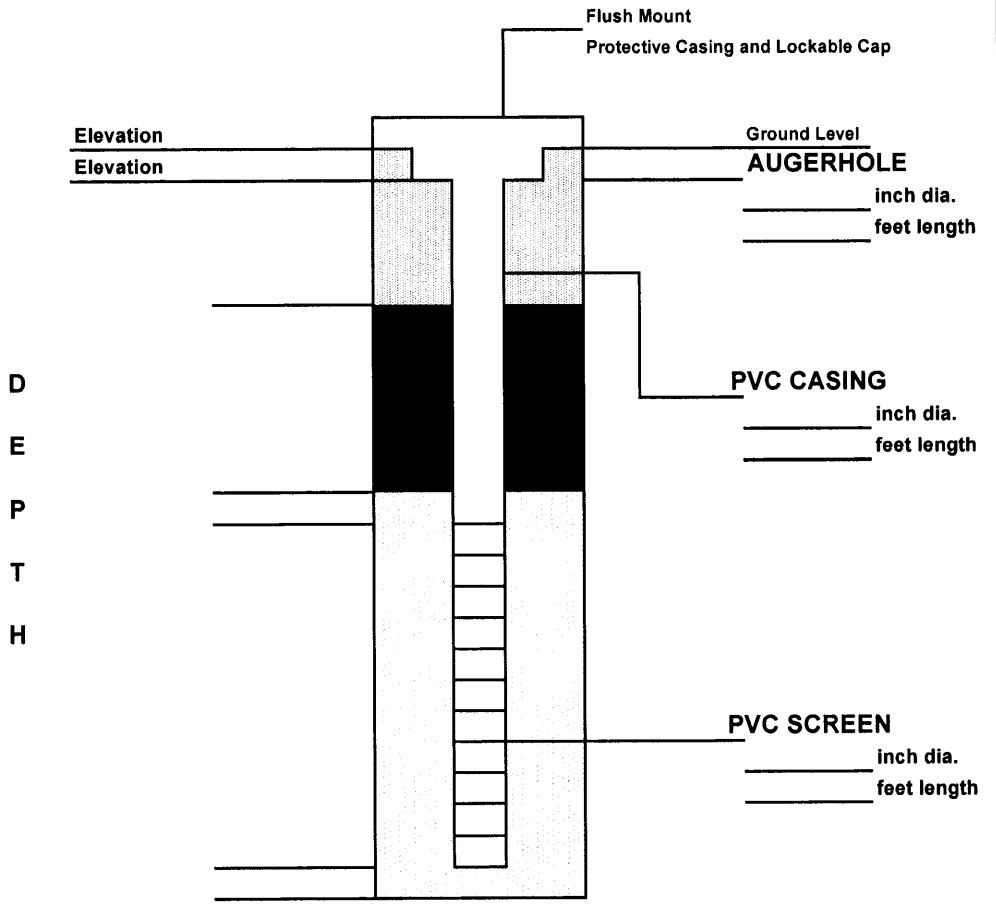
Driller:

Rig Make/Model:

Date:

GEOLOGIC LOG

Depth(ft.)	Description



WELL DESIGN

CASING MATERIAL	*SCREEN MATERIAL*	*FILTER MATERIAL*
Surface: Steel grade box	**Type:** 4" PVC	**Type:** #2 Sand **Setting:**
Monitor: 4" PVC	**Slot Size:** .020"	***SEAL MATERIAL***
		Type: Bentonite **Setting:**

COMMENTS:

LEGEND

- Cement/Bentonite Grout
- Bentonite Seal
- Silica Sandpack

Client:	**Location:**	**Project No.:**
URS Corporation	**MONITORING WELL CONSTRUCTION DETAILS**	**Well Number:**

WELL DEVELOPMENT LOG

URS Corporation

PROJECT TITLE: _____ WELL NO.: _____

PROJECT NO.: _____

STAFF: _____

DATE(S): _____

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=		1"	0.04
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=		2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	0.0	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	0.0	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x ___)	=	0	6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=		8"	2.60

