

Work Plan
Mr. C's Dry Cleaners Site, East Aurora, New York
NYSDEC Site # 9-15-157
Soil Gas Survey, First Presbyterian Church Society Property,

1.0 Purpose

As a result of volatile organic compounds (VOCs) within the ambient air inside the Presbyterian Church, a soil gas survey on and off the property will be conducted. The purpose of this soil gas survey is to determine the location and concentrations of subsurface volatile organic compound contamination and its possible source. The information developed from the survey and analysis is expected to be utilized for future mitigation purposes.

2.0 Introduction

To be proactive and follow-up with New York State Department of Environmental Conservation (DEC) and Department of Health (DOH) requirements to perform these services, an active soil gas survey will be performed across the First Presbyterian Church Society property on the corner of Main and Pierce Streets in East Aurora, New York. The soil gas sampling will be conducted for volatile organic compound (VOC) analysis at thirty-five locations, on a grid with an approximate 55-foot station and line spacings in all areas except where buildings are present (see Figure 1). The station and line spacings have been adjusted slightly around the perimeter of the church and along the sewer lateral extending from the north side of the church to Main Street in order to provide additional data in the areas. Soil gas samples will be collected where buildings are present in the western portion of the church society building in rooms 111, 113, 114, and the multi-purpose room. A total of 66 soil gas samples will be taken including 21 from surrounding buildings or facilities (see below), and six duplicates. The 55-foot grid spacing will allow for coverage of the site with the four samples in the western portion of the building to confirm the presence or absence of VOCs in the soil gas under the building.

As part of the ongoing remedial program at the Mr. C's Site (located across Main Street from the church) and in response to the revised DOH criteria for indoor air quality, seven residences or facilities surrounding the church property will be selected for indoor air quality sampling. The seven residences or facilities will be selected based on accessibility. One sub-slab basement and one ambient basement air sample will be collected from each residence/facility. In addition, one outdoor ambient air sample will be collected each day that sampling is conducted within the residences/facilities.

Samples will be analyzed by Ecology & Environments Analytical Services Center (ASC), for the select chlorinated VOCs via United States Environmental Protection Agency (USEPA) Compendium method TO-14A, Latest Update, using selective ion monitoring (SIM). A detection limit of $1\mu\text{g}/\text{m}^3$ must be obtained. A 72-hour turnaround time will be provided for all air sample analyses.

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Mr. C's Dry Cleaners Site, East Aurora, New York (continued)

The field survey will be performed using the equipment and procedures described below.

3.0 Equipment

Outdoor

- Direct-Push Geoprobe[®] unit with vacuum pump;
- 1.25-inch diameter steel probe rods (decontaminated between sample points);
- Post Run Tubing (PRT) System sampling tools including point holders, adapters, and Teflon-lined polyethylene tubing;
- SUMMA[®] canisters (provided by E & E) & vacuum inlet control gauge. Control gauge set for one hour;
- PID (with a 10.6 eV lamp)/FID for Health and Safety screening during all field activities

Indoor

- Concrete coring machine or hammer drill;
- Drill bits: 1-inch diameter x 12-inch long (usable length) and 3/8-inch x 12-inch;
- Tapered, laboratory-grade, silicone rubber plugs with 3/8" hole;
- Air sampling pump (calibrated to < 0.1 liters per minute);
- Particulate filters;
- Teflon-lined, polyethylene tubing (3/8-inch O.D. x 1/4 -inch I.D.);
- PID (with a 10.6 eV lamp)/FID for screening purposes;
- SUMMA[®] canisters (provided by E & E) with vacuum gauge; and
- Digital camera.

4.0 Active Soil Gas Sampling Procedures

4.1 Outdoor

A vehicle-mounted Geoprobe[®] unit will be used to collect the subsurface soil gas samples using the following procedures:

- Obtain underground utility information in relationship to the proposed soil gas points.

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Mr. C's Dry Cleaners Site, East Aurora, New York (continued)

- A clean drive point adaptor and new expendable point will be driven to the appropriate depth (2 to 3 feet above existing groundwater depths). The expendable drive point will be sacrificed at each soil gas sampling location.
- After the drive point has reached the desired depth, the probe rod will be retracted approximately 3-4" to create a void which will allow the migration of soil vapor sample into the bottom of the drive point adaptor.
- A clean, unused piece of ¼" Teflon-lined polyethylene tubing will then be attached to the stainless steel adaptor. The tubing is inserted into the probe rod and extended to the bottom of the probe rod. Using a counter-clockwise circular motion, the tubing is threaded to the drive point adaptor and tightened to compress the "O" ring seal.
- To ensure the integrity of the PRT and tubing connections, a vacuum check will be performed on the system prior to purging and collecting the sample.
- After connecting the tubing to the "down-hole" drive point adaptor, the line is purged by drawing a measured volume (one tubing volume) of soil gas/vapor through the tubing using the vacuum/volume system mounted in Geoprobe® unit. A tubing pinch valve will be utilized to seal the end of the tube while the connection to the canister is made and to re-seal the tubing after sampling is completed
- The tubing connected to the drive point adaptor is then disconnected from the vacuum system and attached to a SUMMA® canister.

