EBIZNEWDOC

EBIZNEWDOC

Write or Copy/Paste Document Title In This Space

workplan.hw.518021.2009-04-15.Additional_SVI_Sampling_WP

DO NOT PHOTOCOPY. PRINT FROM PDF VERSION ONLY.

EBIZNEWDOC

EBIZNEWDOC

Gloversville MGP 4-15-09

Additional SVI investigation

nationalgrid (This is what is missing from Att 2 to 2009 Draft RE)

Brian M. Stearns 441742 v1
Lead Engineer
Environmental Department also eDocs

April 15, 2009

Mr. Bradley Brown
Engineering Geologist
New York State Department of Environmental Conservation
Region 4 Headquarters
1130 Wescott Road
Schenectady, New York 12206

Re: National Grid
Gloversville Former MGP Site
Gloversville, New York
Additional Soil Vapor Intrusion Investigation

Dear Mr. Brown:

This letter has been prepared as a follow-up to our April 6, 2009 meeting to recommend additional vapor intrusion sampling activities based on the results of the vapor intrusion evaluation activities implemented in March 2009 at the Gloversville former manufactured gas plant (MGP) site (the "site"). The vapor intrusion activities were conducted in accordance with a February 18, 2009 Work Plan to evaluate the potential presence, concentration, and distribution of MGP-related volatile organic compounds (VOCs) and other non-MGP-related VOCs in soil vapor below existing onsite buildings (hereafter, "sub-slab vapor") and in soil vapor by supplementing the sub-slab and soil vapor data previously collected at the site in 2005. This Work Plan was subsequently approved by the New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health in a February 25, 2009 letter.

The validated laboratory analytical results for detected compounds in the vapor samples collected in August 2005 (SV-1 and SV-2) and March 2009 are presented on Table 1 and the approximate locations of these samples are depicted on Figure 1. Please note, the data validation activities were conducted on an expedited basis in the event that further sampling was needed during this heating season. As discussed during our April 6, 2009 meeting, there were no MGP-related compounds that require further evaluation. However, the value of carbon tetrachloride in sub-slab sample SV-1A was 13.5ug/m^3. Based on Soil Vapor/Indoor Air Matrix 1 of NYSDOH's October 2006 *Final Guidance for Evaluation Soil Vapor Intrusion in the State of New York*, indoor air data is necessary to determine what action (if any) is necessary to address the carbon tetrachloride encountered beneath the slab. In order to fill this data need, National Grid is proposing to collect another sub-slab sample at SV-1A concurrently with an indoor air sample in the conference room beneath which this sample was collected. The sample collection, laboratory analytical, and reporting methods would be performed in accordance with the February 18, 2009 NYSDEC-/NYSDOH-approved Work Plan and Appendix E of National Grid's September 2006 *Soil Vapor Intrusion Evaluation at National Grid MGP Sites in New York State*. A copy of this appendix is included as Attachment A to this letter for your convenience. As noted in the indoor air sampling procedure included as Attachment A, a building survey and chemical survey form will be completed to note the chemicals being stored/used in the lower floor areas of the Service Center Building (consisting of the garage, office/conference room area, and the locker room/break area). A copy of the building survey and chemical inventory form is included as Attachment B.

Environmental Department, C-1, 300 Erie Boulevard West, Syracuse, New York 13202
T: (315) 428-5731 ■ F: (315) 460-8586 ■ brian.stearns@us.ngrid.com ■ www.nationalgrid.com

Please note, based on the following input from the site manager, we should be able to collect these samples within this heating season if we are able to complete the sampling in a timely manner:

- the heat in the building is currently on and is typically left on through the end of May to regulate temperatures between 60 and 65 degrees Fahrenheit;
- the ventilation system for the conference room we are conducting the sampling in is separate from the garage and provides a positive pressure relative to the garage area;
- the conference room is separated from the garage area by fire doors; and
- the conference room does not feature any doors or windows that lead directly outdoors.

National Grid is prepared to perform the above-identified sampling activities the week of April 20, 2009 if approval to proceed with these activities can be received from the NYSDEC and NYSDOH by April 17, 2009.

Please do not hesitate to call me at (315) 428-5731 if you have any questions or require additional information regarding the proposed additional soil vapor investigation.

