

**Offsite Soil Vapor Intrusion Assessment
at the
Former Carborundum Facility**

Village of Sanborn, Town of Wheatfield, Niagara County, New York

Submitted to:



**New York State Department of
Environmental Conservation
Division of Hazardous Waste Remediation**

Submitted by:

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SECTION 1

PROJECT DESCRIPTION

1.1 INTRODUCTION

As part of a state-wide program to address current and potential exposures to contaminated subsurface vapors associated with known or suspected volatile chemical contamination, New York State Department of Health (NYSDOH) has designated over 400 sites for soil vapor to indoor air evaluation. The Former Carborundum Facility (Site) in the Village of Sanborn, Town of Wheatfield, New York (see Figure 1.1) is one of the sites identified. The evaluation is being conducted with oversight by New York State Department of Environmental Conservation (NYSDEC).

At the request of NYSDEC, Atlantic Richfield Company submitted a work plan to address this issue (Soil Vapor Intrusion Work Plan, August 2006). The work plan used a phased approach that involved: review of historic and current groundwater quality data and a field program to collect both on-site and off-site soil vapor data. Following NYSDEC approval, this first phase of work was completed and reported to NYSDEC in November 2007 (Parsons, November 19, 2007).

In July 2008, NYSDEC requested that sub-slab and indoor air sampling be conducted in homes near monitoring well B22M, located in the residential area adjacent to (west of) the Site. The NYSDEC requested that the sub-slab and indoor air sampling be conducted during the heating season to evaluate the potential for vapor intrusion in conditions where the average pressure differential between indoor air and sub-slab air is the greatest, the water table elevation is higher, and trichloroethene (TCE) concentrations are potentially higher.

An October 2008 amendment to the original work plan provided the methodology for testing in the residential area. The sampling locations included nine residential structures. Three of these structures are duplexes, for a total of twelve sampling locations. Figure 1.2 shows the properties where sub-slab and indoor air sampling were proposed.

1.2 SAMPLING OBJECTIVES

The objective of this sub-slab and indoor air sampling was to evaluate the potential for soil vapor intrusion into the residential dwellings adjacent to the Site. Discussion and input from NYSDEC and NYSDOH were incorporated in meeting this objective.

1.2.1 Scope of Work

Community outreach, analytical requirements and methods for the proposed indoor air and sub-slab sampling consisted of:

- Historical data review
- Community outreach

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- Analytical parameters
- Sampling plan
- Risk assessment protocol
- Reporting

NYSDEC approved the work plan amendment on November 10, 2008, with the following additional modifications.

- The following site-related constituents of concern (COCs) should be added to the list of compounds for analysis: Methylene Chloride; 1,1-Dichloroethane; 1,1-Dichloroethene; and 1,1,1-Trichloroethane.
- The three buildings located in the sample target area on the south side of Steele Circle have been identified as duplexes each containing two dwellings. Sub-slab and indoor air samples should be collected and analyzed from each dwelling.
- BP/Atlantic Richfield Co. should be prepared to sample adjoining properties should residents deny a request to sample the currently targeted properties.

The amendment included revised standard operating procedures (SOPs) and a revised community outreach program.

Community Outreach

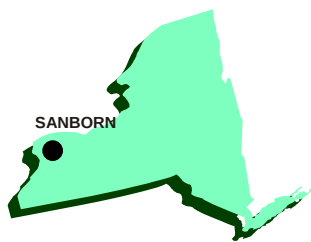
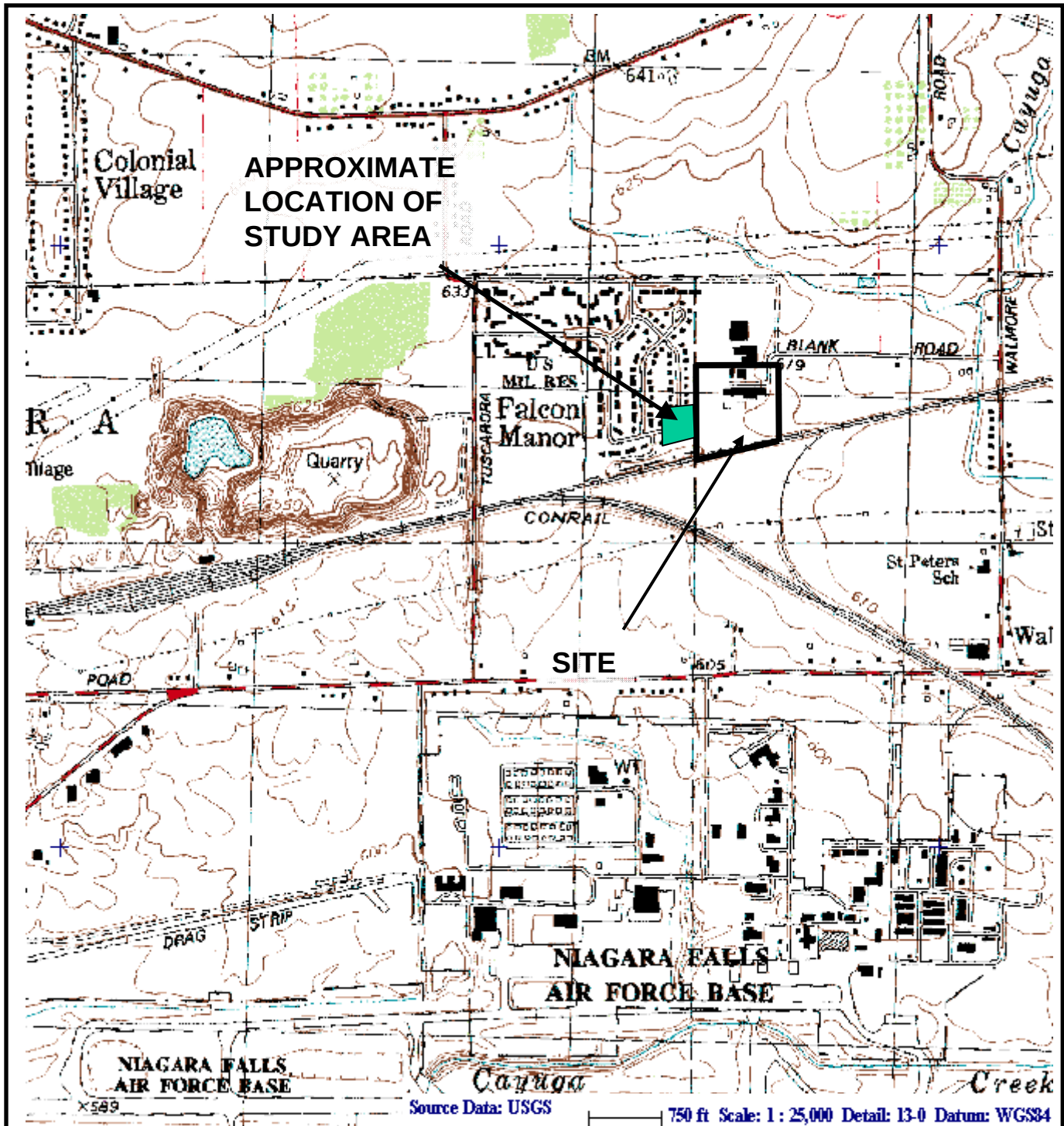
After discussions with NYSDEC and NYSDOH, Atlantic Richfield Company developed letters to inform property owners about the proposed indoor air evaluation program at the selected properties. These letters were used in lieu of updated Fact Sheets. The letters were provided to each specific residence where sampling was proposed. When possible, the letters were hand-delivered with representatives of NYSDEC and NYSDOH present to explain the reason for the indoor air survey (i.e., this is part of a state-wide program to confirm there are no indoor air issues related to soil vapors). Other elements of the community outreach program included a Site contact list, a community relations team, and an informational flyer with important information designed to aid the community in understanding the planned activities. These items were developed as a contingency in case they were needed.

SOP Revisions

Revised SOPs were included in the October 27, 2008 Soil Vapor Intrusion Work Plan Amendment. Revisions to the SOPS were made to facilitate the sub-slab and indoor air sampling, making it specific to existing site conditions.

1.4 REPORT ORGANIZATION

The following sections of this report describe the work conducted during the sub-slab and indoor air sampling of the residences adjacent to the Site, and the results obtained. Section 2 describes the sampling methodologies. Section 3 presents the results of the indoor air and sub-slab sampling. Section 4 provides an evaluation of the data collected, and Section 5 presents the conclusions. Section 6 cites the references used.



New York
Quadrangle

LATITUDE: N43° 07' 43"
LONGITUDE: W78° 56' 18"

SOURCE: DeLORME 3-D
TOPOQUAD PROGRAM

FIGURE 1.1

ATLANTIC RICHFIELD COMPANY
FORMER CARBORUNDUM FACILITY
SANBORN, NEW YORK

PROJECT LOCATION MAP

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LEGEND

- 61 Address, sampled
- 64 Address, not sampled
- Monitoring well



FIGURE 1.2

STRUCTURES FOR INDOOR AIR SAMPLING

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Notes: Well locations are approximate.

SECTION 2

SUB-SLAB AND INDOOR AIR SAMPLING METHODOLOGY

2.1 PRE-SAMPLING EVALUATION

Of the 12 sampling locations identified, nine homes granted access; two refused access and one could not be scheduled based on the home owner's availability.

A pre-sampling inspection was performed prior to each sampling event to identify and minimize conditions that might interfere with the proposed testing. The pre-sampling evaluation consisted of a walk-through of the structures during which time observations were made concerning potential indoor sources of the chemicals of concern and about other influencing factors. In addition, an "Indoor air quality questionnaire and building inventory" (NYSDOH, 2005) form was completed by the evaluator using visual observations and information obtained from the occupants (see Appendix A).

2.2 SUB-SLAB VAPOR MONITORING POINT INSTALLATION AND SAMPLING

Sub-slab vapor monitoring points (VMPs) were installed in a central location within each house. The typical sub-slab installation set-up is shown on Figure 2.1. Prior to installation, the small floor drain in the utility closet was sealed with aluminum foil and duct tape to prevent any dilution of the sub-slab soil gas sample with indoor air, although the drains were typically at least 10 feet from the VMP locations. After the collection of the sub-slab vapor sample, the floor drain seal was removed prior to the deployment of the indoor air sample canisters.

A minimal amount of floor covering material was displaced prior to VMP installation, and was restored to its original condition after sample collection. Once the floor covering was removed, VMPs were installed and sampled using the methods described in the NYSDEC – approved work plan (Parsons, 2008) with the following exceptions listed below:

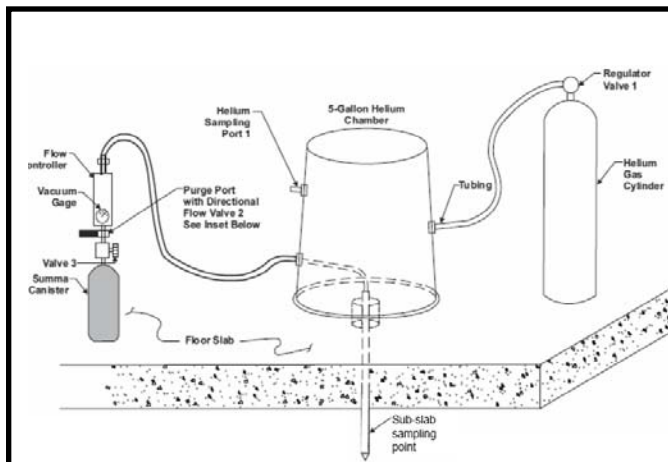
- The homes at 64, 69, and 71 Steele Circle were not sampled either because access was not granted or because of property owner scheduling conflicts.
- Soil gas permeability testing (measurement of applied vacuum versus flowrate) was conducted prior to purging and sample collection to ensure the gas permeability of the sub-slab materials was sufficient to permit the collection of samples at a flow rate of 200 mL/min, while not exceeding an applied vacuum of 10 inches of water.
- During the purging at 67 and 74 Steele Circle, field measurements of oxygen, carbon dioxide, and methane were not collected due to a malfunction of the GEM 2000 landfill gas meter.

2.3 INDOOR AND OUTDOOR AIR SAMPLING

Indoor air and outdoor air samples were collected following the methods described in the work plan (Parsons, 2008). A typical indoor and outdoor air sample location are shown on Figure 2.1.

2.4 LABORATORY METHODS

All samples were analyzed by Lancaster Laboratories of Lancaster, Pennsylvania. Summa canisters and flow controllers for all the samples collected were individually-certified. Analysis of the samples was performed using modified EPA Method TO-15 for a Site-specific compound list which included trichloroethene (TCE), 1,1-dichloroethene (11DCE), 1,1-dichloroethane (11DCA), cis-1,2-dichloroethene (cDCE), trans-1,2-dichloroethene (tDCE), 1,1,1-trichloroethane (111TCA), methylene chloride (MC), and vinyl chloride (VC). The laboratory limit of quantification (LOQ), the minimum level at which the laboratory can reliably report the compound concentration, ranged between 0.17 and 0.27 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) for the eight analytes.



TYPICAL SUB-SLAB SETUP (DIAGRAM)



TYPICAL INDOOR AIR SETUP



TYPICAL SUB-SLAB SETUP



TYPICAL OUTDOOR AIR SETUP

FIGURE 2.1

**TYPICAL SUB-SLAB, INDOOR AIR
AND OUTDOOR AIR SETUP**

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SECTION 3

SUB-SLAB AND INDOOR AIR SAMPLING RESULTS

3.1 SUB-SLAB SOIL GAS

Sub-slab vapor monitoring points (VMPs) were installed within the interior of each house and the location of each VMP is provided in Appendix B. The results of the permeability testing, field screening and laboratory results are described below.

3.1.1 Permeability

The results for the sub-slab soil gas permeability testing are summarized in Table 3.1. The calculated sub-slab soil gas permeability for the materials ranged between 4×10^{-11} to 4×10^{-8} m². Based on literature ranges (Freeze and Cherry, 1979), these permeability values correspond with subsurface materials ranging from clean sand to gravel, which was sufficiently permeable to purge and sample without applying an excessive vacuum on the probes.

3.1.2 Field Screening Data

The field screening data for the sub-slab samples collected from residential properties are presented in Table 3.2. All sub-slab sample helium screening results were less than 3.9% of the minimum concentration of helium in the shroud during purging, verifying that all sub-slab soil gas samples were comprised of at least 96.1% soil gas. Carbon dioxide (CO₂) and methane (CH₄) were not detected above instrument detection limits and oxygen (O₂) measurements ranged between 20.2% and 20.8%. Total volatile organic compounds (VOCs), measured with a photoionization detector (PID) were not detected in any of the samples.

3.1.3 Sub-Slab Chemistry

Sub-slab soil gas samples were collected from nine homes. The results are summarized in Table 3.3, and the laboratory reports are provided in Appendix C. TCE, 111TCA, and MC were the only compounds detected above the laboratory LOQ. TCE was detected above the laboratory LOQ (0.270 µg/m³) in the sub-slab soil gas at 4 of the 9 homes sampled (63, 65, 73, and 75 Steele Circle) at concentrations ranging between 0.657 and 0.885 µg/m³. 111TCA was detected above the laboratory LOQ (0.270 µg/m³) in the sub-slab soil gas at 2 homes sampled (74 and 77 Steele Circle) at concentrations of 0.312 and 0.647 µg/m³. MC was detected above the laboratory LOQ (0.17 µg/m³) in the sub-slab soil gas at 3 homes sampled (73, 74, and 76 Steele Circle) at concentrations between 1.43 and 21.8 µg/m³.