For preparation of the SUMMA® canister and collection of the sample, the following procedure is to be followed:

- Soil gas samples must be collected in SUMMA® canisters for lab analysis. Each cleaned SUMMA® canister will have a certification check performed with the flow controller in place. If a canister is determined to be contaminated, then it will be re-cleaned and re-certified. The SUMMA® canisters will be provided by the ASC.
- The sample is to be collected over a one-hour period to ensure a flow rate of <0.1 liters per minute. The sampling rate of the canister will be controlled by the use of a calibrated orifice within the flow controller. The calibrated orifice of each flow controller will be preset at the laboratory. The controllers will be attached to the canisters prior to the GC/MS certification check to ensure that the flow controllers are also included in the QA/QC procedures.
- The cycle time of the canisters shall not exceed thirty days. The cycle time is defined as the time from shipment from the laboratory, through the return shipping and analysis at the laboratory.

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Mr. C's Dry Cleaners Site, East Aurora, New York (continued)

- A canister with less than 25 inches of Hg showing on the vacuum gauge prior to sampling will not be used.
- The canister and control valve assembly will be kept out of direct sunlight during sampling by using a cloth or plastic drape or an enclosure. This is to prevent undue heating of the flow controller.
- A slight vacuum will be left in the canister at the end of sampling so that it may be documented that the canister did not leak during transit.

Note:

During sampling no activities will be permitted in the immediate area that involve using materials containing VOCs. The area will be inspected prior to sampling and any containers of oil, gasoline and any other hydrocarbons are to be removed from the area. Sampling personnel will use caution and avoid activities that can influence the sample results, such as pumping gas prior to sampling, using marking pens with the sampling devices, or wearing freshly dry-cleaned clothing while sampling. The sampling point will be monitored during sample collection to insure that the gas implant, the tubing and valves, and the canister remain intact and undisturbed.

- Complete the sample collection log with the appropriate information and log each sample on the chain-of-custody form.
- All canisters will be returned to E & E's ASC by the E & E field staff. No work or shipment of samples will be expected on weekends or holidays.
- All probe holes (approximately 1½-inch in diameter) will be backfilled with bentonite hole plug. If drilling through surface pavement is required, the pavement will be repaired with either ready mix concrete or cold patch asphalt (depending on existing pavement).
- All sampling tools will be decontaminated with Alconox and water between probe holes and all tubing will be discarded after use.
- All waste streams generated will be disposed

4.2 Indoor

4.2.A Church

For substructure soil gas sampling, the following sampling preparation procedure is to be followed:

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Mr. C's Dry Cleaners Site, East Aurora, New York (continued)

- Drill a 1-inch diameter hole about 1 inch into the concrete using an electric hammer drill or concrete coring machine. Extend the hole through the remaining thickness of the slab using a 3/8-inch drill bit. Extend the hole about 3-inch into the sub-slab material using either a drill bit or a steel probe rod.
- Insert a section of 3/8-inch O.D., 1/4-inch I.D. Teflon-line polyethylene tubing to the bottom of the floor slab.
- Seal the annular space between the 1-inch hole and the 3/8-inch tubing by seating a tapered laboratory-grade silicone rubber plug perforated with a 3/8-inch hole into the hole and capping the stopper with a beeswax seal, if necessary.

For preparation of the SUMMA[®] canister and collection of the sample, the following procedure is to be followed:

- Place SUMMA[®] canister adjacent to subsurface probe.
- Record SUMMA[®] canister serial number on the chain of custody (COC).
- Assign sample identification on canister I.D. tag and record on COC.
- Remove brass plug from canister fitting.
- Install pressure gauge/metering valve on cannister valve fitting.
- Open and close canister valve.
- Record gauge pressure, gauge pressure must read > 25 inches of Hg.
- Remove brass plug from gauge and install particulate filter onto metering valve input.
- Connect subsurface probe to end of in-line particulate filter.
- Open canister valve to initiate sample collection.
- Take digital photograph of canister setup and surrounding area.
- Record local time on COC.

Procedure for termination of sample collection:

- Record local time on COC.