Sincerely,

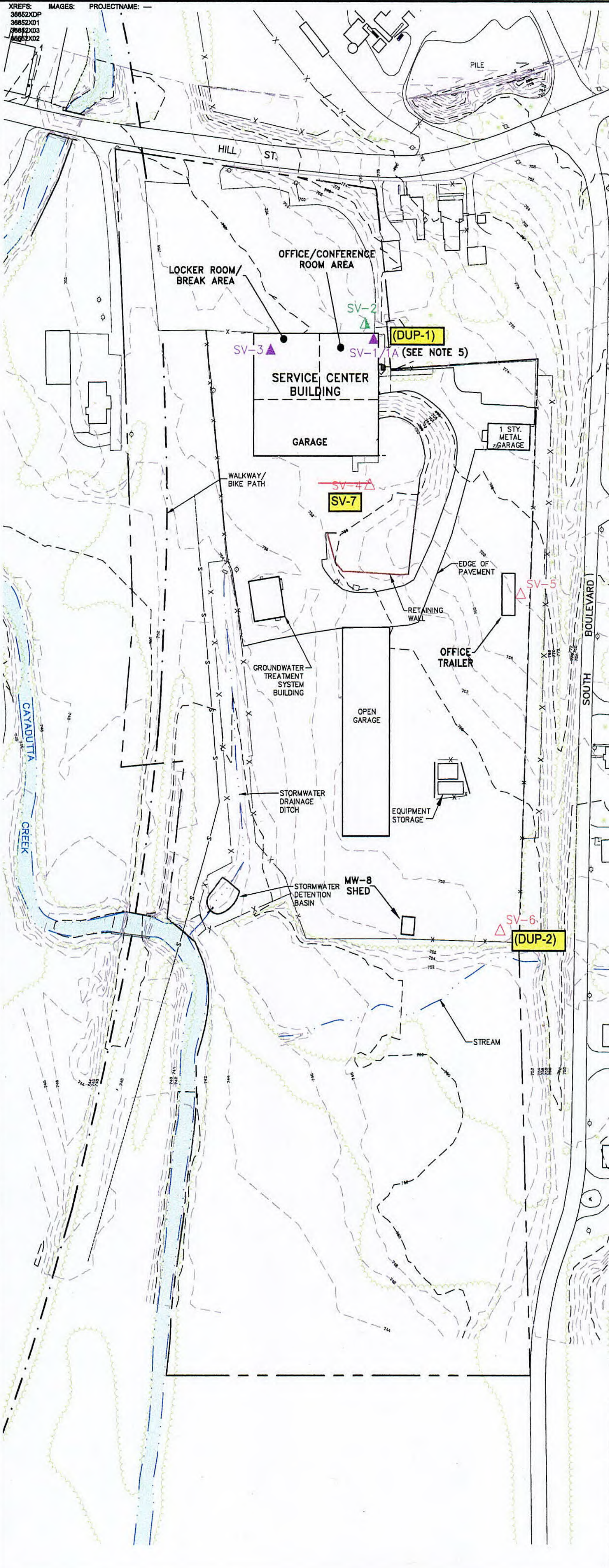
Brian M. Stearns, P.E.
Lead Engineer

cc: Nathan Freeman, NYSDOH
Jason Brien, P.E., ARCADIS

ARCADIS

Figure 1

CITY:Syracuse DIV/GROUP:Env-141 DB:PGL RCA AMS LD:(Opt) PIC:(Opt) PM:J Brien TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
G:\ENVCAD\SYRACUSE\ACT\B0036652\0000\00410\DWG\SVI\36652B01.DWG LAYOUT: 1 SAVED: 2/17/2009 4:14 PM ACADVER: 17.0S (LMS TECH) PAGESETUP: — PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 2/18/2009 3:03 PM BY: SCHILLING, ADAM



LEGEND:

- TOPOGRAPHIC ELEVATION CONTOUR
- PROPERTY LINE
- WATER
- TREE LINE
- FENCE
- SANITARTY SEWER
- UTILITY POLE
- SV-2 — EXISTING VAPOR SAMPLING LOCATION – AUGUST 2005 WITH NO FURTHER SAMPLING
- SV-1 — PROPOSED SUB-SLAB VAPOR SAMPLING LOCATION
- SV-4 — PROPOSED SOIL VAPOR SAMPLING LOCATION

NOTES:

1. ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICALDATUM OF 1929.
2. THE NATIONAL GRID PROPERTY LINE SHOWN IS APPROXIMATE.
3. ALL LOCATIONS ARE APPROXIMATE.
4. PROPOSED SOIL VAPOR SAMPLE LOCATIONS WILL BE SURVEYED FOLLOWING THE COMPLETION OF FIELD ACTIVITIES.
5. SUB-SLAB VAPOR SAMPLE SV-1 WAS PREVIOUSLY SAMPLED IN AUGUST 2005. AS PART OF THIS SAMPLING EFFORT A SOIL VAPOR SAMPLE (SV-1A) WILL BE LOCATED AT (OR CLOSE IN PROXIMITY TO) THIS LOCATION.