The laboratory also reported 11DCA, 11DCE, cDCE, tDCE, and VC at concentrations below the laboratory limit of quantitation (i.e. trace levels) in some of the sub-slab soil gas samples. These concentrations were all below the mean background indoor and outdoor air concentrations listed in Table C3 of the NYSDOH Control Homes Database (NYSDOH, 2006).

3.2 INDOOR AND OUTDOOR AIR

3.2.1 Indoor and Outdoor Air Sample Deployment

The indoor air quality questionnaire and building inventory (NYSDOH, 2006) forms were completed by the evaluator prior to sample deployment and are provided in Appendix A. The indoor and outdoor air sample deployment times are provided in Table 3.4, and the temperature and barometric pressures ranges over the sampling periods are provided in Table 3.5. The locations of the indoor and outdoor air samples are provided in Appendix B.

3.2.2 Indoor and Outdoor Air Chemistry

Indoor air samples were collected from within nine homes and outdoor air samples were collected at four homes. The indoor and outdoor air results are summarized in Table 3.3 and the laboratory reports are provided in Appendix C. TCE and MC were the only compounds detected above the laboratory LOQ in the indoor air samples. TCE was detected in indoor air samples at 2 of the 9 homes (63 and 65 Steele Circle) at concentrations of 0.281 and 0.320 $\mu\text{g}/\text{m}^3$, which is slightly above the laboratory LOQ (0.270 $\mu\text{g}/\text{m}^3$). MC was detected above the laboratory LOQ (0.17 $\mu\text{g}/\text{m}^3$) at 3 of the homes sampled (65, 67, and 74 Steele Circle) at concentrations of 2.38, 1.92, and, 1.21 $\mu\text{g}/\text{m}^3$, respectively. MC was the only compound detected above the laboratory LOQ in one outdoor air sample at a concentration of 1.79 $\mu\text{g}/\text{m}^3$ (75 Steele Circle). TCE was detected slightly below the LOQ in the outdoor air sample collected from November 20 to 21, 2008 at the estimated concentration of 0.238 $\mu\text{g}/\text{m}^3$ (sample from 74 Steele Circle).

The laboratory also reported 111TCA in one indoor air and one outdoor air sample and cDCE in one indoor air sample, also below the limit of quantitation. These concentrations were also all below the mean background indoor and outdoor air concentrations listed in Table C3 of the NYSDOH Control Homes Database (NYSDOH, 2006).

3.3 DATA VALIDATION

The air samples were collected and analyzed for TCE, 11DCE, 11DCA, cDCE, tDCE, 111TCA, MC, and VC. A summary of issues concerning this laboratory analysis is presented in the Data Usability Report (see DUSR in Appendix C). The data qualifications resulting from the data validation review and statements on the laboratory analytical precision, accuracy, representativeness, completeness, and comparability (PARCC) are discussed for each analytical method in the DUSR.

The air samples collected were analyzed for certain VOCs using the USEPA TO-15 analytical method. Certain reported results for the VOC samples were considered estimated from data validation because of noncompliant laboratory control sample recoveries, instrument calibrations, sample internal standard responses, and field duplicate precision. No data was rejected; therefore, the reported VOC analytical results were 100% complete (i.e., usable) for the data presented by Lancaster Laboratories, Inc. PARCC requirements were met.

TABLE 3.1
PNEUMATIC TEST DATA FOR SUB-SLAB PROBES
Sanborn, New York

Geosyntec Consultants

Probe ID	Date	Time (seconds)	Flow Rate (Q) (L/min)	Well Head Vacuum (in-H ₂ O)	Q/s (L/min/in-H ₂ O)	Calculated Permeability ¹ (m ²)
61-SSP-1	19-Nov-08	15	0.1	0.05	17	6.E-09
		30	0.2	0.01		
		60	0.5	0.03		
63-SSP-1	2-Dec-08	15	0.1	0.005	25	9.E-09
		30	0.2	0.01		
		45	0.5	0.02		
65-SSP-1	2-Dec-08	15	0.1	<0.005	100	4.E-08
		30	0.2	<0.005		
		45	0.5	0.005		
67-SSP-1	18-Nov-08	15	0.1	<0.01	50	2.E-08
		30	0.2	<0.01		
		60	0.5	0.01		
73-SSP-1	20-Nov-08	15	0.1	<0.005	100	4.E-08
		30	0.2	<0.005		
		60	0.5	0.005		
74-SSP-1	19-Nov-08	15	0.1	0.02	7	3.E-09
		30	0.2	0.035		
		60	0.5	0.07		
75-SSP-1	20-Nov-08	15	0.1	0.03	3.33	1.E-09
		30	0.2	0.06		
		60	0.5	0.16		
76-SSP-1	2-Dec-08	15	0.1	<0.005	50	2.E-08
		30	0.2	0.005		
		75	0.5	0.010		
77-SSP-1	20-Nov-08	30	0.1	1.0	0.10	4.E-11
		60	0.2	2.0		

Notes:

in-H₂O - inches of water

L/min - liters per minute

¹ Calculated Permeability $k = (m/p) * (Q/H) * [\ln(R_w/R_i)] / [PW * [1 - (P_{atm} / P_w)^2]]$

Source: Johnson, P.C., M.W. Kemblowski, and J.D. Colthart. 1990. *Quantitative Analysis for the Cleanup of Hydrocarbon-Contaminated Soils by In-situ Soil Venting*. Ground Water, 28(3):413-429.

Gas permeability calculated using the following parameters:

vapor viscosity(μ) = 0.000182 g/cm-

P_{atm} = 406.8 in-H₂O

Q - actual vapor flow rate at wellhead

H - well screen length (calculated as half probe radius)

R_w - radius of the probe

R_i - radius of influence (ROI)

ROI = 2 meters

P_w - gauge vacuum at probe

P_{atm} - atmospheric pressure

TABLE 3.2
SUB-SLAB SOIL GAS PURGING AND FIELD SCREENING DATA
Sanborn, New York

Probe ID	Date	Elapsed Time (min)	Cumulative Volume Purged* (L)	Parameters			Helium Tracer Gas			Total VOCs (ppm _v)
				CH ₄ (%)	CO ₂ (%)	O ₂ (%)	Shroud (%)		Sample (%)	
							Minimum	Maximum		
61-SSP-1	19-Nov-08	4.0	1.6	0.0	0.0	20.3	11.1	15.9	0.11	0.0
		4.0	2.4	0.0	0.0	20.5	18.1	19.4	0.38	0.0
		4.0	3.2	0.0	0.0	20.5	12.2	18.1	0.48	0.0
63-SSP-1	2-Dec-08	4.0	0.8	0.0	0.0	20.3	14.3	17.2	0.0	0.0
		4.0	1.6	0.0	0.0	20.2	17.2	22.3	0.0	0.0
		4.0	2.4	0.0	0.0	20.3	14.0	22.8	0.0	0.0
65-SSP-1	2-Dec-08	4.0	0.8	0.0	0.0	20.7	12.3	23.9	0.02	0.0
		4.0	1.6	0.0	0.0	20.8	22.2	27.4	0.06	0.0
		4.0	2.4	0.0	0.0	20.8	13.0	17.0	0.0	0.0
67-SSP-1	18-Nov-08	4.0	0.8	--	--	--	12.1	20.4	0.01	0.0
		4.0	1.6	--	--	--	11.0	15.2	0.02	0.0
		4.0	2.4	--	--	--	13.1	24.4	0.03	0.0
73-SSP-1	20-Nov-08	4.0	0.8	0.0	0.0	20.8	5.6	7.3	0.04	0.0
		4.0	1.6	0.0	0.0	20.8	4.6	5.6	0.01	0.0
		4.0	2.4	0.0	0.0	20.7	10.5	14.6	0.03	0.0
74-SSP-1	19-Nov-08	4.0	0.8	--	--	--	11.1	14.3	0.03	0.0
		4.0	1.6	--	--	--	15.9	17.6	0.02	0.0
		4.0	2.4	--	--	--	13.3	16.3	0.02	0.0
75-SSP-1	20-Nov-08	4.0	0.8	0.0	0.0	20.5	15.1	24.1	0.0	0.0
		4.0	1.6	0.0	0.0	20.3	12.7	15.9	0.0	0.0
		4.0	2.4	0.0	0.0	20.4	15.9	23.1	0.0	0.0
76-SSP-1	2-Dec-08	4.0	0.8	0.0	0.0	20.8	13.8	15.8	0.003	0.0
		4.0	1.6	0.0	0.0	20.8	10.6	14.5	0.0	0.0
		4.0	2.4	0.0	0.0	20.7	13.5	14.9	0.0	0.0
77-SSP-1	20-Nov-08	4.0	0.8	0.0	0.0	20.5	19.1	20.1	0.0	0.0
		4.0	1.6	0.0	0.0	20.4	14.1	15.4	0.02	0.0
		4.0	2.4	0.0	0.0	20.5	15.4	19.6	0.0	0.0

Notes:

- min - minutes
- L/min - liters per minute
- L - liters
- ppm_v - parts per million by volume
- - meter malfunctioned
- VOC - volatile organic compound
- * - soil gas purged through flow controller calibrated to 0.2 L/min by laboratory

TABLE 3.3
LABORATORY ANALYTICAL RESULTS
Sanborn, New York

		Location:	61 Steele Circle		63 Steele Circle		65 Steele Circle	
BP Sanborn		Sample ID:	61S-IA 1027	61S-SS 913	63S-IA-155	63S-SS-924	65S-IA-012	65S-OA-806
Validated Air Analytical Data		Lab Sample Id:	5538766	5536852	5548136	5548135	5548134	5548137
Detected Compound Summary		SDG:	1121555	1121293	1123083	1123083	1123083	1123083
		Matrix:	AIR	AIR	AIR	AIR	AIR	AIR
		Sampled:	11/20/2008	11/19/2008	12/2/2008	12/2/2008	12/2/2008	12/2/2008
		Validated:	1/20/2009	1/20/2009	1/20/2009	1/20/2009	1/20/2009	1/20/2009
		Dup of:						
CAS NO.	Volatile organic compounds ($\mu\text{g}/\text{m}^3$)							
75-34-3	1,1-Dichloroethane	0.0182 U	0.0416 J	0.0364 U	0.0364 U	0.0364 U	0.0364 U	0.0364 U
156-59-2	cis-1,2-Dichloroethene	0.0278 U	0.0555 U	0.0555 U	0.0555 U	0.0555 U	0.0555 U	0.0555 U
71-55-6	1,1,1-Trichloroethane	0.0355 U	0.175 J	0.0709 U	0.227 J	0.0709 U	0.0709 U	0.0709 U
79-01-6	Trichloroethene	0.0537 U	0.107 U	0.281	0.817	0.320 J	0.107 U	0.673
75-01-4	Vinyl chloride	0.0115 U	0.0286 J	0.0230 U	0.0230 U	0.0230 U	0.0230 U	0.0230 U
156-60-5	trans-1,2-Dichloroethene	0.0198 UJ	0.0396 UJ	0.0396 U	0.0396 U	0.0396 U	0.0396 U	0.0396 U
75-35-4	1,1-Dichloroethene	0.0119 U	0.0538 J	0.0238 U	0.0238 U	0.0238 U	0.0238 U	0.0869 J
75-09-2	Methylene chloride	0.835 U	0.676 U	0.271 U	0.801 U	2.38	0.257 U	0.615 U

Notes:

U - analyte not detected, associated value is method detection limit

J - associated value is estimated

$\mu\text{g}/\text{m}^3$ - micrograms per cubic metre

Dup - duplicate

SDG - sample delivery group

IA - indoor air sample

SS - sub-slab soil gas sample

OA - outdoor air sample

TABLE 3.3
LABORATORY ANALYTICAL RESULTS
Sanborn, New York

		Location:	67 Steele Circle			73 Steele Circle		
BP Sanborn		Sample ID:	67S-IA 860	67S-OA 833	67S-SS 979	73S-IA 005	73S-SS 1011	73S-SS 983
Validated Air Analytical Data		Lab Sample Id:	5536849	5536850	5536848	5540122	5538764	5538765
Detected Compound Summary		SDG:	1121293	1121293	1121293	1121792	1121555	1121555
		Matrix:	AIR	AIR	AIR	AIR	AIR	AIR
		Sampled:	11/18/2008	11/18/2008	11/18/2008	11/20/2008	11/20/2008	11/20/2008
		Validated:	1/20/2009	1/20/2009	1/20/2009	1/20/2009	1/20/2009	1/20/2009
		Dup of:						73S-SS 1011
CAS NO.	Volatile organic compounds ($\mu\text{g}/\text{m}^3$)							
75-34-3	1,1-Dichloroethane	0.0364 U	0.0364 U	0.0461 J	0.0364 U	0.0391 J	0.0538 J	
156-59-2	cis-1,2-Dichloroethene	0.0555 U	0.0555 U	0.0856 J	0.0555 U	0.0555 U	0.111 J	
71-55-6	1,1,1-Trichloroethane	0.0709 U	0.0709 U	0.209 J	0.0709 U	0.139 J	0.180 J	
79-01-6	Trichloroethene	0.107 U	0.107 U	0.127 J	0.116 J	0.327 J	0.657 J	
75-01-4	Vinyl chloride	0.0230 U	0.0230 U	0.0230 U	0.0230 U	0.0407 J	0.0286 J	
156-60-5	trans-1,2-Dichloroethene	0.0396 UJ	0.0396 U	0.0396 UJ	0.0396 UJ	0.0396 UJ	0.0494 J	
75-35-4	1,1-Dichloroethene	0.0238 U	0.0238 U	0.0750 J	0.0238 U	0.0422 J	0.0557 J	
75-09-2	Methylene chloride	1.92	0.327 U	0.773 U	1.04 U	19.5 J	1.67 J	

Notes:

U - analyte not detected, associated value is method detection limit

J - associated value is estimated

$\mu\text{g}/\text{m}^3$ - micrograms per cubic metre

Dup - duplicate

SDG - sample delivery group

IA - indoor air sample

SS - sub-slab soil gas sample

OA - outdoor air sample

TABLE 3.3
LABORATORY ANALYTICAL RESULTS
Sanborn, New York

		Location:	74 Steele Circle			75 Steele Circle		
BP Sanborn		Sample ID:	74S-IA 319	74S-OA 136	74S-SS 991	75S-IA 048	75S-OA 147	75S-SS 986
Validated Air Analytical Data		Lab Sample Id:	5538770	5538769	5536851	5540123	5540124	5538768
Detected Compound Summary		SDG:	1121555	1121555	1121293	1121792	1121792	1121555
		Matrix:	AIR	AIR	AIR	AIR	AIR	AIR
		Sampled:	11/20/2008	11/20/2008	11/19/2008	11/20/2008	11/20/2008	11/20/2008
		Validated:	1/20/2009	1/20/2009	1/20/2009	1/20/2009	1/20/2009	1/20/2009
		Dup of:						
CAS NO.	Volatile organic compounds ($\mu\text{g}/\text{m}^3$)							
75-34-3	1,1-Dichloroethane	0.0364 U	0.0364 U	0.137 J	0.0364 U	0.0364 U	0.0364 U	0.0364 U
156-59-2	cis-1,2-Dichloroethene	0.0555 U	0.0555 U	0.161 J	0.0555 U	0.0555 U	0.0555 U	0.0555 U
71-55-6	1,1,1-Trichloroethane	0.0709 U	0.0770 J	0.647 J	0.0709 U	0.0709 U	0.0709 U	0.0709 U
79-01-6	Trichloroethene	0.256 J	0.238 J	0.885 J	0.107 U	0.107 U	0.107 U	0.107 U
75-01-4	Vinyl chloride	0.0230 U	0.0230 U	0.112 J	0.0230 U	0.0230 U	0.0230 U	0.0230 U
156-60-5	trans-1,2-Dichloroethene	0.0396 UJ	0.0396 UJ	0.108 J	0.0396 UJ	0.0396 UJ	0.0396 UJ	0.0396 UJ
75-35-4	1,1-Dichloroethene	0.0238 U	0.0238 U	0.195 J	0.0238 U	0.0238 U	0.0238 U	0.0238 U
75-09-2	Methylene chloride	1.21	1.30 U	1.43 J	0.382 U	1.79	0.915 U	