- Close canister valve.
- Disconnect Teflon-lined polyethylene tubing and remove particulate filter and pressure gauge from canister.
- Install brass plug on canister.
- Remove temporary subsurface probe and properly seal hole in the slab.
- Place the sample container in the original box.
- Complete the sample collection log with the appropriate information and log each sample on the chain-of-custody form.
- Fill hole with bentonite and patch top with concrete, as required
- All canisters will be returned to E & E's ASC by the E & E field staff. No work or shipment of samples will be expected on weekends or holidays.

4.2.B Buildings and Facilities around the Church

For substructure soil gas sampling, the following sampling preparation procedure is to be followed:

- If available, air sampling will be performed around an interior low point sump.

If no sump is available and accessibility to drill a sub-slab hole has been granted, then:

- Drill a 1-inch diameter hole about 1 inch into the concrete using an electric hammer drill or concrete coring machine. Extend the hole through the remaining thickness of the slab using a 3/8-inch drill bit. Extend the hole about 3-inch into the sub-slab material using either a drill bit or a steel probe rod.
- Insert a section of 3/8-inch O.D., 1/4-inch I.D. Teflon-line polyethylene tubing to the bottom of the floor slab.
- Seal the annular space between the 1-inch hole and the 3/8-inch tubing by seating a tapered laboratory-grade silicone rubber plug perforated with a 3/8-inch hole into the hole and capping the stopper with a beeswax seal, if necessary.
- Connect the tubing to a Teflon lined air-sampling pump with a polyethylene discharge tubing. Purge approximately 1 liter of gas from the subsurface probe using the air-sampling pump. The sampling pump discharge should be collected in a 1 liter Tedlar bag and screened using the PID and FID.
- Disconnect the air sampling pump and plug the end of the tubing.

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Mr. C's Dry Cleaners Site, East Aurora, New York (continued)

For preparation of the SUMMA[®] canister and collection of the sample, the following procedure is to be followed:

- Place SUMMA[®] canister adjacent to subsurface probe.
- Record SUMMA[®] canister serial number on the chain of custody (COC).
- Assign sample identification on canister I.D. tag and record on COC.
- Remove brass plug from canister fitting.
- Install pressure gauge/metering valve on canister valve fitting.
- Open and close canister valve.
- Record gauge pressure, gauge pressure must read > 25 inches of Hg.
- Remove brass plug from gauge and install particulate filter onto metering valve input.
- Connect subsurface probe to end of in-line particulate filter.
- Open canister valve to initiate sample collection.
- Take digital photograph of canister setup and surrounding area.
- Record local time on COC.

Procedure for termination of sample collection:

- At end of one hour sample collection period, record gauge pressure.
- Record local time on COC.
- Close canister valve.
- Disconnect Teflon-lined polyethylene tubing and remove particulate filter and pressure gauge from canister.
- Install brass plug on canister.
- Remove temporary subsurface probe and properly seal hole in the slab.
- Place the sample container in the original box.

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Mr. C's Dry Cleaners Site, East Aurora, New York (continued)

- Complete the sample collection log with the appropriate information and log each sample on the chain-of-custody form.
- Fill hole each with bentonite and patch top with concrete, as necessary.
- All canisters will be returned to E & E's ASC by the E & E field staff. No work or shipment of samples will be expected on weekends or holidays.

4.3 New Monitoring Well Installations and Decommissioning of Existing Wells

The installation of new monitoring wells will primarily be used to review the extent of contamination off site of the Mr. C's site. The locations of these well be determined by the Department. In addition, the decommissioning of existing wells will be determined by the Department. The location of new and removal of existing wells will be determined after the completion of the outdoor and interior air monitoring and soil gas program. Standard well installation practices as required by NYSDEC will be utilized for new and decommissioning of existing wells.

This work will be performed in conjunction with the 2004 well sampling program included in the current work assignment modification for the Mr. C's project.

5.0 Reporting

E & E will produce a brief letter report that summarizes the soil gas survey, the analytical results, and recommendations for further work (if necessary) based on the data generated and consultation with the NYSDEC/NYSDOH. Analytical results for two primary contaminants of interest and total volatile organic compounds (VOCs) will be presented as color concentration contour maps. In addition, a Daily Observation Report summarizing each day of field activities will be provided to the NYSDEC's representative.

6.0 Budget and Schedule

The estimated cost for performing the three elements of work in the work plan is \$117,252 (see Table A). Weather permitting, E & E will perform the soil gas survey within three weeks of notice to proceed by NYSDEC, or as soon as a Geoprobe subcontractor can be obtained and be under contract. The analytical turn around time for the field sampling program is 72 hours. E & E will provide a draft letter report with sampling results for Department review within three weeks of completing the field program.