Note that SV-7 was collected at the location of SV-4 due to QA issues with the SV-4 SUMMA canister. DUP-1 and DUP-2 are duplicate samples collected from SV-1A and SV-6, respectively.

0 60' 120'
GRAPHIC SCALE

NATIONAL GRID
GLOVERSVILLE (HILL STREET) FORMER MGP SITE
GLOVERSVILLE, NEW YORK
SOIL VAPOR INTRUSION INVESTIGATION WORK PLAN

PROPOSED SAMPLING LOCATIONS

ARCADIS

FIGURE
1

ARCADIS

Table 1

TABLE 1
SUMMARY OF VALIDATED AIR SAMPLE ANALYTICAL RESULTS FOR DETECTED COMPOUNDS

GLOVERSVILLE FORMER MGP SITE
NATIONAL GRID - GLOVERSVILLE, NEW YORK

			Ambient Air Samples			Soil Vapor Samples						
Location ID:	USEPA 90th Percentile Background Indoor Air Level (Exceedances Shaded)		AA-4	AA-5	AA-6	SV-1	SV-1A	SV-2	SV-3	SV-5	SV-6	SV-7
Date Collected:		Units	03/06/09	03/06/09	03/06/09	08/18/05	03/06/09	08/18/05	03/06/09	03/06/09	03/06/09	03/06/09
Detected Volatile Organics												
1,1,1-Trichloroethane	20.6	ug/m3	<1.09 J	<1.09 J	<1.09 J	<1.10	4.30 [4.77 J]	2.50	16.0	<1.09	<1.09 [<1.09]	<1.09
1,1-Dichloroethane	0.7	ug/m3	<0.809 J	<0.809 J	<0.809 J	<0.810	<2.02 [<0.809 J]	<0.810	<0.809	<0.809	12.8 [12.7]	<0.809
1,2,3-Trimethylbenzene	- -	ug/m3	<0.983 J	<0.983 J	<0.983 J	NA	8.64 [10.1 J]	NA	9.29	1.47	2.50 [2.66]	4.43
1,2,4-Trimethylbenzene	9.5	ug/m3	<0.982 J	<0.982 J	1.28 J	6.40	29.6 [36.1 J]	9.80	31.1	5.27	7.74 [8.68]	14.8
1,3,5-Trimethylbenzene	3.7	ug/m3	<0.982 J	<0.982 J	<0.982 J	1.60	7.17 [8.42 J]	2.70	6.88	1.14	1.76 [1.95]	3.54
1,3-Butadiene	3	ug/m3	<0.442 J	<0.442 J	<0.442 J	0.880	<1.10 [<0.442 J]	1.60	<0.442	8.01	<0.442 [<0.442]	2.24
1,4-Dichlorobenzene	5.5	ug/m3	<1.20 J	<1.20 J	<1.20 J	1.30	<3.00 [<1.20 J]	1.40	<1.20	<1.20	<1.20 [<1.20]	<1.20
1H-Indene	- -	ug/m3	<0.950 J	<0.950 J	<0.950 J	NA	<2.38 [1.46 J]	NA	1.01	<0.950	<0.950 [<0.950]	<0.950
2,2,4-Trimethylpentane	- -	ug/m3	<0.934 J	<0.934 J	<0.934 J	<0.930	<2.33 [<0.934 J]	<0.930	<0.934	<0.934	<0.934 [<0.934]	5.12
2-Butanone	12	ug/m3	1.04 J	1.30 J	1.10 J	20.0	5.33 [4.78 J]	14.0	1.82	11.3	4.61 [4.34]	5.13
2-Hexanone	- -	ug/m3	<0.819 J	<0.819 J	<0.819 J	2.70	<2.05 [0.909 J]	<2.00	<0.819	1.09	<0.819 [<0.819]	<0.819
4-Ethyltoluene	3.6	ug/m3	<0.982 J	<0.982 J	<0.982 J	4.20	7.13 [8.86 J]	12.0	7.23	1.40	2.90 [2.92]	3.84
4-Methyl-2-pentanone	6	ug/m3	<0.819 J	<0.819 J	<0.819 J	<2.00	<2.05 [<0.819 J]	<2.00	<0.819	0.910 J	<0.819 [<0.819]	<0.819