Notes:

U - analyte not detected, associated value is method detection limit

J - associated value is estimated

$\mu\text{g}/\text{m}^3$ - micrograms per cubic metre

Dup - duplicate

SDG - sample delivery group

IA - indoor air sample

SS - sub-slab soil gas sample

OA - outdoor air sample

TABLE 3.3
LABORATORY ANALYTICAL RESULTS
Sanborn, New York

		Location:	76 Steele Circle			77 Steele Circle	
BP Sanborn		Sample ID:	76S-IA-513	76S-IA-504	76S-SS-973	77S-IA 506	77S-SS 912
Validated Air Analytical Data		Lab Sample Id:	5548138	5548139	5548133	5540125	5538767
Detected Compound Summary		SDG:	1123083	1123083	1123083	1121792	1121555
		Matrix:	AIR	AIR	AIR	AIR	AIR
		Sampled:	12/2/2008	12/2/2008	12/2/2008	11/20/2008	11/20/2008
		Validated:	1/20/2009	1/20/2009	1/20/2009	1/20/2009	1/20/2009
		Dup of:		76S-IA-513			
CAS NO.	Volatile organic compounds ($\mu\text{g}/\text{m}^3$)						
75-34-3	1,1-Dichloroethane	0.0364 U	0.0364 U	0.0364 U	0.0364 U	0.0364 U	0.0364 U
156-59-2	cis-1,2-Dichloroethene	0.404 J	0.0555 UJ	0.0555 U	0.0555 U	0.0555 U	0.0555 U
71-55-6	1,1,1-Trichloroethane	0.0709 U	0.0709 U	0.103 J	0.0860 J	0.312	
79-01-6	Trichloroethene	0.265 J	0.107 U	0.193 J	0.143 J	0.107 U	
75-01-4	Vinyl chloride	0.0230 U	0.0230 U	0.0230 U	0.0230 U	0.0230 U	0.0230 U
156-60-5	trans-1,2-Dichloroethene	0.0396 U	0.0396 U	0.0396 U	0.0396 UJ	0.0396 U	0.0396 U
75-35-4	1,1-Dichloroethene	0.0238 U	0.0238 U	0.0238 U	0.0238 U	0.0284 J	
75-09-2	Methylene chloride	0.405 UJ	0.902 UJ	21.8	0.492 U	0.553 U	

Notes:

U - analyte not detected, associated value is method detection limit

J - associated value is estimated

$\mu\text{g}/\text{m}^3$ - micrograms per cubic metre

Dup - duplicate

SDG - sample delivery group

IA - indoor air sample

SS - sub-slab soil gas sample

OA - outdoor air sample

TABLE 3.4
SAMPLE DEPLOYMENT TIME AND CANISTER VACUUM READINGS
Sanborn, New York

Sample ID	Sample Location	Sample Deployed	Sample Collected	Sample Duration (hour: minutes)	Initial Vacuum (in-Hg)	Final Vacuum (in-Hg)
61S-IA 1027	Indoor Air	11/19/08 18:00	11/20/08 18:15	24:15	29.34	2.07
61S-SS 913	Sub-slab	11/19/08 14:52	11/19/08 14:56	0:04	29.43	3.25
63S-IA 155	Indoor Air	12/2/08 18:45	12/3/08 18:06	23:21	29.44	7.42
63S-SS 924	Sub-slab	12/2/08 18:28	12/2/08 18:33	0:05	29.24	3.02
65S-IA 012	Indoor Air	12/2/08 9:35	12/3/08 9:20	23:45	29.28	4.45
65S-OA 806	Outdoor Air	12/2/08 10:55	12/3/08 10:55	24:00	29.34	4.82
65S-SS 922	Sub-slab	12/2/08 10:30	12/2/08 10:35	0:05	29.29	1.92
67S-IA 860	Indoor Air	11/18/08 11:29	11/19/08 11:30	24:01	29.10	1.52
67S-OA 833	Outdoor Air	11/18/08 11:21	11/19/08 11:35	24:14	28.90	2.52
67S-SS 979	Sub-slab	11/18/08 11:12	11/18/08 11:17	0:05	29.75	2.00
73S-IA 005	Outdoor Air	11/20/08 12:10	11/21/08 11:55	23:45	29.22	0.70
73S-SS 1011	Sub-slab	11/20/08 10:59	11/20/08 11:07	0:08	29.24	4.79
73S-SS 983					29.22	4.84
74S-IA 319	Outdoor Air	11/19/08 12:00	11/20/08 11:40	23:40	29.54	1.90
74S-OA 136	Outdoor Air	11/19/08 12:00	11/20/08 11:44	23:44	29.48	7.19
74S-SS 991	Sub-slab	11/19/08 10:26	11/19/08 10:31	0:05	29.52	3.25
75S-IA 048	Indoor Air	11/20/08 12:45	11/21/08 12:20	23:35	29.29	6.45
75S-OA 147	Outdoor Air	11/20/08 12:55	11/21/08 12:23	23:28	29.24	0.04
75S-SS 986	Sub-slab	11/20/08 12:58	11/20/08 13:03	0:05	29.22	4.80
76S-IA 504	Indoor Air	12/2/08 14:21	12/3/08 14:15	23:54	29.35	10.51
76S-IA 513					29.37	7.77
76S-SS 973	Sub-slab	12/2/08 14:11	12/2/08 14:16	0:05	29.30	8.37
77S-IA 506	Indoor Air	11/20/08 18:00	11/21/08 17:30	23:30	29.38	7.91
77S-SS 912	Sub-slab	11/20/08 17:46	11/20/08 17:51	0:05	29.16	5.75

Notes:

in-Hg - inches of mercury vacuum

TABLE 3.5
TEMPERATURE AND BAROMETRIC PRESSURE
DURING INDOOR AND OUTDOOR AIR SAMPLING
Sanborn, New York

Sample ID	Sample Location	Temperature Range (°F)	Atmospheric Pressure Range (kPa)
61S-IA 1027	Main Floor	61.74 - 69.11	100.8 - 101.5
63S-IA 155	Main Floor	56.06 - 78.10	101.3 - 101.9
65S-IA 012	Main Floor	61.57 - 68.25	101.5 - 101.9
65S-OA 806	Outdoor	30.92 - 35.06	
67S-IA 860	Main Floor	51.00 - 66.37	102.1 - 102.6
67S-OA 833	Outdoor	19.04 - 30.92	
73S-IA 005	Main Floor	58.13 - 63.46	101.2 - 102.2
74S-IA 319	Main Floor	65.68 - 71.86	100.8 - 101.9
74S-OA 136	Outdoor	26.96 - 32.00	
75S-IA 048	Main Floor	62.60 - 73.58	101.2 - 102.2
75S-OA 147	Outdoor	23.00 - 33.08	
76S-IA 513	Main Floor	55.02 - 68.42	101.3 - 101.9
76S-IA 504-Dup			
77S-IA 506	Main Floor	55.54 - 65.68	101.4 - 102.4

Notes:

Source: Atmospheric pressure data from <http://www.wunderground.com/weatherstation/WXDailyHistory.asp?ID=MD0612>

kPa - kiloPascals

°F - degrees fahrenheit

Dup - duplicate

SECTION 4

DATA EVALUATION

4.1 NYSDOH SOIL VAPOR/INDOOR AIR DECISION MATRICES

The NYSDOH Vapor Intrusion Guidance for Evaluating Soil Vapor Intrusion (NYSDOH, 2006) includes decision matrices (see Table 4.1) to be used as a risk management tool for TCE and 111TCA, two of the compounds that were detected above the laboratory LOQ.

TCE is assigned to soil vapor/indoor air Matrix 1. All of the sub-slab soil gas samples contained less than $1 \mu\text{g}/\text{m}^3$ TCE, and all the indoor air samples contained less than or equal to $0.320 \mu\text{g}/\text{m}^3$. The corresponding response recommended in Matrix 1 is: "Take reasonable and practical actions to identify source(s) and reduce exposures." Usually, there is a dilution of 100 to 10,000 times when soil vapor enters a building (Johnson, 2002); therefore, sub-surface vapor intrusion does not appear to be the source of TCE detected in indoor air because the sub-surface concentrations of TCE are very low. There were occasional detections of TCE in outdoor air, and the National Air Toxics Assessment (NATA) website shows maps with similar concentrations in outdoor air attributable to widespread use of TCE in industry¹. Therefore, the source of TCE in the indoor air samples appears likely to be a regional ambient air quality condition.

111TCA is assigned to soil vapor/indoor air Matrix 2. All 111TCA sub-slab soil gas samples were less than $1 \mu\text{g}/\text{m}^3$ and there were no detections above the laboratory LOQ in any of the indoor air samples collected. The corresponding response recommended in Matrix 2 is no further action.

MC was the only other compound detected in either the sub-slab soil gas or indoor air and is not assigned to a soil vapor/indoor air matrix in the NYSDOH vapor intrusion guidance document (NYSDOH, 2006).

4.2 USEPA OAK RIDGE NATIONAL LABORATORY (ORNL) RESIDENTIAL SCREENING LEVELS

Due to the absence of sub-slab soil gas and indoor air screening levels in the NYSDOH Vapor Intrusion Guidance Document (NYSDOH, 2006), screening levels were drawn from the United States Environmental Protection Agency (USEPA) Oak Ridge National Laboratory (ORNL) Residential Screening Levels for Chemical Contaminants (USEPA, 2008) for a 1×10^{-6} incremental lifetime cancer risk (ILCR) level. The ORNL residential indoor air screening levels for the two compounds detected above the laboratory LOQ for TCE and MC are $1.2 \mu\text{g}/\text{m}^3$ and $5.2 \mu\text{g}/\text{m}^3$ respectively. The ORNL residential indoor air screening levels for TCE, 111TCA, and MC were divided by 0.1, a very conservative site-specific attenuation factor (i.e., the ratio of indoor air to sub-slab vapor concentrations), to derive sub-slab soil gas screening levels. The sub-slab soil gas screening levels were calculated to be $12 \mu\text{g}/\text{m}^3$, $52,000 \mu\text{g}/\text{m}^3$, and $52 \mu\text{g}/\text{m}^3$.

¹ (http://www.epa.gov/cgi-bin/broker?geo=STNY&pol=43824&city=1&typ=c&_service=nata&_program=nata.scl.comap.scl&_debug=2&nata2=1)

for TCE, 111TCA, and MC, respectively. None of the indoor air samples or sub-slab soil gas collected exceeded the US EPA ORNL indoor air screening levels or derived soil gas screening levels.

11DCE, 11DCA, cDCE, tDCE, and VC were reported in some of the indoor air, outdoor air, and sub-slab soil gas samples at concentrations below the laboratory limit of quantitation, and all of these compounds had concentrations that were below the ORNL indoor air screening levels and at least 10 times lower than the derived soil gas screening levels. These compounds were reported at concentrations lower than average background concentrations, and are not considered to pose a concern for vapor intrusion.

Table 4.1 Soil Vapor / Indoor Air Matrix 1

NYSDOH October 2006

SUB-SLAB VAPOR CONCENTRATION of COMPOUND (mcg / m ³)	INDOOR AIR CONCENTRATION of COMPOUND (mcg / m ³)			
	< 0.25	0.25 to < 1	1 to < 5.0	5.0 and above
< 5	1. No further action	2. Take reasonable and practical actions to identify source(s) and reduce exposures	3. Take reasonable and practical actions to identify source(s) and reduce exposures	4. Take reasonable and practical actions to identify source(s) and reduce exposures
5 to < 50	5. No further action	6. MONITOR	7. MONITOR	8. MITIGATE
50 to < 250	9. MONITOR	10. MONITOR / MITIGATE	11. MITIGATE	12. MITIGATE
250 and above	13. MITIGATE	14. MITIGATE	15. MITIGATE	16. MITIGATE

No further action:

Given that the compound was not detected in the indoor air sample and that the concentration detected in the sub-slab vapor sample is not expected to significantly affect indoor air quality, no additional actions are needed to address human exposures.

Take reasonable and practical actions to identify source(s) and reduce exposures:

The concentration detected in the indoor air sample is likely due to indoor and/or outdoor sources rather than soil vapor intrusion given the concentration detected in the sub-slab vapor sample. Therefore, steps should be taken to identify potential source(s) and to reduce exposures accordingly (e.g., by keeping containers tightly capped or by storing volatile organic compound-containing products in places where people do not spend much time, such as a garage or outdoor shed). Resampling may be recommended to demonstrate the effectiveness of actions taken to reduce exposures.

MONITOR:

Monitoring, including sub-slab vapor, basement air, lowest occupied living space air, and outdoor air sampling, is needed to determine whether concentrations in the indoor air or sub-slab vapor have changed. Monitoring may also be needed to determine whether existing building conditions (e.g., positive pressure heating, ventilation and air-conditioning systems) are maintaining the desired mitigation endpoint and to determine whether changes are needed. The type and frequency of monitoring is determined on a site-specific and building-specific basis, taking into account applicable environmental data and building operating conditions. Monitoring is an interim measure required to evaluate exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MITIGATE:

Mitigation is needed to minimize current or potential exposures associated with soil vapor intrusion. The most common mitigation methods are sealing preferential pathways in conjunction with installing a sub-slab depressurization system, and changing the pressurization of the building in conjunction with monitoring. The type, or combination of types, of mitigation is determined on a building-specific basis, taking into account building construction and operating conditions. Mitigation is considered a temporary measure implemented to address exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MONITOR / MITIGATE:

Monitoring or mitigation may be recommended after considering the magnitude of sub-slab vapor and indoor air concentrations along with building- and site-specific conditions.

See additional notes on page 2.

Table 4.1 Soil Vapor / Indoor Air Matrix 2

NYSDOH October 2006

SUB-SLAB VAPOR CONCENTRATION of COMPOUND (mcg / m ³)	INDOOR AIR CONCENTRATION of COMPOUND (mcg / m ³)			
	< 3	3 to < 30	30 to < 100	100 and above
< 100	1. No further action	2. Take reasonable and practical actions to identify source(s) and reduce exposures	3. Take reasonable and practical actions to identify source(s) and reduce exposures	4. Take reasonable and practical actions to identify source(s) and reduce exposures
100 to < 1,000	5. MONITOR	6. MONITOR / MITIGATE	7. MITIGATE	8. MITIGATE
1,000 and above	9. MITIGATE	10. MITIGATE	11. MITIGATE	12. MITIGATE

No further action:

Given that the compound was not detected in the indoor air sample and that the concentration detected in the sub-slab vapor sample is not expected to significantly affect indoor air quality, no additional actions are needed to address human exposures.

Take reasonable and practical actions to identify source(s) and reduce exposures:

The concentration detected in the indoor air sample is likely due to indoor and/or outdoor sources rather than soil vapor intrusion given the concentration detected in the sub-slab vapor sample. Therefore, steps should be taken to identify potential source(s) and to reduce exposures accordingly (e.g., by keeping containers tightly capped or by storing volatile organic compound-containing products in places where people do not spend much time, such as a garage or outdoor shed). Resampling may be recommended to demonstrate the effectiveness of actions taken to reduce exposures.