Work Plan

Mr. C's Dry Cleaners Site, East Aurora, New York (continued)

The complete schedule of program operations are estimated as follows:

Delivery of Work Plan and Scope of Services	March 17, 2004
Acceptance of Scope / NTP	March 24, 2004
Procurement of Subcontractors - Geoprobe	March 26, 2004
- Well Drillers/Decommissioning	March 26, 2004
Finalize Subcontract Agreements and HASPs with Subcontractors	April 5, 2004
Submit Work Assignment Budget modification	April 6, 2004
Stakeout Soil Gas locations	April 7, 2004
Access Agreements on all properties - by Department	TBD
Verification of Underground Utilities - Underground Utilities	April 14, 2004
Adjustments to soil gas locations	April 16, 2004
Start of Field Work	April 19, 2004
Completion of Soil Gas survey - field	April 30, 2004
Completion of interior air sampling program	April 30, 2004
Completion of all analytical services and reporting	May 5, 2004
Draft Report to Department	May 28, 2004
Department Review and Comments - (estimated)	June 2, 2004
Decision on new well locations and well decommissioning	June 7, 2004
Mr. C's Well Sampling program - startup	June 14, 2004
Final Report Submittal	June 16, 2004
Analytical Results due from Well Sampling Program	July 14, 2004
Submittal of Groundwater Analysis Report	August 14, 2004

Figures:

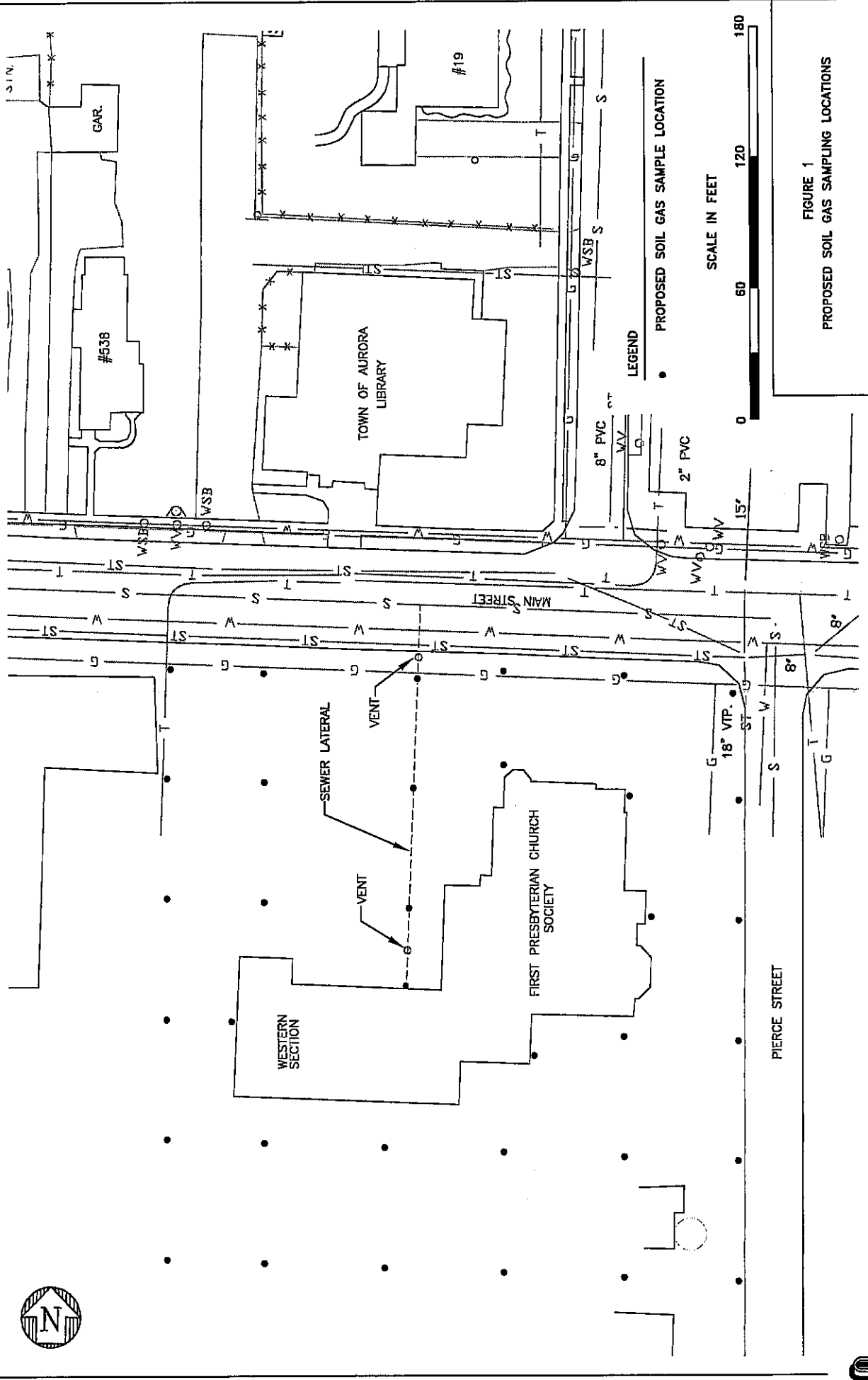
1. First Presbyterian Church Society Soil Gas Survey Grid.
2. Geoprobe PRT System Schematic.