Acetone	98.9	ug/m3	7.62 J	7.32 J	7.47 J	55.0	36.1 J [33.0 J]	50.0	5.70 J	106 J	17.8 J [10.6 J]	19.3 J
Benzene	9.4	ug/m3	1.51 J	1.10 J	1.06 J	1.60	4.05 [3.73 J]	3.20	1.87	7.01	20.1 [20.7]	3.97
Bromodichloromethane	- -	ug/m3	<1.34 J	<1.34 J	<1.34 J	2.40	<3.35 [<1.34 J]	<1.30	<1.34	<1.34	<1.34 [<1.34]	<1.34
Butane	- -	ug/m3	3.12 J	2.70 J	2.60 J	NA	5.40 [4.51 J]	NA	4.15	59.9	176 [164]	43.7
Carbon Disulfide	4.2	ug/m3	<0.622 J	<0.622 J	<0.622 J	2.10	<1.56 [0.660 J]	3.10	0.632	3.70	0.916 [0.920]	5.12
Carbon Tetrachloride	1.3	ug/m3	<1.26 J	<1.26 J	<1.26 J	<1.30	13.5 [12.9 J]	16.0	<1.26	<1.26	<1.26 [<1.26]	<1.26
Chloroform	1.1	ug/m3	<0.976 J	<0.976 J	<0.976 J	45.0	22.1 [19.6 J]	6.30	4.86	<0.976	<0.976 [<0.976]	<0.976
Chloromethane	3.7	ug/m3	1.07 J	1.04 J	0.980 J	1.10	<1.03 [<0.413 J]	<1.00	<0.413	<0.413	<0.413 [<0.413]	<0.413
Cyclohexane	- -	ug/m3	<0.688 J	<0.688 J	<0.688 J	<0.690	<1.72 [<0.688 J]	1.20	<0.688	1.27	26.4 [29.4]	2.68
Dichlorodifluoromethane	16.5	ug/m3	2.20 J	2.15 J	2.06 J	2.50	<2.47 [2.04 J]	3.60	1.99	2.16	<0.988 [<0.988]	2.10
Ethanol	210	ug/m3	7.45 J	5.24 J	<4.71 J	NA	<11.8 [<4.71 J]	NA	4.85	23.8	10.9 [11.5]	<4.71
Ethylbenzene	5.7	ug/m3	<0.868 J	<0.868 J	<0.868 J	3.00	10.6 [10.8 J]	15.0	8.08	2.49	6.06 [6.31]	5.70
Heptane	- -	ug/m3	<0.819 J	<0.819 J	<0.819 J	3.80	2.50 [2.44 J]	5.70	1.70	3.40	5.48 [6.15]	4.51
Indane	- -	ug/m3	<0.967 J	<0.967 J	<0.967 J	NA	5.34 [6.33 J]	NA	5.33	<0.967	1.54 [1.78]	2.57
Isopropyl alcohol	250	ug/m3	<1.23 J	<1.23 J	<1.23 J	17.0	<3.07 [2.78 J]	<12.0	<1.23	<1.23	3.26 [3.19]	<1.23
m&p-Xylene	22.2	ug/m3	1.40 J	1.06 J	1.23 J	10.0	44.4 [50.7 J]	52.0	36.4	10.3	13.6 [14.5]	24.8
Methyl tert-butyl ether	11.5	ug/m3	<0.720 J	<0.720 J	<0.720 J	2.00	<1.80 [<0.720 J]	<1.80	<0.720	<0.720	<0.720 [<0.720]	<0.720
Methylene Chloride	10	ug/m3	<1.74 J	<1.74 J	<1.74 J	2.10	<4.34 [<1.74 J]	<1.70	<1.74	<1.74	<1.74 [<1.74]	<1.74
Naphthalene	5.1	ug/m3	<1.05 J	<1.05 J	<1.05 J	4.90	3.70 [3.44 J]	2.60	5.06	<1.05	<1.05 [1.16]	1.30
n-Decane	17.5	ug/m3	<1.16 J	<1.16 J	1.98 J	NA	6.58 [7.27 J]	NA	6.50	<1.16	<1.16 [1.52 J]	2.17
n-Dodecane	15.9	ug/m3	<3.48 J	<3.48 J	<3.48 J	NA	17.4 J [21.1 J]	NA	16.3 J	<3.48	<3.48 [<3.48]	<3.48
n-Hexane	10.2	ug/m3	<1.76 J	<1.76 J	<1.76 J	2.90	<4.40 [2.27 J]	2.70	2.39	6.35	15.6 [18.4]	6.47