MONITOR:

Monitoring, including sub-slab vapor, basement air, lowest occupied living space air, and outdoor air sampling, is needed to determine whether concentrations in the indoor air or sub-slab vapor have changed. Monitoring may also be needed to determine whether existing building conditions (e.g., positive pressure heating, ventilation and air-conditioning systems) are maintaining the desired mitigation endpoint and to determine whether changes are needed. The type and frequency of monitoring is determined on a site-specific and building-specific basis, taking into account applicable environmental data and building operating conditions. Monitoring is an interim measure required to evaluate exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MITIGATE:

Mitigation is needed to minimize current or potential exposures associated with soil vapor intrusion. The most common mitigation methods are sealing preferential pathways in conjunction with installing a sub-slab depressurization system, and changing the pressurization of the building in conjunction with monitoring. The type, or combination of types, of mitigation is determined on a building-specific basis, taking into account building construction and operating conditions. Mitigation is considered a temporary measure implemented to address exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MONITOR / MITIGATE:

Monitoring or mitigation may be recommended after considering the magnitude of sub-slab vapor and indoor air concentrations along with building- and site-specific conditions.

See additional notes on page 2.

SECTION 5

CONCLUSIONS

Sub-slab soil gas and indoor air samples were collected from 9 of the 12 homes proposed, which is considered to be sufficient to assess the subsurface soil gas to indoor air exposure pathway because of the close proximity of the homes.

TCE and MC were the only compounds detected above the laboratory LOQ in the indoor air samples. TCE was detected in the indoor air samples from 2 of the 9 homes, and at concentrations only slightly above the laboratory LOQ, and below the USEPA ORNL residential indoor air screening levels. Furthermore, the low levels of TCE observed in indoor air are similar to concentrations of TCE that have been measured in one outdoor air sample from the site and similar to the range of concentrations reported by NATA for the Northwestern portion of New York State. MC was detected in the indoor air samples from 3 of the homes, but at concentrations well below the USEPA ORNL residential indoor screening levels.

TCE, MC, and 111TCA were the only compounds detected above the laboratory LOQ in the sub-slab soil gas samples. These compounds were all below the conservative sub-slab soil gas screening levels derived from the USEPA ORNL residential indoor screening levels.

The data collected during this study are consistent with NYSDOH Vapor Intrusion Guidance requirements. According to the decision matrices in the NYSDOH guidance, no further sampling is needed at the homes on Steele Circle. Since these samples were collected during the heating season, they are considered by NYSDOH to be protective relative to conditions at other times of the year.

SECTION 6

REFERENCES

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- New York State Department of Health (NYSDOH). Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York. Center for Environmental Health. Bureau of Environmental Exposure Investigation, 2006.
- Parsons, 2006. Soil Vapor Intrusion Work Plan, Former Carborundum Site, Sanborn New York, Registry #932102, August 28, 2006.
- Parsons, 2007. Results of Soil Vapor Intrusion Assessment, Former Carborundum Site, Sanborn New York, Registry #932102, November 19, 2007.
- Parsons, 2008. Soil Vapor Intrusion Work Plan Amendment, Former Carborundum Site, Sanborn New York, Registry #932102, October 27, 2008.
- United States Environmental Protection Agency, Oak Ridge National Laboratory (ORNL) Screening Levels for Chemical Contaminants, September 12, 2008. (<http://epa-prgs.ornl.gov/chemicals/index.shtml>)

APPENDIX A INVENTORIES AND INSPECTION SURVEY

**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 Robert Miwer Date/Time Prepared 12/2 5:30pm
Preparer's Affiliation Atlantic Richfield Co Phone No. 314 367-8082
Purpose of Investigation indoor air sample

1. OCCUPANT:

Interviewed: ☒ Y / ☐ N

Last Name:

First Name:

Address: 63 Steele CircleCounty: Niagara

Home Phone:

Office Phone: _____

Number of Occupants/persons at this location 1 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
☐ Industrial

☐ School
☐ Church

☐ Commercial/Multi-use
Other: _____

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

<u>Ranch</u>	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? 2

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 1

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)

Water / Sewer - Kitchen, laundry + 2 baths
Drain hole - utility room

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)

<u>Hot air circulation</u>	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:

<u>Natural Gas</u>	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: natural gas

Boiler/furnace located in: Basement Outdoors Main Floor Other _____

Air conditioning:

Central Air

Window units

Open Windows

None

4

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

Level

General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)

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? regular household

i. Have cosmetic products been used recently?

Y/N When & Type? _____

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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? plug-in

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: Smoke

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

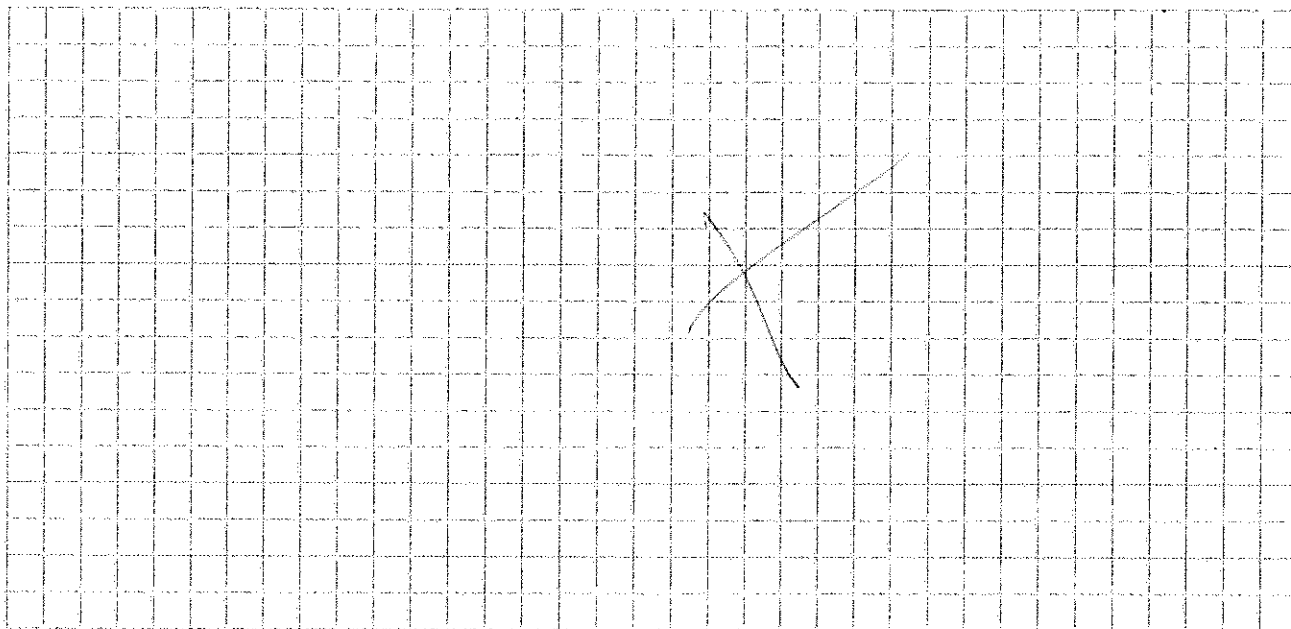
d. Relocation package provided and explained to residents? Y/N

6

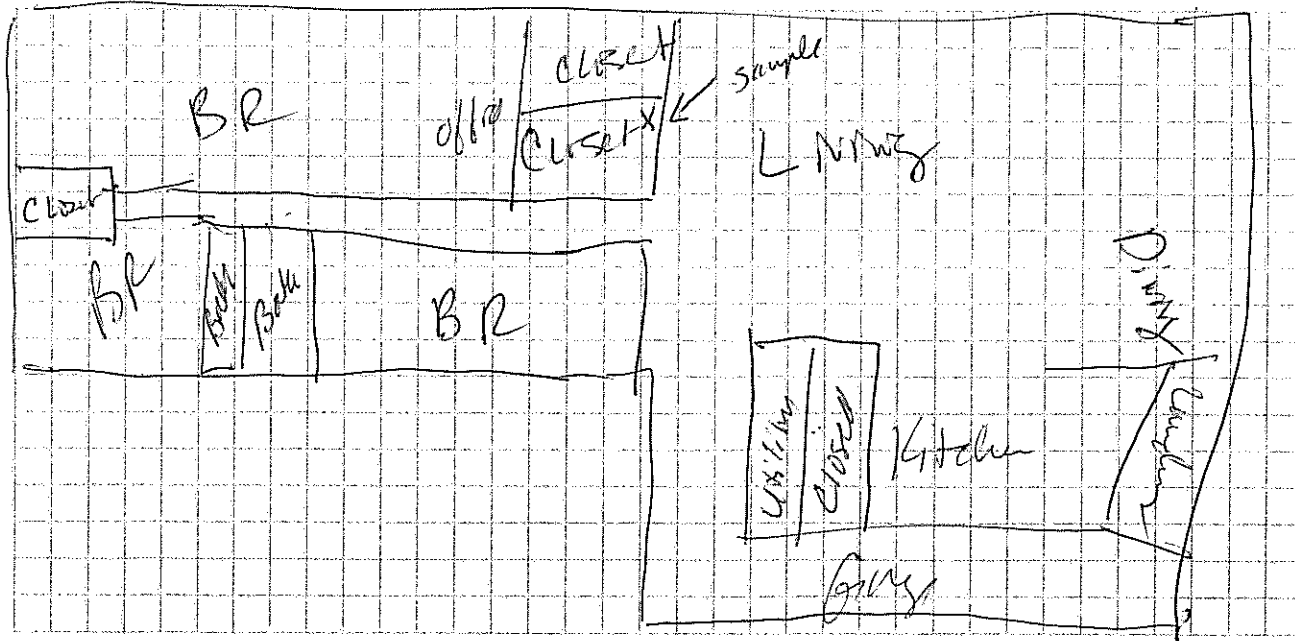
11. FLOOR PLANS

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:



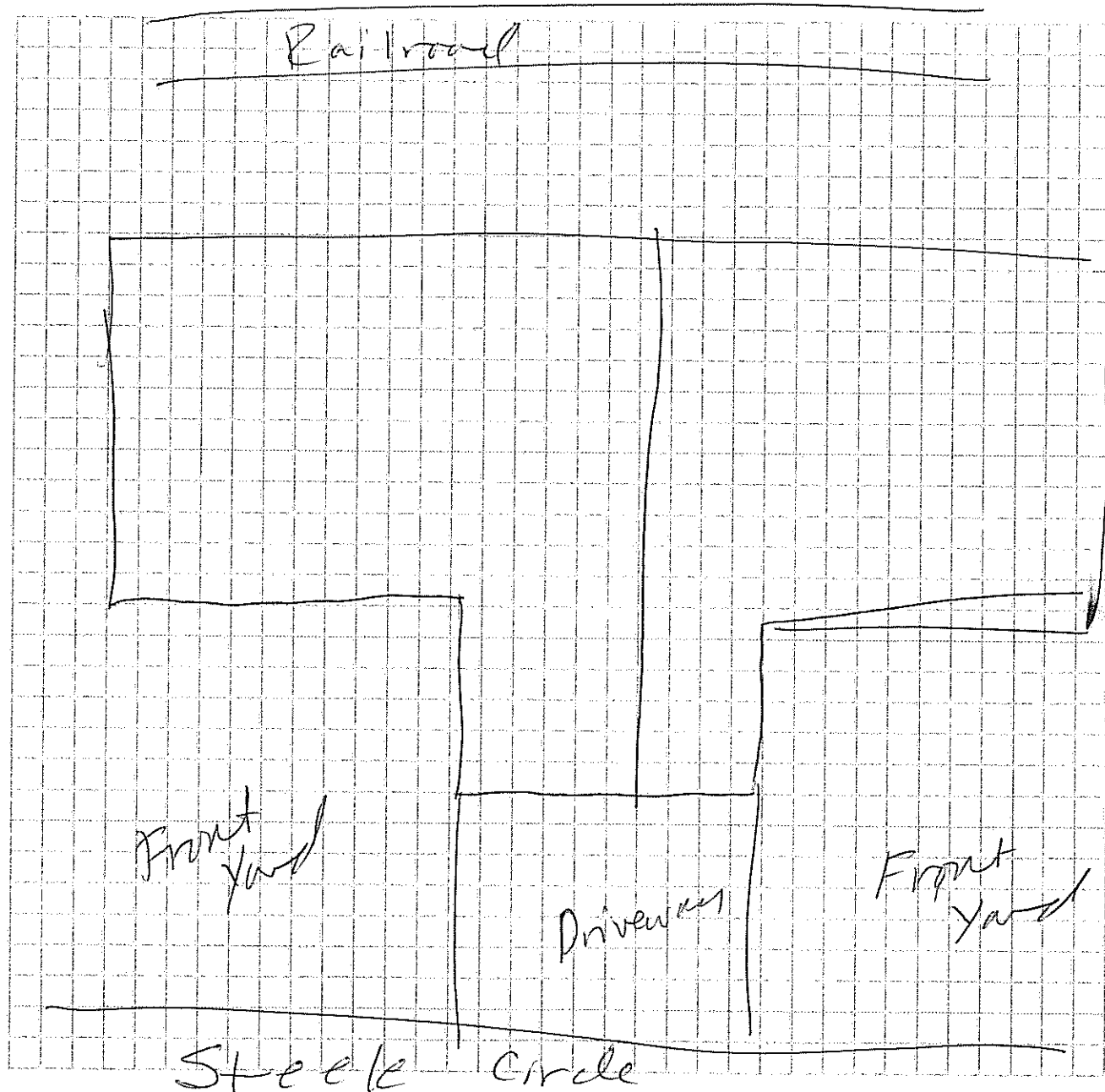
First Floor:



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
Kitchen	Sax + Scrub					
	Resolve Carpet	16 oz				
	Sun Light Disinfectant	24 oz				
	Concert Bleach	8 oz				
	Glass Plus	16 oz				
	Ly Sol wipes					
	Spray n Wash	12 oz				
	Rooto Drain Opener	32 oz				
	SOS Pads					
	Mr. Clean Wipes					
	Windex Wipes					
Bath	Bon Ami	8 oz				
Bath	Clorox Oxiclean	16 oz				
Bath	Johnson's Creamy Pwd					

* 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.

**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 Robert Miner Date/Time Prepared 1pm 12/2/08
Preparer's Affiliation Atlantic Richfield Phone No. 314 367 8082
Purpose of Investigation indoor air

1. OCCUPANT:

Interviewed: ☒ Y ☐ N

Last Name:

First Name:

Address: 76 Steele CircleCounty: Niagara

Home Phone:

Office Phone: _____

Number of Occupants/persons at this location 5 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
☐ Industrial

☐ School
☐ Church

☐ Commercial/Multi-use
Other: _____

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

Ranch
 Raised Ranch
 Cape Cod
 Duplex
 Modular

2-Family
 Split Level
 Contemporary
 Apartment House
 Log Home

3-Family
 Colonial
 Mobile Home
 Townhouses/Condos
 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 1 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)

Sewer/water Kitchen, 2 Baths, Laundry
drain ~~vent~~ hole for HVAC system

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
 Space Heaters
 Electric baseboard

Heat pump
 Stream radiation
 Wood stove

Hot water baseboard
 Radiant floor
 Outdoor wood boiler Other _____

The primary type of fuel used is:

Natural Gas
 Electric
 Wood

Fuel Oil
 Propane
 Coal

Kerosene
 Solar

Domestic hot water tank fueled by: natural gas

Boiler/furnace located in: Basement Outdoors Main Floor Other _____

Air conditioning:

Central Air

Window units

Open Windows

None

4

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

Level

General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)

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? Common

Wet/dry

i. Have cosmetic products been used recently?

☒ Y / ☐ N When & Type? _____

5

j. Has painting/staining been done in the last 6 months?

☒ Y / ☐ N Where & When? 2 months
bedroom + kitchen

k. Is there new carpet, drapes or other textiles?

☐ Y / ☒ N Where & When? _____

l. Have air fresheners been used recently?