Tables:

- A. Program Costs

Work Plan
Mr. C's Dry Cleaners Site, East Aurora, New York

Figure 1
Soil Gas Grid Layout
Presbyterian Church



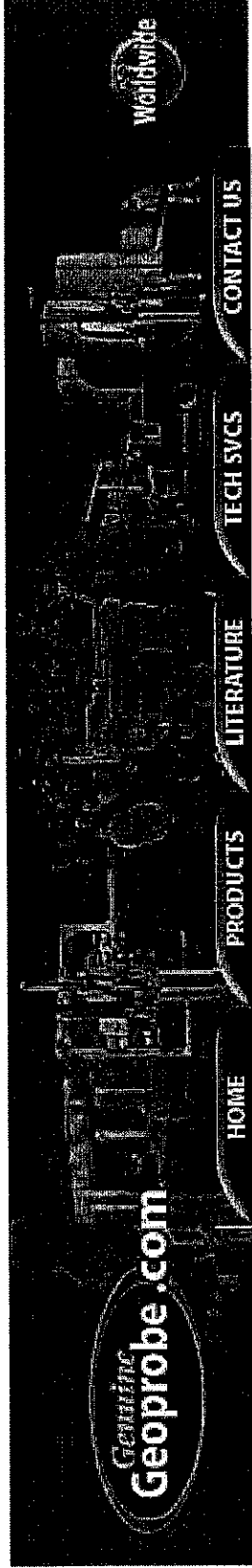
LEGEND
 ● PROPOSED SOIL GAS SAMPLE LOCATION



FIGURE 1
 PROPOSED SOIL GAS SAMPLING LOCATIONS

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Mr. C's Dry Cleaners Site, East Aurora, New York

Figure 2
Geoprobe PRT System Schematic



Geoprobe® Tools

| Sampling: [Soil](#) - [Groundwater](#) - [Manual](#) | [GW Monitoring](#) | [Hydraulic Conductivity](#) | [Geotechnical](#) | [Direct Sensing](#) | [Augers/Drills](#) | [Probe Rods](#) |

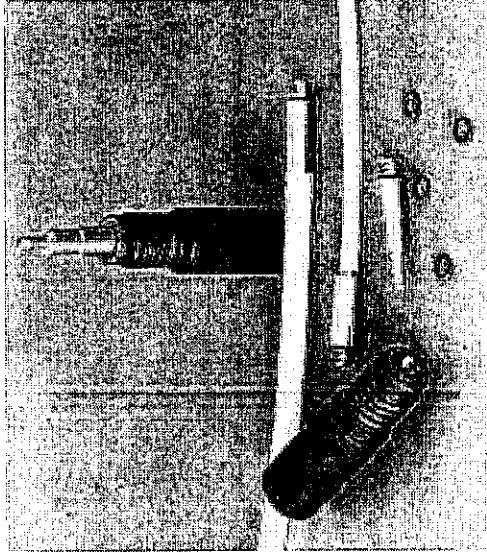
PRT Systems

PRT Active Sampling

► Main Info

Here's How It Works...

The Post Run Tubing System (PRT) is an ideal tool for locating and delineating contaminated areas when used properly. It allows the user to collect soil vapor samples quickly and easily at the desired sampling depth **WITHOUT** the time-consuming complications associated with rod leakage and contamination. O-ring connections enable the PRT system to deliver a vacuum-tight seal that prevents sample contamination from UP hole, and assures that the sample is taken from the desired depth at the **BOTTOM** of the hole. The sample is drawn through the point holder, through the adapter, and into the sample tubing. The tubing can be replaced after each sample, thus eliminating sample carryover problems and the need to decontaminate the probe rods. The resulting time-savings translates into a higher productivity rate for you and your client.