TABLE 1
SUMMARY OF VALIDATED AIR SAMPLE ANALYTICAL RESULTS FOR DETECTED COMPOUNDS

GLOVERSVILLE FORMER MGP SITE
NATIONAL GRID - GLOVERSVILLE, NEW YORK

Location ID: / Date Collected:	USEPA 90th Percentile Background Indoor Air Level (Exceedances Shaded)	Units	Ambient Air Samples AA-4 03/06/09	AA-5 03/06/09	AA-6 03/06/09	Soil Vapor Samples SV-1 08/18/05	SV-1A 03/06/09	SV-2 08/18/05	SV-3 03/06/09	SV-5 03/06/09	SV-6 03/06/09	SV-7 03/06/09
n-Octane	4.5	ug/m3	<0.934 J	<0.934 J	<0.934 J	NA	<2.33 [2.00 J]	NA	2.12	1.55	1.98 [2.15]	2.00
Nonane	7.8	ug/m3	<1.05 J	<1.05 J	<1.05 J	NA	2.95 [3.35 J]	NA	2.97	<1.05	<1.05 [<1.05]	1.81
n-Undecane	22.6	ug/m3	<1.28 J	<1.28 J	2.25 J	NA	13.6 J [15.2 J]	NA	18.0 J	1.60 J	2.34 J [3.00 J]	3.44 J
o-Xylene	7.9	ug/m3	<0.868 J	<0.868 J	<0.868 J	3.40	17.1 [18.6 J]	11.0	13.7	2.94	9.48 [9.42]	9.03
Pentane	- -	ug/m3	2.00 J	1.62 J	1.41 J	NA	2.76 [2.38 J]	NA	3.39	17.3	47.0 [49.7]	12.4
Tertiary butyl alcohol	- -	ug/m3	<0.606 J	<0.606 J	<0.606 J	<15.0	3.49 [2.57 J]	<15.0	0.699	4.78	2.52 [1.96]	3.22
Tetrachloroethene	15.9	ug/m3	<1.36 J	<1.36 J	<1.36 J	1.90	5.98 [5.34 J]	4.40	6.17	<1.36	<1.36 [<1.36]	<1.36
Toluene	43	ug/m3	2.74 J	1.94 J	1.91 J	13.0	27.1 [28.6 J]	49.0	33.7	11.0	9.78 [11.0]	15.4
trans-1,2-Dichloroethene	- -	ug/m3	<0.792 J	<0.792 J	<0.792 J	<0.790	322 [283 J]	<0.790	<0.792	<0.792	<0.792 [<0.792]	<0.792
Trichloroethene	4.2	ug/m3	<1.07 J	<1.07 J	<1.07 J	2.30	<2.68 [<1.07 J]	<1.10	<1.07	<1.07	<1.07 [<1.07]	<1.07
Trichlorofluoromethane	18.1	ug/m3	1.19 J	1.25 J	1.21 J	4.30	<2.81 [1.57 J]	9.00	2.05	<1.12	<1.12 [<1.12]	<1.12
Xylenes (total)	- -	ug/m3	NA	NA	NA	13.0	NA	65.0	NA	NA	NA	NA

Notes:

J = Indicates an estimated value.

< = The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

ARCADIS

Attachment A

Appendix E of National Grid's September 2006 Soil Vapor Intrusion Evaluation at National Grid MGP Sites in New York State

APPENDIX E

INDOOR AIR SAMPLE COLLECTION PROCEDURES

(NYSDEC and NYSDOH Approved, March 15, 2007)

This set of procedures outlines the general steps to collect indoor air samples. The site-specific Sampling and Analysis Work Plan should be consulted for proposed sampling locations and other indoor air requirements (inventory, etc.).

Indoor air samples will be collected by following the steps outlined below:

- Sampling personnel must avoid activities immediately before and during the sampling that may contaminate the sample (e.g., using markers, fueling vehicles, etc.).