☒ Y / ☐ N When & Type? candles

m. Is there a kitchen exhaust fan?

☒ Y / ☐ N If yes, where vented? roof

n. Is there a bathroom exhaust fan?

☒ Y / ☐ N If yes, where vented? roof

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: No

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

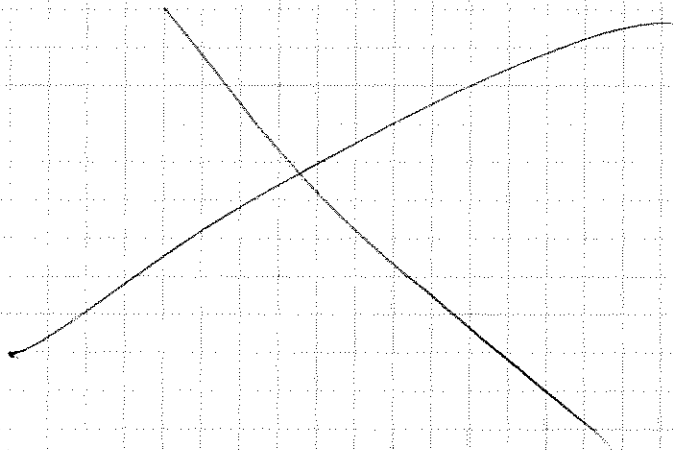
d. Relocation package provided and explained to residents? Y / N

6

11. FLOOR PLANS

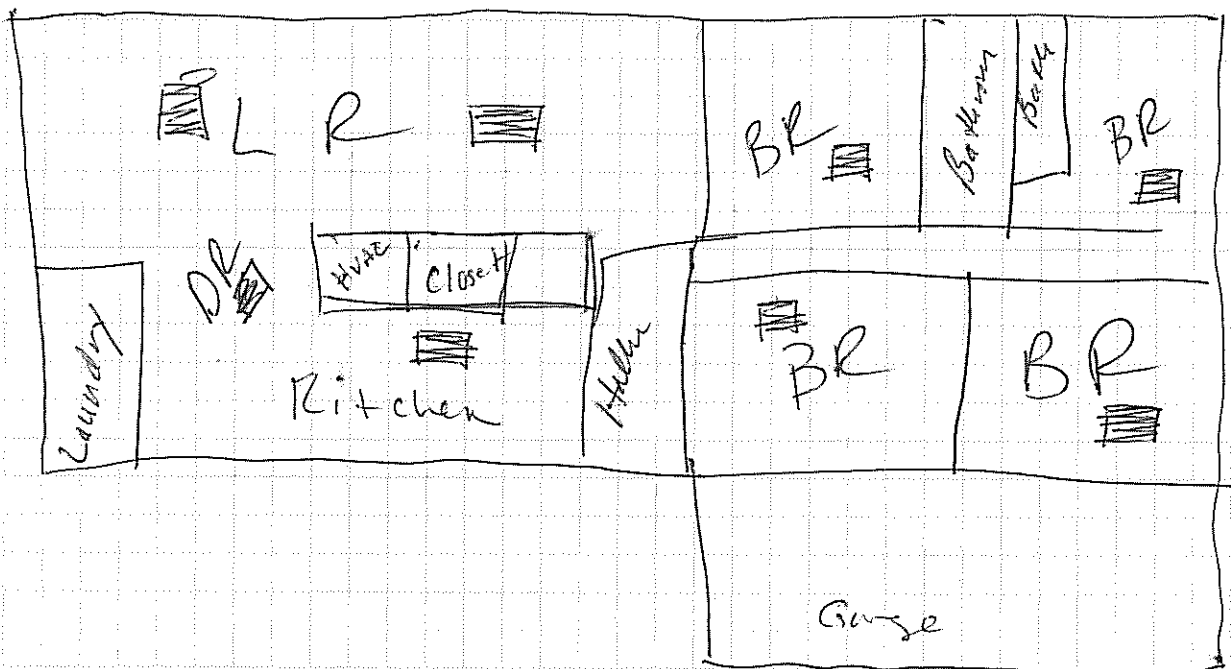
Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

Basement:



First Floor:

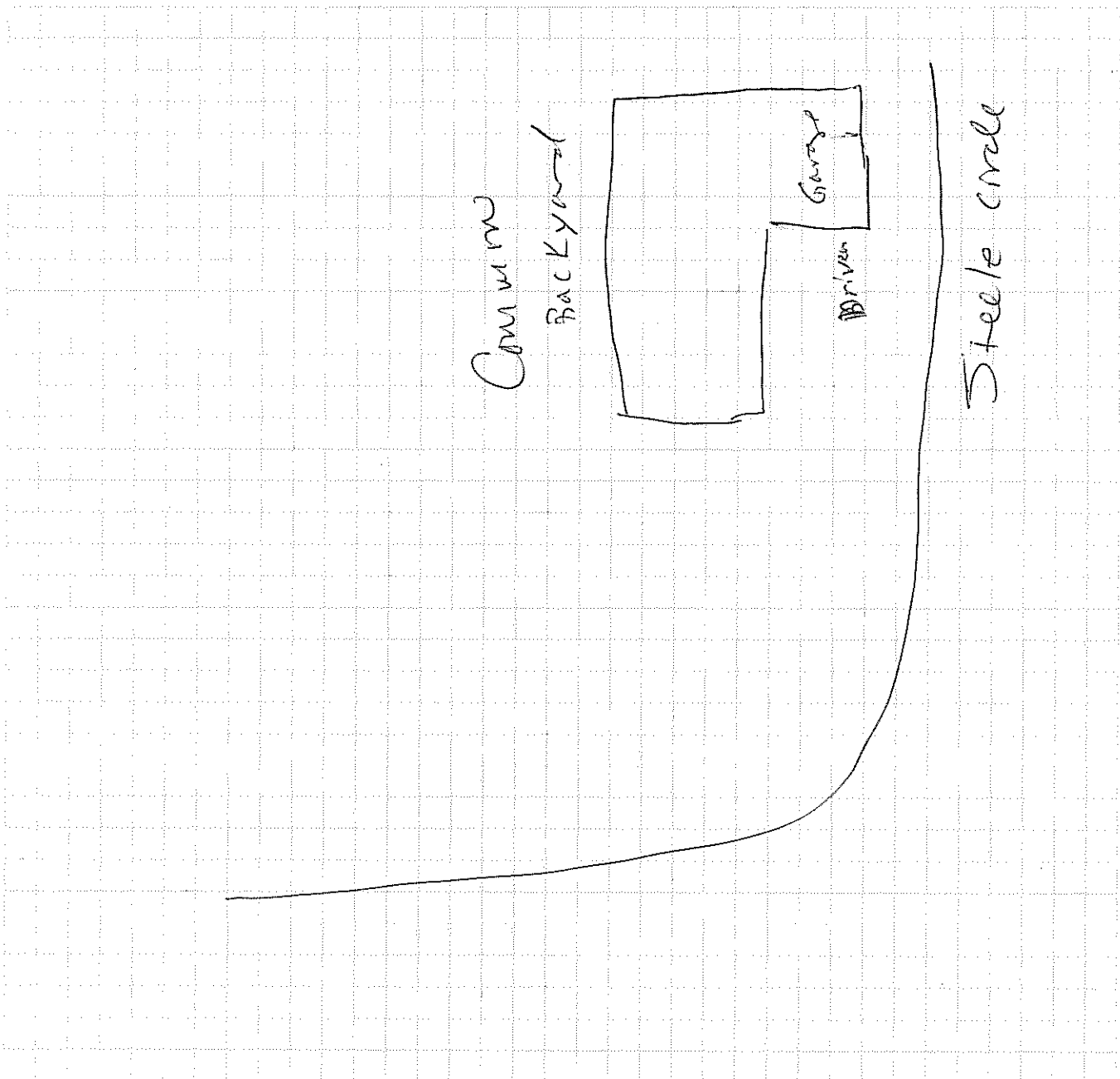
 = Ducts



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** <u>Y/N</u>
Kitchen	Dust	12 ^{oz.}	Good			
	Lysol Kitchen					
	Windex					
	Pledge					
	Clorox Clean-Up					
	Rejuvenate					
	Minute Green					
	Febreze					
	Bissell carpet					
	Fantastick					
	Mr. Clean					

* 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.

**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 Robert miner Date/Time Prepared 12/2 9a.m.

Preparer's Affiliation Atlantic Richfield Phone No. 314.367.8082

Purpose of Investigation Indoor Air

1. OCCUPANT:

Interviewed: ☒ Y ☐ N

Last Name:

First Name:

Address: 65 Steele Circle

County: Niagara

Home Phone:

Office Phone: _____

Number of Occupants/persons at this location 1 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
☐ Industrial

☐ School
☐ Church

☐ Commercial/Multi-use
Other: _____

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

Ranch
 Raised Ranch
 Cape Cod
 Duplex
 Modular

2-Family
 Split Level
 Contemporary
 Apartment House
 Log Home

3-Family
 Colonial
 Mobile Home
 Townhouses/Condos
 Other: _____

If multiple units, how many? 2

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 1

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)

Sewer/water - kitchen, bathrooms

Heating/HVAC - drainage hole

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)

- | | | |
|----------------------------|------------------|---------------------|
| <u>Hot air circulation</u> | 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:

- | | | |
|--------------------|----------|----------|
| <u>Natural Gas</u> | Fuel Oil | Kerosene |
| Electric | Propane | Solar |
| Wood | Coal | |

Domestic hot water tank fueled by: natural gas

Boiler/furnace located in: Basement Outdoors Main Floor Other _____

Air conditioning: Central Air Window units Open Windows None

4

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

Level General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)

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 car

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? _____

5

j. Has painting/staining been done in the last 6 months?

☒ Y / ☐ N

Where & When? July

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

retired

(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)

Yes, use dry-cleaning infrequently (monthly or less)

Yes, work at a dry-cleaning service

No

Unknown

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

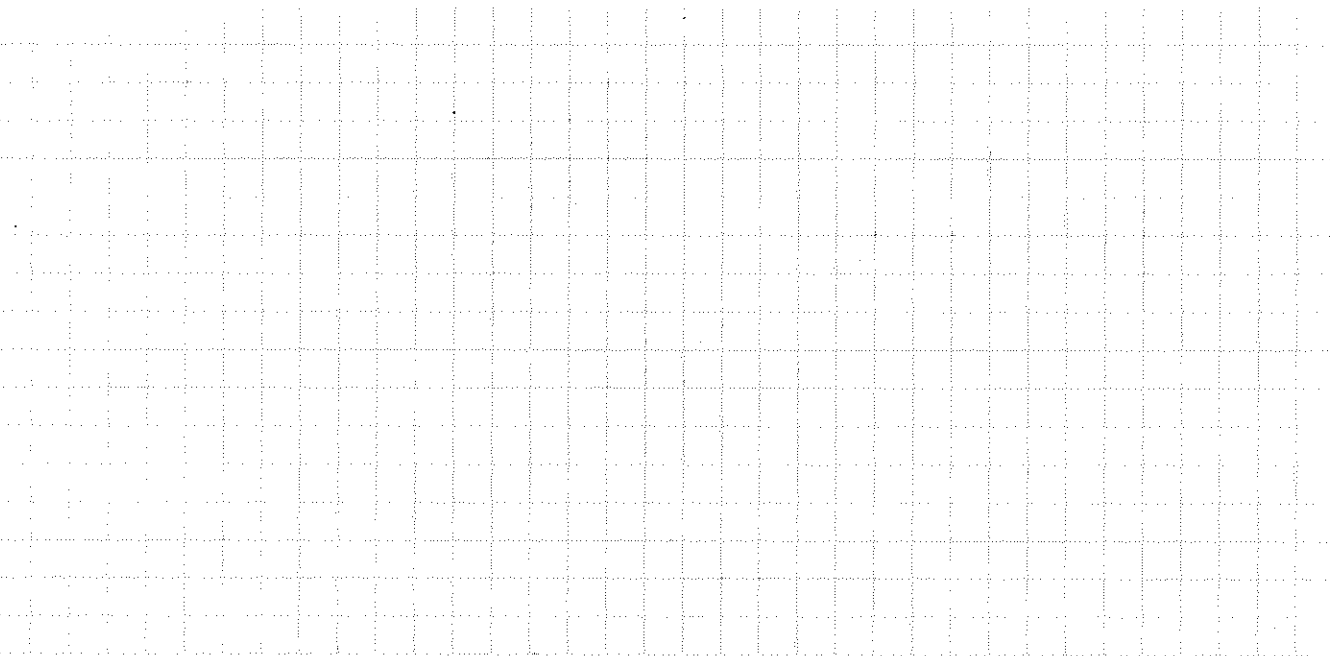
d. Relocation package provided and explained to residents? Y / N

6

11. FLOOR PLANS

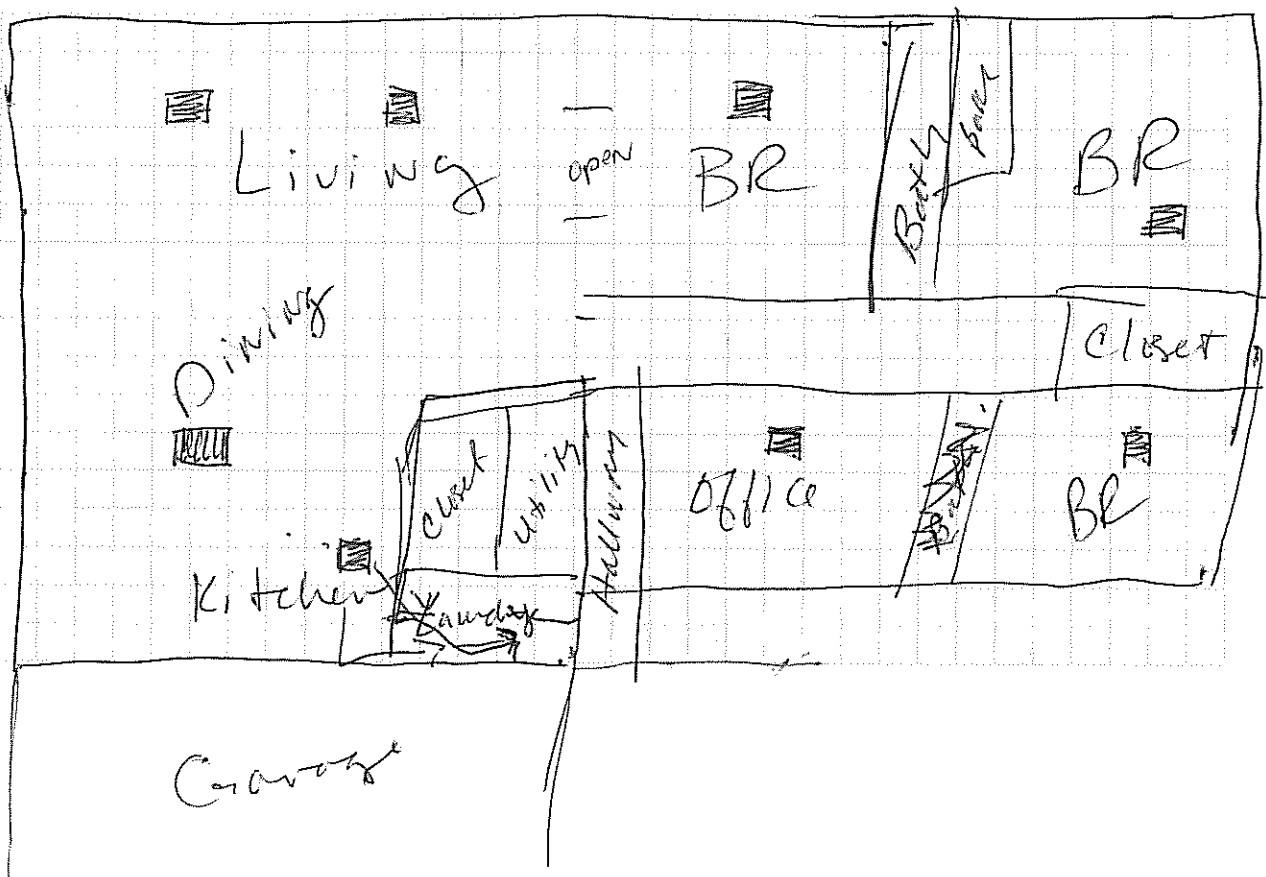
Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