OR

$V=0.0408 \times (\text{CASING DIAMETER})^2$

PARAMETERS	ACCUMULATED VOLUME PURGED (GALLONS)										
pH											
SPEC. COND. (umhos)											
APPEARANCE											
TEMPERATURE (°C)											

COMMENTS:

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: _____ Site: _____ Well I.D.: _____

Date: _____ Sampling Personnel: _____ Company: URS Corporation

Purging/ Sampling Device: _____ Tubing Type: _____ Pump/Tubing Inlet Location: Screen midpoint

Measuring Point: Below Top of Riser Initial Depth to Water: _____ Depth to Well Bottom: _____ Well Diameter: _____ Screen Length: _____

Casing Type: PVC Volume in 1 Well Casing (liters): _____ Estimated Purge Volume (liters): _____

Sample ID: _____ Sample Time: _____ QA/QC: _____

Sample Parameters: _____

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (mS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	Eh (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
Tolerance:	0.1	---	3%	10%	10%	+ or - 10	---	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft; 1 inch diameter well = 154 ml/ft; 2 inch diameter well = 617 ml/ft; 4 inch diameter well = 2470 ml/ft ($vol_{cyl} = \pi r^2 h$)

Remarks:

CHAIN OF CUSTODY RECORD

URS

PROJECT NO. | SITE NAME

SAMPLERS (PRINT/SIGNATURE)

LAB _____

COOLER _____ of _____

PAGE _____ of _____

DELIVERY SERVICE: _____ AIRBILL NO.: _____

LOCATION IDENTIFIER	DATE	TIME	COMP/ GRAB	SAMPLE ID	MATRIX	TOTAL NO.# OF CONTAINERS	TESTS	BOTTLE TYPE AND PRESERVATIVE	REMARKS	SAMPLE TYPE	BEGINNING DEPTH (IN FEET)	ENDING DEPTH (IN FEET)	FIELD LOT NO. # (ERPIMS)

MATRIX CODES

AA - AMBIENT AIR; SE - SEDIMENT; SH - HAZARDOUS SOLID WASTE; SL - SLUDGE; WP - DRINKING WATER; WW - WASTE WATER; WG - GROUND WATER; SO - SOIL; DC - DRILL CUTTINGS; WL - LEACHATE; GS - SOIL GAS; WC - DRILLING WATER; WO - OCEAN WATER; WS - SURFACE WATER; WQ - WATER FIELD QC; LH - HAZARDOUS LIQUID WASTE; LF - FLOATING/FREE PRODUCT ON GW TABLE

SAMPLE TYPE CODES

TB# - TRIP BLANK; SD# - MATRIX SPIKE DUPLICATE; RB# - RINSE BLANK; FR# - FIELD REPLICATE; N# - NORMAL ENVIRONMENTAL SAMPLE; MS# - MATRIX SPIKE; (# - SEQUENTIAL NUMBER (FROM 1 TO 9) TO ACCOMMODATE MULTIPLE SAMPLES IN A SINGLE DAY)

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED FOR LAB BY (SIGNATURE)	DATE	TIME

SPECIAL INSTRUCTIONS

Distribution: Original accompanies shipment, copy to coordinator field files

URSF-075C/1 OF 1/CofCR/GCM

DRILLING SUMMARY

Geologist:

Drilling Company:

Driller:

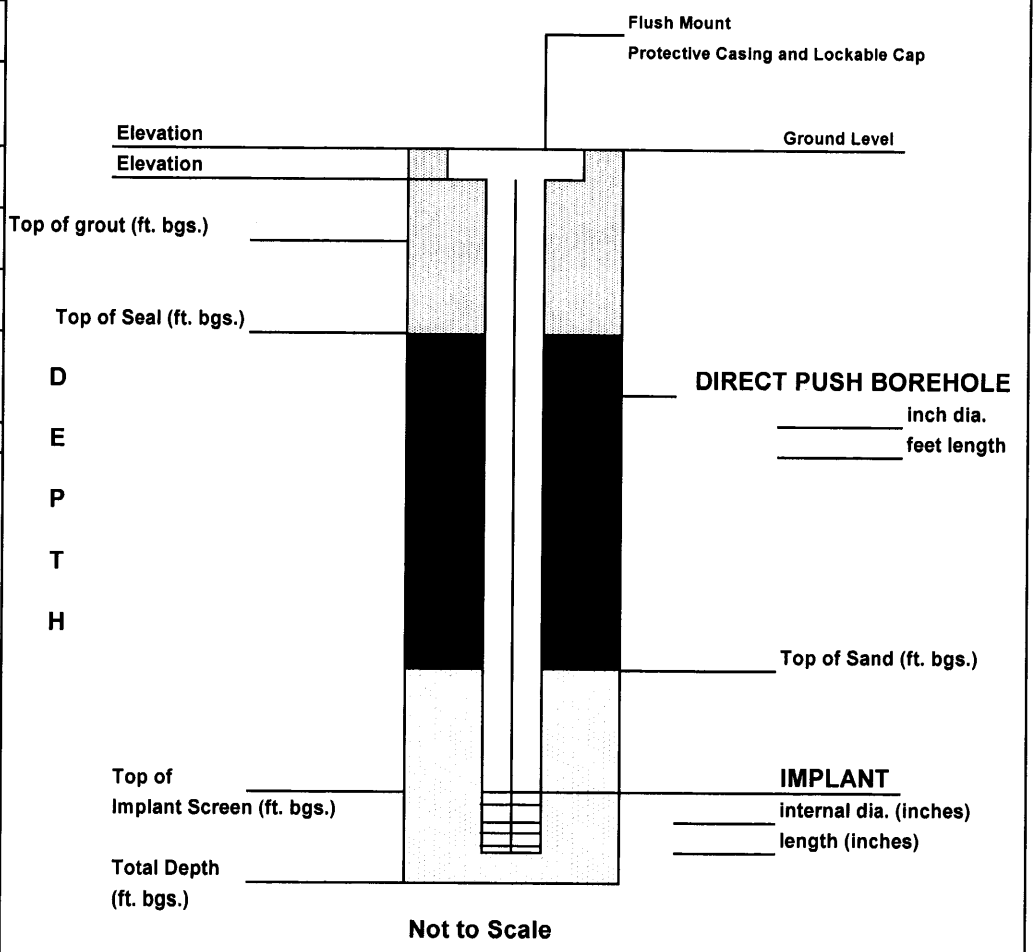
Rig Make/Model:

Date:

GEOLOGIC LOG

Depth(ft.)	Description

WELL DESIGN



CASING MATERIAL	*SCREEN MATERIAL*	*FILTER MATERIAL*
Surface:	**Type:** 6-inch stainless steel implant	**Type:** **Setting:**
Well: 3/8 inch OD polyethylene tubing	**Pore Diameter:** 0.0057-inch	***SEAL MATERIAL***
		Type: Bentonite **Setting:**
		Grout **Setting:**
		Concrete **Setting:**

COMMENTS:

Implant connected to anchor point at bottom of boring. 3/8 inch outside diameter (OD) poly tubing onnected from implant to surface for soil gas sampling.

LEGEND

- Cement/Bentonite Grout
- Bentonite Seal
- Silica Sandpack

Client:	**Location:**	**Project No.:**
URS Corporation	**SOIL GAS CONDUIT CONSTRUCTION DETAILS**	**Well Number:**

Summa Canister Sampling Field Data Sheet

Site:

Samplers:

Date:

Sample #					
Location					
Summa Canister ID (Lab ID, if provided)					
Additional Tubing Added	NO/ YES - How much	NO/ YES - How much	NO/ YES - How much	NO/ YES - How much	NO/ YES - How much
Purge Time (Start)					
Purge Time (Stop)					
Total Purge Time (min)					
Purge Volume					
Pressure Gauge - before sampling					
Sample Time (Start)					
Sample Time (Stop)					
Total Sample Time (min)					
Pressure Gauge - after sampling					
Sample Volume					
Canister Pressure Went To Ambient Pressure?	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO
General Comments:					