- Record weather information (temperature, barometric pressure, relative humidity, wind speed, and wind direction) and indoor temperature and humidity at the beginning of the sampling event. Record substantial changes to these conditions that may have occurred over the past 24 to 48 hours and that do occur during the course of sampling. The information may be measured with on-site equipment or obtained from a reliable source of local measurements (e.g., a local airport).

- Identify sampling location(s) on a floor plan that also identifies locations of HVAC equipment, chemical storage areas, garages, doorways, stairways, sumps, drains, utility perforations, north direction, and separate footing sections

- Use an evacuated Summa® passivated (or equivalent) stainless-steel canister to collect the outdoor air sample. The canister will be provided by the laboratory, along with a flow controller equipped with an in-line particulate filter and a vacuum gauge. The flow controller will be pre-calibrated by the laboratory for the desired flow rate or duration of sample collection, as defined in the site-specific work plan. The sampling flow rate should always be less than 0.2 lpm. The canisters will be individually certified as clean by the laboratory.

- Place the canister at the sampling location. The sample should be collected from breathing height (e.g., 3 to 5 feet above ground). Either mount the canister on a stable platform or attach a length of inert tubing to the flow controller inlet and support it such that the sample inlet will be at the proper height.

- Remove the protective brass plug from canister. Connect the pre-calibrated flow controller to the canister.

- Record the identification numbers for the canister and flow controller. Record the initial canister pressure on the vacuum gauge (check equipment-specific instructions for taking this measurement). A canister with a significantly different pressure than originally recorded by the testing laboratory should not be used for sampling. Record these numbers and values on the chain-of custody form for each sample.

- Completely open the valve on the vacuum pressure in the canister. Record the time that the valve was opened (beginning of sampling) and the canister pressure on the vacuum gauge.

- Photograph the canister and the area surrounding the canister.

- Monitor the vacuum pressure in the canister routinely during sampling, when practical (sometimes the canister will sample over a 24-hour period and routine monitoring is not practical). During monitoring, note the vacuum pressure on the gauge.

- Complete the NYSDOH building survey and chemical survey form.

- Stop sample collection after the scheduled duration of sample collection, but make sure that the canister still has a minimum amount of vacuum remaining. Check with the laboratory supplying the canister and flow controller for the ideal final vacuum pressure. Typically, the minimum vacuum is between 2 and 5 inches of mercury, but not zero. If there is no vacuum remaining, the sample will be rejected and collected again in a new canister.

- Record the final vacuum pressure and close the canister valves. Record the date and time that sample collection was stopped.

- Remove the flow controller from the canister and replace the protective brass plug.

- Attach labels/tags (sample name, time/date of sampling, etc.) to the canister as directed by the laboratory.

- Place the canister and other laboratory-supplied equipment in the packaging provided by the laboratory.

- Enter the information required for each sample on the chain-of-custody form, making sure to include the identification numbers for the canister and flow controller, and the initial and final canister pressures on the vacuum gauge.

- Include the required copies of the chain-of-custody form in the shipping packaging, as directed by the laboratory. The field crew will retain a copy of the chain-of-custody for the project file.

- Deliver or ship the samples to the laboratory within one business day of sample collection and via overnight delivery (when shipping).

NEW YORK STATE DEPARTMENT OF HEALTH
INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY
CENTER FOR ENVIRONMENTAL HEALTH

This form must be completed for each residence involved in indoor air testing.

Preparer's Name ______________________________ Date/Time Prepared ____________

Preparer's Affiliation ___________________________ Phone No. _________________

Purpose of Investigation ____

1. OCCUPANT:

Interviewed: Y / N

Last Name: ____________________ First Name: ____________________

Address: ____

County: ______________

Home Phone: ________________ Office Phone: ________________

Number of Occupants/persons at this location _____ Age of Occupants __________________

2. OWNER OR LANDLORD: (Check if same as occupant ___)

Interviewed: Y / N

Last Name: ____________________ First Name: ____________________

Address: ____

County: ______________

Home Phone: ________________ Office Phone: ________________

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

Residential	School	Commercial/Multi-use
Industrial	Church	Other: ______________

If the property is residential, type? (Circle appropriate response)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouses/Condos
Modular	Log Home	Other:______________

If multiple units, how many? ________

If the property is commercial, type?