Basement:



First Floor:

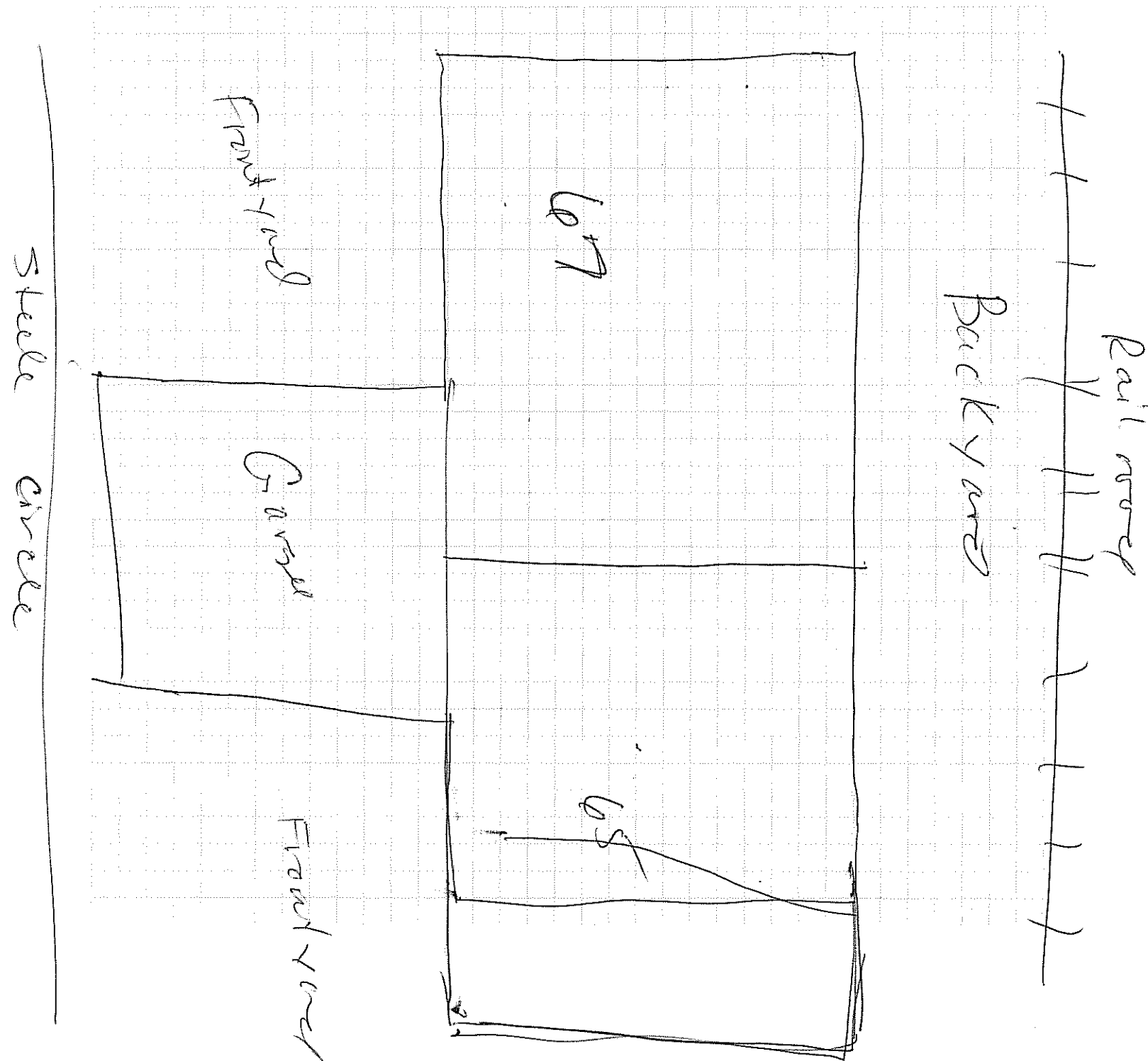
 = Ducts



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.



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

[illegible]

**** 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.**

**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 Robert Miner Date/Time Prepared 11/20 5:30 p.m.

Preparer's Affiliation Atlantic Richfield Phone No. 314 367 2082

Purpose of Investigation Indoor air

1. OCCUPANT:

Interviewed: ☒ Y ☐ N

Last Name:

First Name:

Address: 77 Steele Circle

County: Niagara

Home Phone:

Office Phone: _____

Number of Occupants/persons at this location 1 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
☐ Industrial

☐ School
☐ Church

☐ Commercial/Multi-use
Other: _____

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

Ranch
 Raised Ranch
 Cape Cod
 Duplex
 Modular

2-Family
 Split Level
 Contemporary
 Apartment House
 Log Home

3-Family
 Colonial
 Mobile Home
 Townhouses/Condos
 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 1

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)

Sewer/ water kitchen, ² baths, laundry
drain hole - A/C

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)

- | | | |
|----------------------------|------------------|---------------------|
| <u>Hot air circulation</u> | 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:

- | | | |
|--------------------|----------|----------|
| <u>Natural Gas</u> | Fuel Oil | Kerosene |
| Electric | Propane | Solar |
| Wood | Coal | |

Domestic hot water tank fueled by: natural gas

Boiler/furnace located in: Basement Outdoors Main Floor Other _____

Air conditioning:

Central Air

Window units

Open Windows

None

4

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

Level General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)

Basement

☒ 1st Floor Kitchen, laundry, living, bedrooms, storage

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? Common household

i. Have cosmetic products been used recently?

☒ Y / ☐ N When & Type? _____

5

j. Has painting/staining been done in the last 6 months?

☒ Y / ☐ N Where & When? late spring / Summer

k. Is there new carpet, drapes or other textiles?

☒ Y / ☐ N Where & When? Spring

l. Have air fresheners been used recently?

☒ Y / ☐ N When & Type? Spring

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: Smoke

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

not often

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

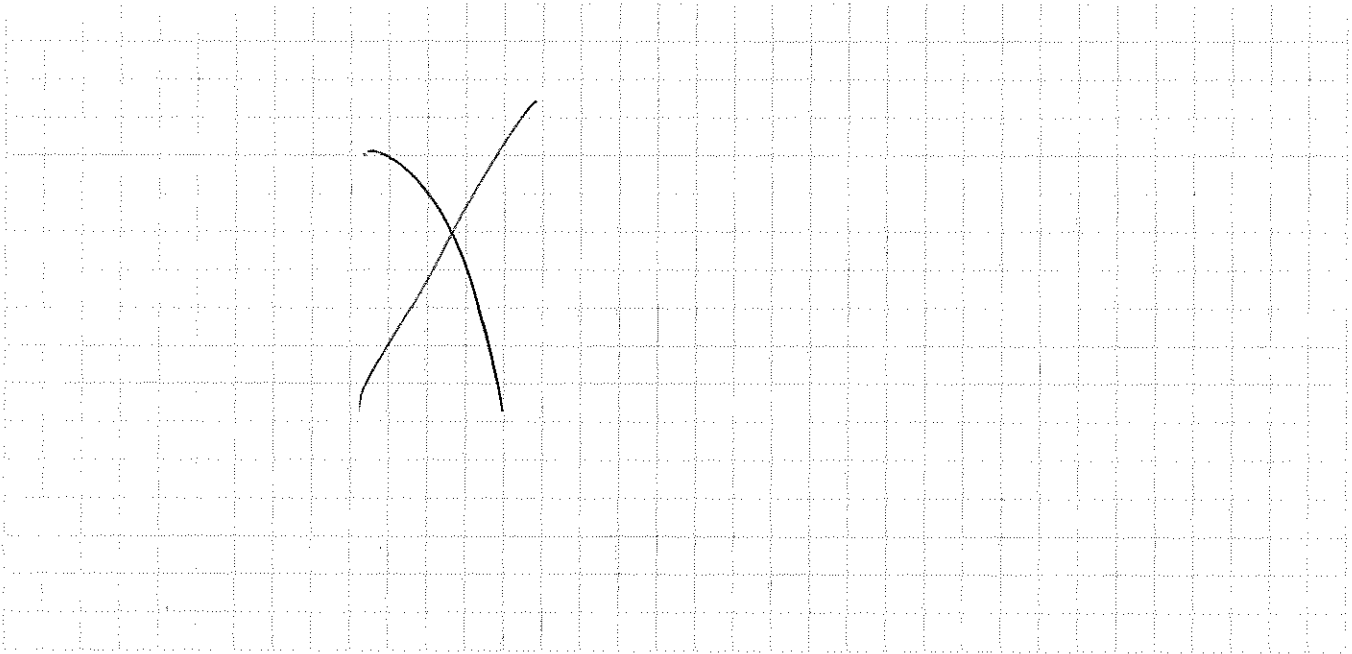
d. Relocation package provided and explained to residents? Y/N

6

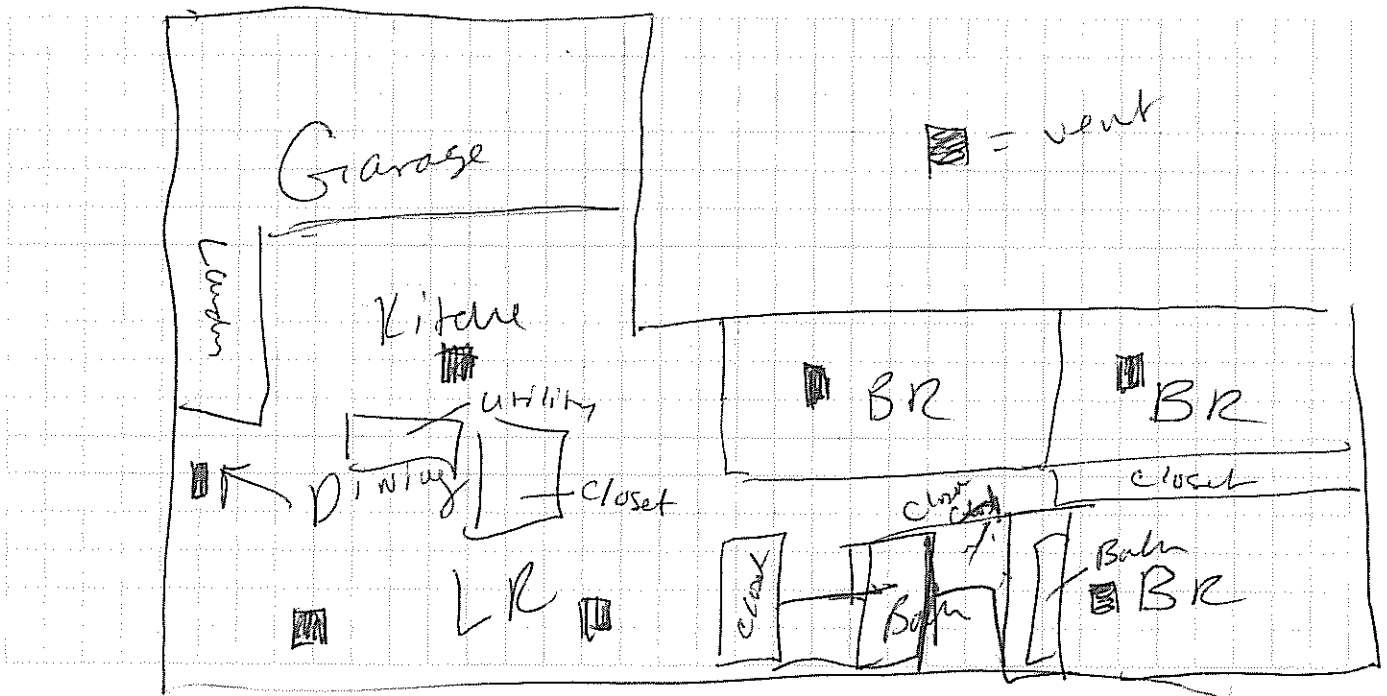
11. FLOOR PLANS

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:



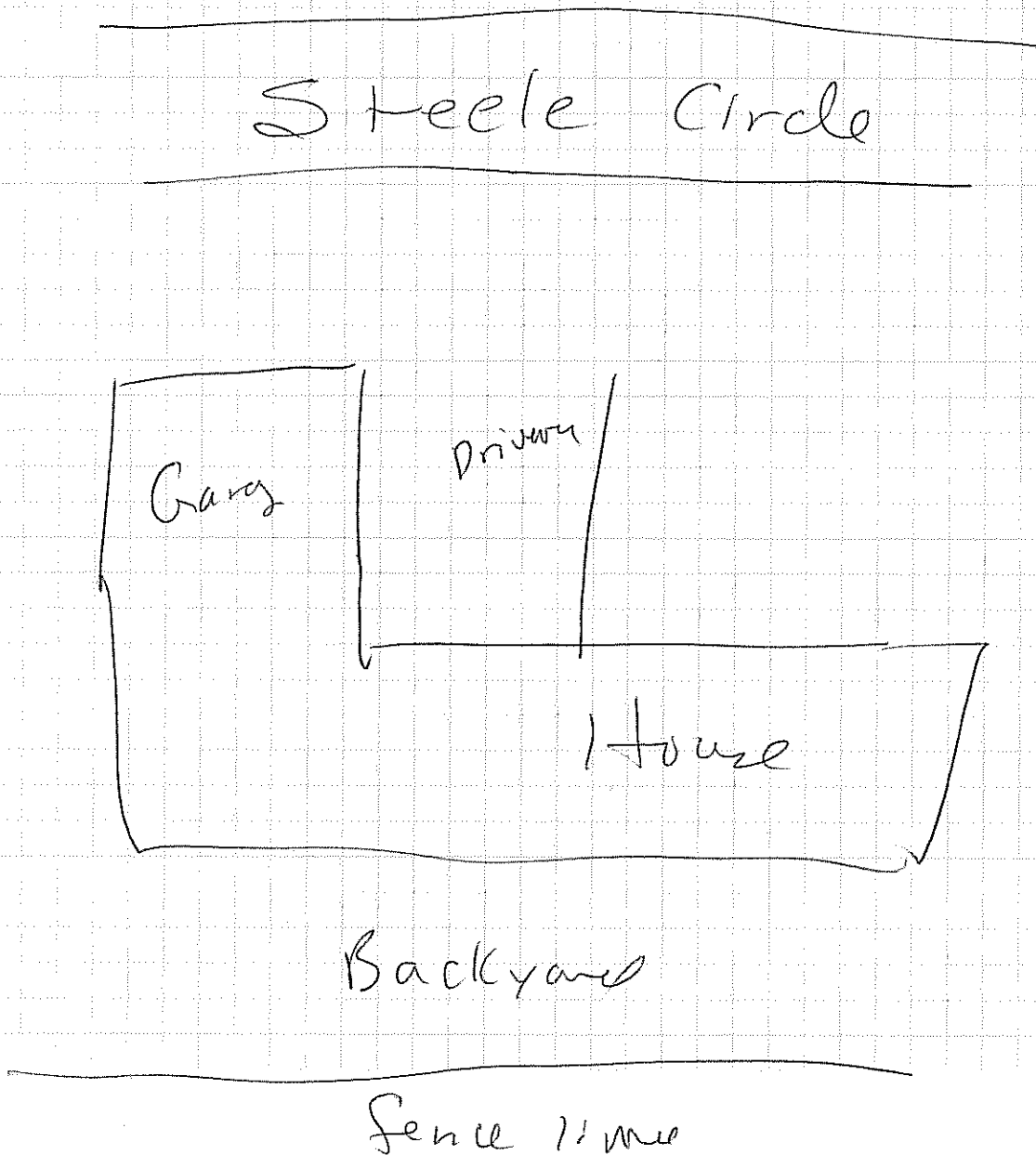
First Floor:



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.