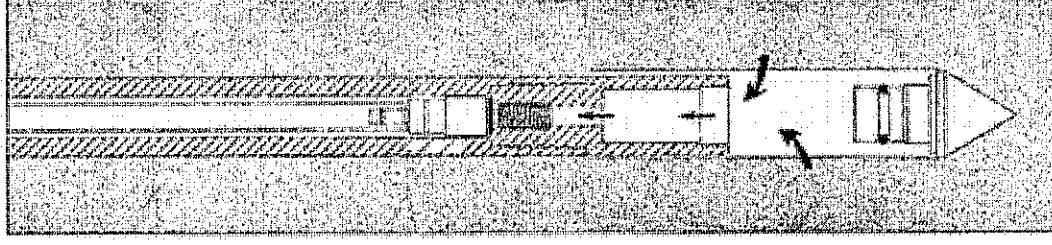
The PRT is inserted AFTER the probe rods are driven to depth. Advantages include...

- Increases speed and accuracy of soil gas sampling.
- Eliminates problems associated with rod leakage and sample carryover.
- Utilizes simple design for ease of use and vacuum-tight probing.
- Sampling train and all connections can be checked to verify leak-free status.

- Requires no management of inner tubing during probing.

PRT Applications:

- Rapidly define the extent of VOC contamination in the subsurface, under appropriate conditions.
- Rapidly define potential source areas of VOC contamination over large or small areas.
- Determine the types of VOC contamination present in the subsurface at a facility.
- Rapidly define the potential extent of groundwater contamination and down gradient migration of VOC's under appropriate conditions.
- Determine presence, extent, concentration, and types of landfill gasses (methane, carbon dioxide, et.) present in the subsurface at active and abandoned landfills.
- Locate potential sources and delineate plumes of perchloroethylene (PCE) associated with active or abandoned dry cleaning facilities.
- Locate potential source and delineate plumes of carbon tetrachloride (CCl₄) associated with active or abandoned grain storage facilities.
- Locate potential sources and delineate plumes of benzene, toluene, ethyl benzene, and xylenes (BTEX) associated with active or abandoned gasoline storage facilities [both underground storage tanks (UST) and aboveground storage tanks (AST)].
- Locate potential sources and delineate plumes of chlorinated solvents, including compounds such as trichloroethane, trichloroethylene, dichloroethane, and dichloroethylene, associated with active or abandoned facilities where degreasing or metal plastic parts cleaning operations were conducted.



A cross section of the PRT System showing how soil gas (arrows) is drawn through the inner tubing system.

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Work Plan
Mr. C's Dry Cleaners Site, East Aurora, New York

Table A
Program Costs

Rates for Year Ending January 31, 2003 (2/1/02 - 1/31/03)

Rate/Hr	Labor Category	Totals	1	2	3	4	5	6	7	8	9	10
\$73.88	IX	0	0	0	0	0	0	0	0	0	0	0
\$54.21	VIII	0	0	0	0	0	0	0	0	0	0	0
\$46.87	VII	10	4	4	2	0	0	0	0	0	0	0
\$39.85	VI	78	36	24	18	0	0	0	0	0	0	0
\$34.15	V	218	148	0	70	0	0	0	0	0	0	0
\$28.14	IV	0	0	0	0	0	0	0	0	0	0	0
\$25.12	III	292	144	118	30	0	0	0	0	0	0	0
\$22.40	II	12	12	0	0	0	0	0	0	0	0	0
\$17.49	I	10	0	10	0	0	0	0	0	0	0	0
	TOTAL HOURS	620	344	156	120	0	0	0	0	0	0	0

1) Total Labor Cost	\$18,800	\$10,562	\$4,283	\$3,955	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2) Overhead	185%	34,781	19,540	7,924	7,317	0	0	0	0	0	0	0
3) Total Labor and Overhead	53,581	30,102	12,207	11,272	0	0	0	0	0	0	0	0
4) Travel	588	408	94	86	0	0	0	0	0	0	0	0
5) Other Direct Costs	5,069	2,126	2,693	251	0	0	0	0	0	0	0	0
6) E&E Analytical Services	24,125	16,500	4,500	3,125	0	0	0	0	0	0	0	0
7) Subtotal	83,363	49,136	19,493	14,734	0	0	0	0	0	0	0	0
8) Subcontractors	29,870	9,870	0	20,000	0	0	0	0	0	0	0	0
9) Subtotal	113,233	59,006	19,493	34,734	0	0	0	0	0	0	0	0
11) Fixed Fee (on Line 3)	7.5%	4,019	2,258	916	845	0	0	0	0	0	0	0
12) Subtotal Project Price		\$117,252	\$61,264	\$20,409	\$35,579	\$0	\$0	\$0	\$0	\$0	\$0	\$0
13) Subcontract Fee *	4.0%	0	0	0	0	0	0	0	0	0	0	0
14) TOTAL PRICE		\$117,252	\$61,264	\$20,409	\$35,579	\$0	\$0	\$0	\$0	\$0	\$0	\$0