Business Type(s) ________________________________

Does it include residences (i.e., multi-use)? Y / N   If yes, how many? ______

Other characteristics:

Number of floors______   Building age______

Is the building insulated? Y / N   How air tight? Tight / Average / Not Tight

4. AIRFLOW

Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:

Airflow between floors

____

____

____

Airflow near source

____

____

____

Outdoor air infiltration

____

____

____

Infiltration into air ducts

____

____

____

5. **BASEMENT AND CONSTRUCTION CHARACTERISTICS** (Circle all that apply)

a. Above grade construction:	wood frame	concrete	stone	brick
b. Basement type:	full	crawlspace	slab	other ________
c. Basement floor:	concrete	dirt	stone	other ________
d. Basement floor:	uncovered	covered	covered with ____________	
e. Concrete floor:	unsealed	sealed	sealed with ____________	
f. Foundation walls:	poured	block	stone	other ________
g. Foundation walls:	unsealed	sealed	sealed with ____________	
h. The basement is:	wet	damp	dry	moldy
i. The basement is:	finished	unfinished	partially finished	
j. Sump present?	Y / N			
k. Water in sump?	Y / N / not applicable			

Basement/Lowest level depth below grade: ________(feet)

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)

____

____

6. **HEATING, VENTING and AIR CONDITIONING** (Circle all that apply)

Type of heating system(s) used in this building: (circle all that apply – note primary)

Hot air circulation	Heat pump	Hot water baseboard	
Space Heaters	Stream radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other ________

The primary type of fuel used is:

Natural Gas	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: ____________________

Boiler/furnace located in:	Basement	Outdoors	Main Floor	Other________
Air conditioning:	Central Air	Window units	Open Windows	None

Are there air distribution ducts present? Y / N

Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.

____

____

____

____

7. OCCUPANCY

Is basement/lowest level occupied? Full-time Occasionally Seldom Almost Never

<u>Level</u>	<u>General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)</u>
Basement	____________________
1st Floor	____________________
2nd Floor	____________________
3rd Floor	____________________
4th Floor	____________________

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage? Y / N

b. Does the garage have a separate heating unit? Y / N / NA

c. Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, atv, car) Y / N / NA Please specify__________

d. Has the building ever had a fire? Y / N When?__________

e. Is a kerosene or unvented gas space heater present? Y / N Where? __________

f. Is there a workshop or hobby/craft area? Y / N Where & Type? __________

g. Is there smoking in the building? Y / N How frequently? __________

h. Have cleaning products been used recently? Y / N When & Type? __________

i. Have cosmetic products been used recently? Y / N When & Type? __________

j. Has painting/staining been done in the last 6 months? Y / N Where & When? ____________

k. Is there new carpet, drapes or other textiles? Y / N Where & When? ____________

l. Have air fresheners been used recently? Y / N When & Type? ____________

m. Is there a kitchen exhaust fan? Y / N If yes, where vented? ____________

n. Is there a bathroom exhaust fan? Y / N If yes, where vented? ____________

o. Is there a clothes dryer? Y / N If yes, is it vented outside? Y / N

p. Has there been a pesticide application? Y / N When & Type? ____________

Are there odors in the building? Y / N
If yes, please describe: ____

Do any of the building occupants use solvents at work? Y / N
(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist

If yes, what types of solvents are used? ____________________________________

If yes, are their clothes washed at work? Y / N

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry-cleaning regularly (weekly) No
Yes, use dry-cleaning infrequently (monthly or less) Unknown
Yes, work at a dry-cleaning service

Is there a radon mitigation system for the building/structure? Y / N Date of Installation: ____________
Is the system active or passive? Active/Passive

9. WATER AND SEWAGE

Water Supply:	Public Water	Drilled Well	Driven Well	Dug Well	Other: _______
Sewage Disposal:	Public Sewer	Septic Tank	Leach Field	Dry Well	Other: _______

10. RELOCATION INFORMATION (for oil spill residential emergency)

a. Provide reasons why relocation is recommended: ____________________________

b. Residents choose to: remain in home relocate to friends/family relocate to hotel/motel

c. Responsibility for costs associated with reimbursement explained? Y / N

d. Relocation package provided and explained to residents? Y / N

11. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

Basement:

First Floor:

12. OUTDOOR PLOT

Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.

13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: ______________________

List specific products found in the residence that have the potential to affect indoor air quality.

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo ** Y / N

* Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**
** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.