[illegible]

* 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.**

**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 ☐ for Privacy

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: _____ 75 Steele Circle

County: _____ Niagara

Home Phone: _____ Office Phone: _____

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

☒ Residential
☐ Industrial

☐ School
☐ Church

☐ Commercial/Multi-use
Other: _____

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

<u>Ranch</u>	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 1 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)

- | | | |
|----------------------------|------------------|---------------------------------|
| <u>Hot air circulation</u> | 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:

- | | | |
|--------------------|----------|----------|
| <u>Natural Gas</u> | Fuel Oil | Kerosene |
| Electric | Propane | Solar |
| Wood | Coal | |

Domestic hot water tank fueled by: natural gas

Boiler/furnace located in: Basement Outdoors Main Floor Other _____

Air conditioning: Central Air Window units Open Windows None

4

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

Level General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)

Basement	
1 st Floor	
2 nd Floor	
3 rd Floor	
4 th 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? Normal household

i. Have cosmetic products been used recently?

Y ☒ N When & Type? _____

5

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? Summer June/July

l. Have air fresheners been used recently?

☒ Y / N When & Type? Glade plug-in

m. Is there a kitchen exhaust fan?

☒ Y / N If yes, where vented? _____

n. Is there a bathroom exhaust fan?

☒ ☒ 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: Air freshener

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)

Yes, use dry-cleaning infrequently (monthly or less)

Yes, work at a dry-cleaning service

☒ No

Unknown

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

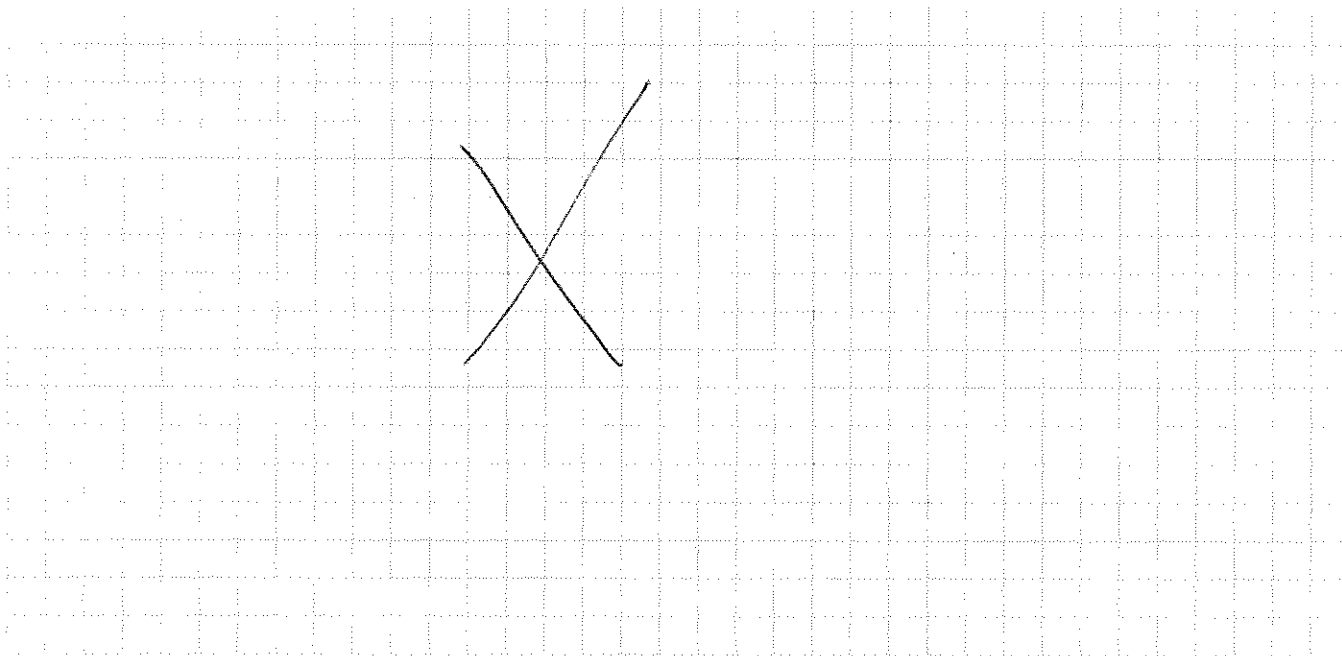
d. Relocation package provided and explained to residents? Y / N

6

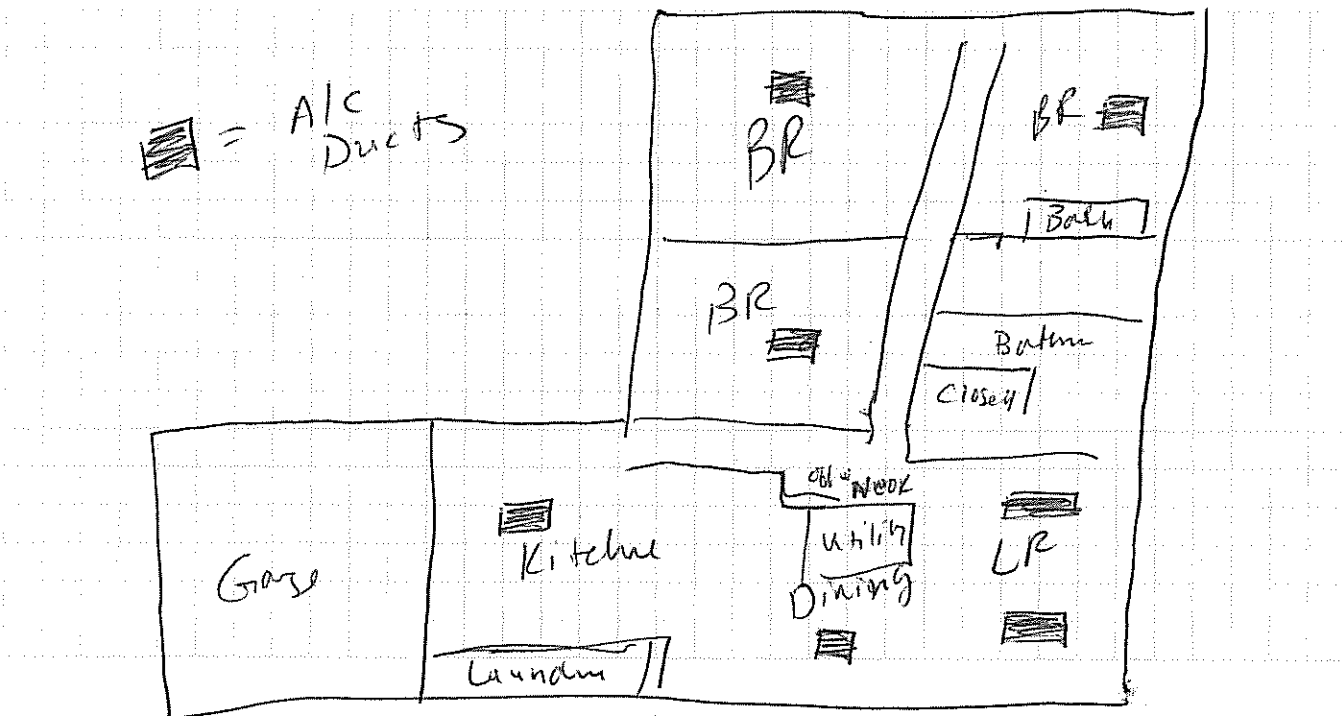
11. FLOOR PLANS

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:



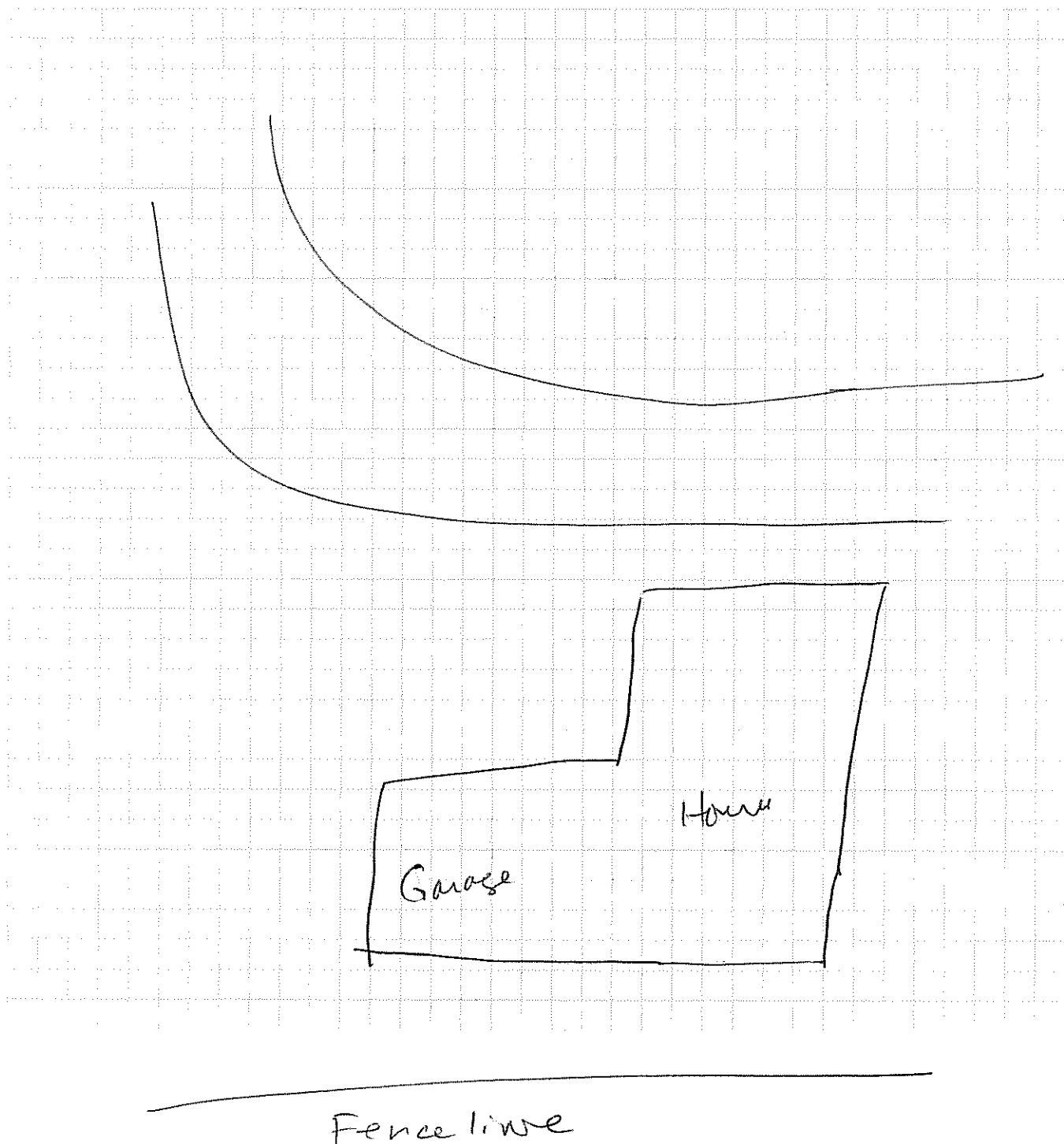
First Floor:



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
K	Pine-Sol	1	Good			
	Shout	1	↓			
	Casco	1				
	Felproze	1				
	Johnson wax	1				
	Glass Cleaner	1				
	SSS Liquid Scent Cleaner	1				
L	Foaming Wall Wipe	3				
	Placemat Cleaner	3				
	SSS Bathroom Cleaner	3				
	Clorox Bleach	3				
	Felproze	2	↓			
	SSS Insecticide	3				
	Johnson wax	3				
	End Bac III	2				
	SSS Liquid Scent Cleaner	2				
	Johnson wax	1	↓			
	Tanitol Skin Lotion	1				
B	End Bac III	2				
	Felproze	1				

* 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.

**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 Robert miner Date/Time Prepared 11/20/08 - 9am

Preparer's Affiliation Atlantic Richfield Contractor Phone No. 314.367.8082

Purpose of Investigation Indoor Air Sampling

1. OCCUPANT:

Interviewed: ☒ Y / ☐ N

Last Name:

First Name:

Address: 73 Steele Circle

County: Niagara

Cell

Home Phone: _____ Office Phone: _____

Number of Occupants/persons at this location 2 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
☐ Industrial

☐ School
☐ Church

☐ Commercial/Multi-use
Other: _____

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

<u>Ranch</u>	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 1

Building age 30+

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)

Water / Sewer - Kitchen, 2 baths, laundry
Drain hole - HVAC unit

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)

- | | | |
|----------------------------|------------------|---------------------------------|
| <u>Hot air circulation</u> | 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:

- | | | |
|--------------------|----------|----------|
| <u>Natural Gas</u> | Fuel Oil | Kerosene |
| Electric | Propane | Solar |
| Wood | Coal | |

Domestic hot water tank fueled by: natural gas

Boiler/furnace located in: Basement Outdoors Main Floor Other _____

Air conditioning: Central Air Window units Open Windows None

4

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

Level General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)

Basement

☒ 1st Floor

family room, 3 bedrooms, laundry, storage, kitchen

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 car

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? common household

i. Have cosmetic products been used recently?

☒ Y / ☐ N When & Type? _____

5

j. Has painting/staining been done in the last 6 months?

☒ Y / ☐ N Where & When? bedroom - 6 months

k. Is there new carpet, drapes or other textiles?

Y / ☒ N Where & When? Aug. 2005 carpet

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? gas

☒ Y / ☐ N If yes, is it vented outside? ☒ Y / ☐ N

p. Has there been a pesticide application?