* Note: Subcontract Fee only on unit price subcontracts of value equal to or greater than \$10,000

DATA ENTRY AREA : TASK 1 To add other information you have to insert rows beginning with Task 1 and continuing with other tasks and be sure to copy to Schedule 2.11 (Soil Gas Survey

LABOR DETAIL

NSPE	IX	Travel Hours	Field Work			Field In-House Hours	Pubs	Total
			Days	HiDay	M-Day			
VIII								
VII - Siener/Miller					4		4	
VI - Stefan/Watt					36		36	
V - Meyers			1	10	10	100	148	
IV								
III - Francisco			1	10	10	100	144	
II					12		12	
I					0			
TOTAL			20	20	144		344	

E&E ANALYTICAL SERVICES
TO-14 with 72 hour - TAT with Summas 66 \$250.00 \$ 16,500

TOTAL E&E ANALYTICAL SERVICES \$ 16,500

TRAVEL DETAIL

	Unit	# Units	\$/Unit	Total
Airfare: Buffalo/Albany	RT		\$504.00	
Travel Agent Fee			\$28.00	
Per Diem: Albany	Day		\$34.00	
Per Diem: Rochester	Day		\$34.00	
Lodging: Albany	Night		\$70.00	
Local Tax on Lodging				
Auto Rental	Day		\$50.00	
Mini Van Rental	Day		\$70.00	
Local Mileage	Mile	800	\$0.36	\$ 288
Parking	Day			
Gasoline/Tolls	RT		\$20.00	\$ 120
TOTAL TRAVEL COSTS				\$ 408

E&E Equipment Period # Periods # Units \$/Unit Total
All equipment must be rented from an outside vendor or purchased for use

TOTAL E&E EQUIPMENT COSTS

OTHER DIRECT COST DETAIL

	Unit	# Units	\$/Unit	Total
Communication Costs	Call	8	\$5.00	\$ 40
Copies	page	300	\$0.10	\$ 30
Blueprinting	Page	10	\$1.75	\$ 18
CAD Computer Usage	Hour	6	\$10.00	\$ 60
Protective Clothing: Level D	Day	20	\$15.00	\$ 300
Protective Clothing: Level C	Day		\$50.00	
Protective Clothing: Level B	Day		\$70.00	
Shipping: Lab Samples	lbs.		\$65.00	
Shipping: Equipment	lbs.			
Shipping: Other Fedex Priority	5 lbs.	2	\$22.00	\$ 44
Postage (FED-EX PRIORITY)	2 lbs.	2	\$17.00	\$ 34
Purchased Items - Tubing	Lump Sum			\$ 800
Outside Equipment Rental (Generator/drill)	Lump Sum			\$ 400
Miscellaneous Field Supplies/ODCS	Lump Sum			\$ 400
TOTAL OTHER DIRECT COSTS				\$ 2,126

SUBCONTRACTORS Services to be Performed
Zebra Geoprobe/soil gas sampling

Cost Plus or Unit price
Subcontract Price
\$ 9,870

UNIT PRICE SUBCONTRACTORS (Quotes > \$10,000)

TOTAL SUBCONTRACTOR COSTS \$ 9,870

DATA ENTRY AREA : TASK 2
Church Air Monitoring

LABOR DETAIL

NSPE	Travel Hours	People	Field Work			In-House Hours	Pubs	Total
			Days	H/Day	M-Day			
IX					0			
VIII -					0			
VII - Stener				4			4	
VI - Stefan				24			24	
V					0			
IV					0			
III - Murphy	10	2	6	6	12	36	118	
II					0		10	
I	10		12	72	74		156	
TOTAL								

E&E ANALYTICAL SERVICES
A. Indoor Air Analysis -TO-14A Each 18 \$250.00 Total \$ 4,500

TOTAL E&E ANALYTICAL SERVICES \$ 4,500

TRAVEL DETAIL

	Unit	# Units	\$/Unit	Total
Airfare: Buffalo/Albany	RT		\$ 504.00	
Travel Agent Fee			\$ 28.00	
Per Diem: Albany	Day		\$ 34.00	
Per Diem: Rochester	Day		\$ 34.00	
Lodging: Albany	Night		\$ 70.00	
Local Tax on Lodging			0.00%	
Auto Rental	Day		\$ 50.00	
Mini Van Rental	Day		\$ 70.00	
Local Mileage	Mile	260	\$ 0.36	\$ 94
Parking	Day			
Gasoline/Tolls	RT		\$ 20.00	
TOTAL TRAVEL COSTS				\$ 94

E&E Equipment Period # Periods # Units \$/Unit Total
All equipment must be rented from an outside vendor or purchased for use

TOTAL E&E EQUIPMENT COSTS

OTHER DIRECT COST DETAIL

	Unit	# Units	\$/Unit	Total
Communication Costs	Call	100	\$0.10	\$ 10
Copy costs	Page	500	\$0.07	\$ 35
Blueprinting	Page	10	\$1.75	\$ 18
CAD-Computer Usage	Hour	10	\$10.00	\$ 100
Protective Clothing: Level D	Day	2	\$15.00	\$ 30
Protective Clothing: Level C	Day		\$50.00	
Protective Clothing: Level B	Day		\$70.00	
Shipping: Lab Samples	lbs.		\$65.00	
Shipping: Equipment	lbs.		\$0.00	
Shipping: Other Fedex Priority	5 lbs.		\$22.00	
Postage (FED-EX PRIORITY)	2 lbs.		\$17.00	
Purchased Items - Incidentals	Lump Sum			\$ 100
Air Filtration Units	Each	3	\$700.00	\$ 2,100
Miscellaneous Field Supplies/ODCs	Lump Sum			\$ 300
TOTAL OTHER DIRECT COSTS				\$ 2,693

SUBCONTRACTORS Services to be Performed Unit price Subcontract Price

UNIT PRICE SUBCONTRACTORS (Quotes > \$10,000)

TOTAL SUBCONTRACTOR COSTS

DATA ENTRY AREA : TASK 3
Monitoring Well Installation/Decommission

LABOR DETAIL

NSPE	Travel Hours	People	Field Work		Field		In-House Hours	Pubs	Total
			H/Day	M-Day	Hours	Hours			
IX			0	0					
VIII			0	0					
VII - Siener			0	0	2				2
VI - Steffan/Watt			0	0	18				18
V - Meyers	8	1	4	4	8	32	10		70
IV			0	0					
III - S.J. Smith	2	1	2	2	8	16	4		30
II			0	0					
I			0	0					
TOTAL			10	6	48	48	14		120

E&E ANALYTICAL SERVICES
Analysis performed on 3 new wells
Method 8021B & 524.2

NSPE	Analysis	Each	#	\$/Unit	Total
	Method 8021B & 524.2	Each	3	\$175.00	\$ 525
	TCLP Analysis - cuttings & debris Disposal Requirements	Each	2	\$1,300.00	\$ 2,600

TOTAL E&E ANALYTICAL SERVICES \$ 3,125

TRAVEL DETAIL

Item	Unit	# Units	\$/Unit	Total
Airfare: Buffalo/Albany	RT		\$ 504.00	
Travel Agent Fee			\$ 28.00	
Per Diem: Albany	Day		\$ 34.00	
Per Diem: Rochester	Day		\$ 34.00	
Lodging: Albany	Night		\$ 70.00	
Local Tax on Lodging			0.00%	
Auto Rental	Day		\$ 50.00	
Mini Van Rental	Day		\$ 70.00	
Local Mileage	Mile	240	\$ 0.36	\$ 86
Parking	Day			
Gasoline/Tolls	RT		\$ 20.00	
TOTAL TRAVEL COSTS				<u>\$ 86</u>

E&E Equipment
All equipment must be rented from an outside vendor or purchased for use

Item	Period	# Periods	# Units	\$/Unit	Total
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TOTAL E&E EQUIPMENT COSTS

OTHER DIRECT COST DETAIL

Item	Unit	# Units	\$/Unit	Total
Communication Costs	Call	2	\$5.00	\$ 10
Copy Costs	Each	200	\$0.07	\$ 14
Blueprinting	Page	4	\$1.75	\$ 7
CAD Computer Usage	Hour	4	\$10.00	\$ 40
Protective Clothing: Level D	Day	2	\$15.00	\$ 30
Protective Clothing: Level C	Day		\$50.00	
Protective Clothing: Level B	Day		\$70.00	
Shipping: Lab Samples	lbs.		\$65.00	
Shipping: Equipment	lbs.		\$0.00	
Shipping: Other Fedex Priority	5 lbs.		\$22.00	
Postage (FED-EX PRIORITY)	2 lbs.		\$17.00	
Purchased Items - Incidentals	Lump Sum			\$ 100
Outside Equipment Rental	Lump Sum			\$ 50
Miscellaneous Field Supplies/ODCs	Lump Sum			\$ 251
TOTAL OTHER DIRECT COSTS				<u>\$ 251</u>

SUBCONTRACTORS
Drilling Subcontractor TBA
Surveying TBD

Item	Services to be Performed	Unit price	Subcontract Price
			\$ 18,500
			\$ 1,500

UNIT PRICE SUBCONTRACTORS (Quotes > \$10,000)

TOTAL SUBCONTRACTOR COSTS \$ 20,000