☒ Y / ☐ N When & Type? spiders - Many

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)

☒ Yes, use dry-cleaning infrequently (monthly or less)

Yes, work at a dry-cleaning service

No

Unknown

Rare

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

6

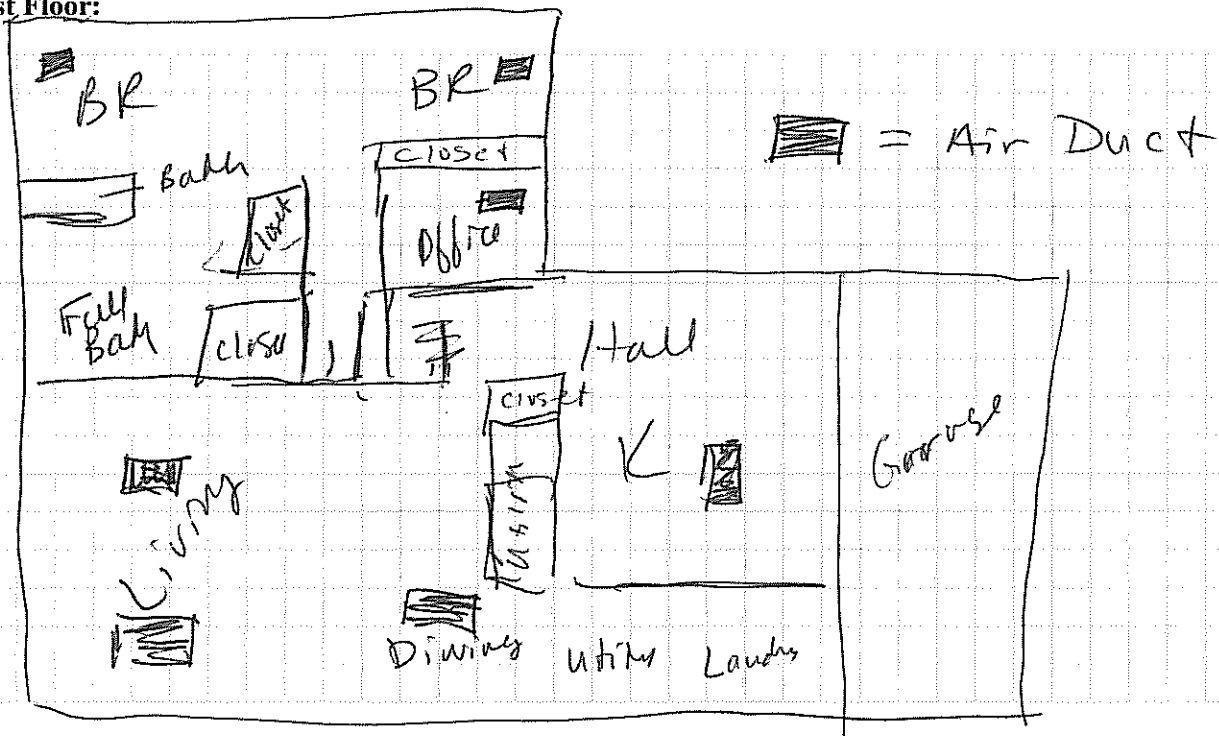
11. FLOOR PLANS

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:



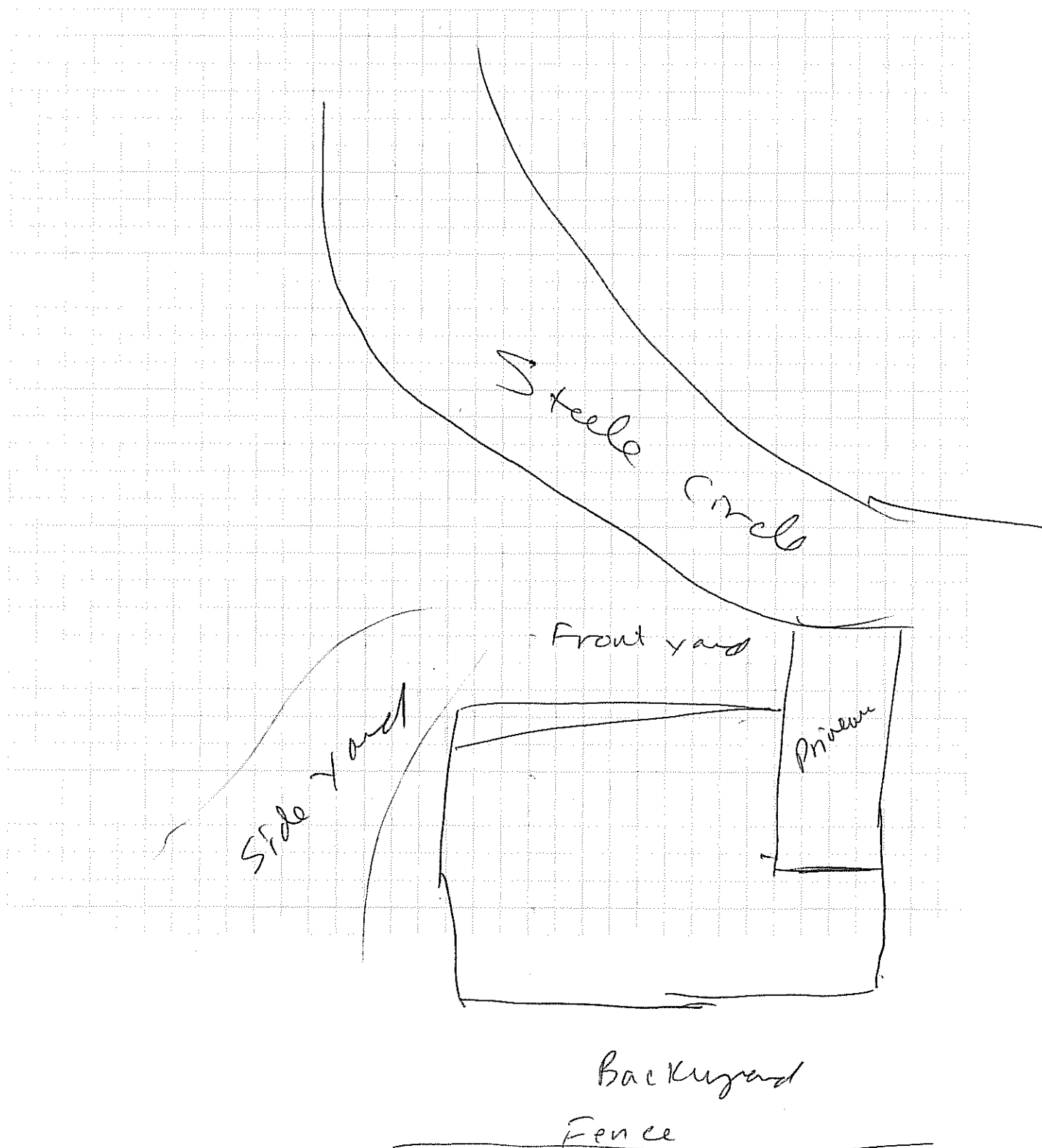
First Floor:



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** <u>Y/N</u>
Kitchen	Woolite Pet Oxygen		Good			
	Windex					
	Clorox Toilet Bowl					
	Tilex					
	409					
	Oxy Clean ^{Ballroom}					
	Comet					
	Spic n Span					
	Palmolive Dish					
	Stainless Steel					
	Cerama Bryl					
	Electro ^{Tab}					
	Drawo Kitchen					
	Citra-Air					
	Residue Carpet					
	Drawo Liquid					
Candy	Oxi Magic					
	Tide					
	Clorox Bleach					
	Spray-N-Wax					

BBQ Grill

* 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.

Windex Outdoor

**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 Robert Miner Date/Time Prepared 12/19/08 1pm

Preparer's Affiliation Atlantic Richfield Phone No. 314 347 8082

Purpose of Investigation indoor air

1. OCCUPANT:

Interviewed: (Y) N

Last Name:

First Name:

Address: 61 Steele Circle

County: Niagara

Home Phone:

Office Phone: _____

Number of Occupants/persons at this location 3 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
Industrial

School
Church

Commercial/Multi-use
Other: _____

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

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

If multiple units, how many? 2

If the property is commercial, type?

Business Type(s) N/A

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

Other characteristics:

Number of floors 1 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)

Drains for HVAC, 2 bathrooms/kitchen/laundry -
water/sewer lines

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
Space Heaters
Electric baseboard

Heat pump
Stream radiation
Wood stove

Hot water baseboard
Radiant floor
Outdoor wood boiler Other _____

The primary type of fuel used is:

Natural Gas
Electric
Wood

Fuel Oil
Propane
Coal

Kerosene
Solar

Domestic hot water tank fueled by: natural gas

Boiler/furnace located in: Basement Outdoors Main Floor Other _____

Air conditioning:

Central Air

Window units

Open Windows

None

4

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.

1 per room + 2 in living room

7. OCCUPANCY

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

Level General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)

Basement

1st Floor

family / 3 bedrooms / laundry / kitchen / storage

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 car

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? normal, everyday

i. Have cosmetic products been used recently?

☒ Y / ☐ N When & Type? _____

5

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? ~~1 year~~ 1 year

l. Have air fresheners been used recently?

☒ Y / ☐ N When & Type? Spray

m. Is there a kitchen exhaust fan?

☒ Y / ☐ N If yes, where vented? roof

n. Is there a bathroom exhaust fan?

☒ Y / ☐ N If yes, where vented? roof

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?

If yes, please describe: two cats ☒ Y / ☐ N

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)

☒ Yes, use dry-cleaning infrequently (monthly or less)

Yes, work at a dry-cleaning service

No

Unknown

curtains about 6 weeks

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 ☐

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 ** <u>Y/N</u>
#2 Laundry	Lestoil ^{Grease & Stain Remover}		good			
	Tilex/shower					
	Pure Power Bleach					
	Tide Laundry Detergent					
	Xtra Laundry Detergent					
	Goof Off ^{Ultimate Remover}					
	Febreze	3				
	Freshene Glass Cleaner					
	Scrubbing Bubbles					
	Ultara ^{Spot & Stain Remover}					
	Glide Air Freshener	2				
	Raid					
	Clorox ^{Ready Wipe}					
	Easy-Off					
	Fluorinate Floor Cleaner	4oz				
	Castrol ^{Car Wash Cleaner}					
	CLF					
	Lysol ^{Mildew Remover}					
	Clorox ^{Clean-up}					

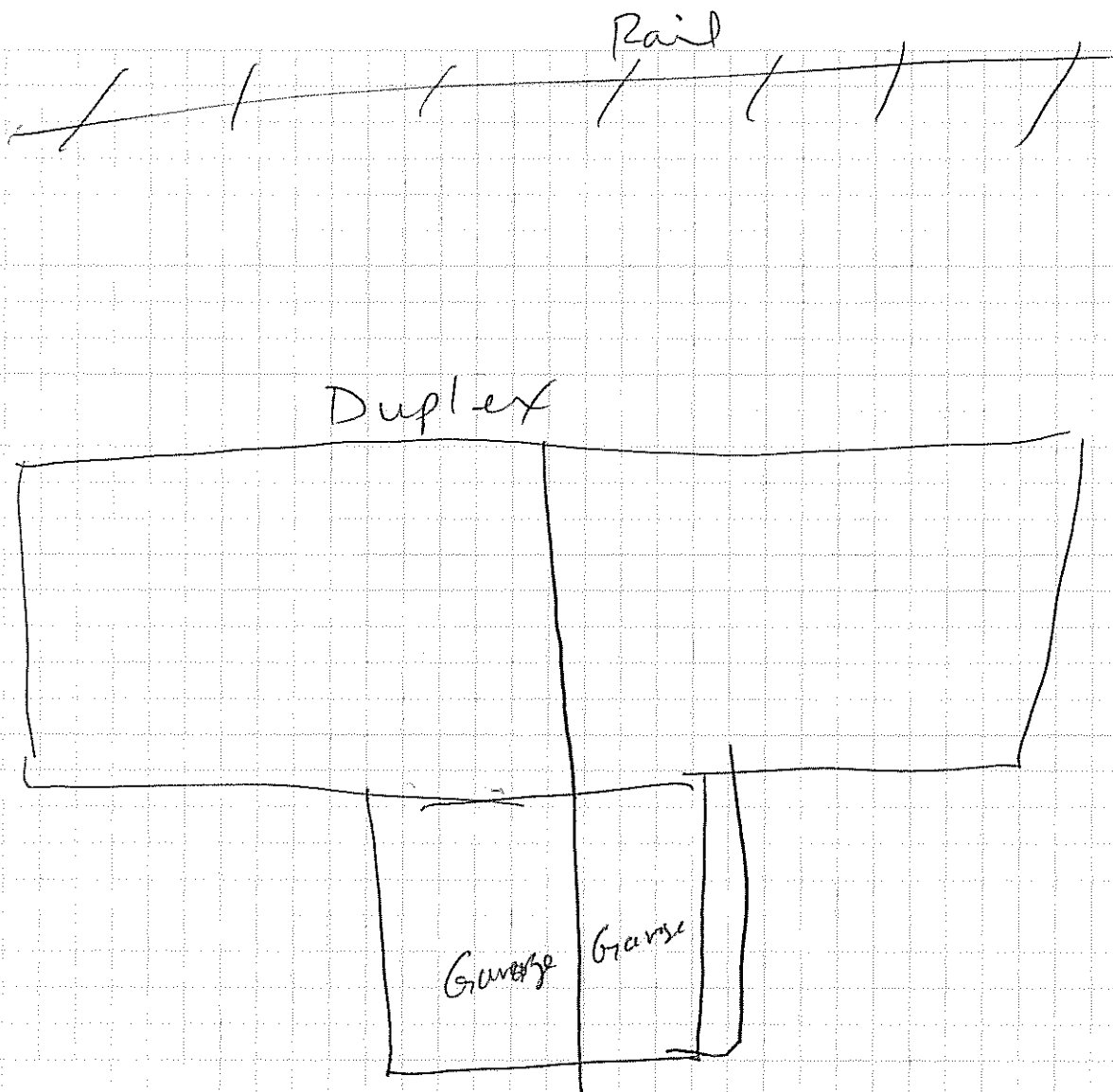
* Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels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

↓
See back

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.



Steel Circle

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

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

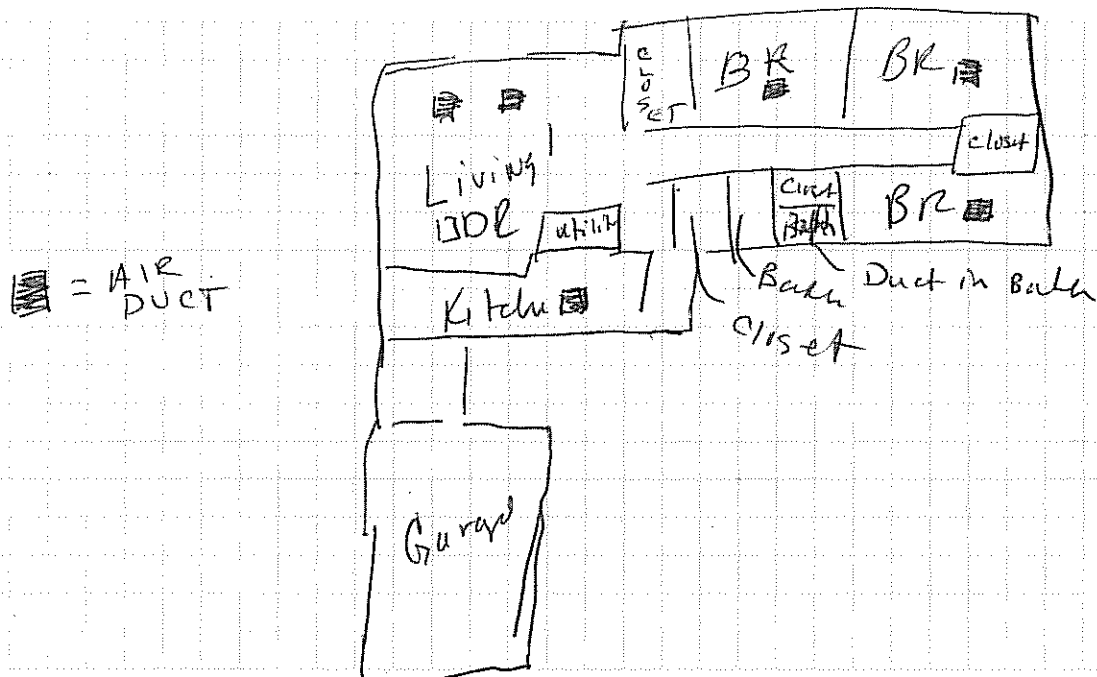
6

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:



**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 Robert Miner Date/Time Prepared 9:30

Preparer's Affiliation _____ Phone No. _____

Purpose of Investigation Indoor Air Sample

1. OCCUPANT:

Interviewed: Y / N

Last Name:

First Name:

Address: 67 Steele Circle

County: Niagara

Home Phone:

Office Phone:

Number of Occupants/persons at this location 3 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
Industrial

School
Church

Commercial/Multi-use
Other: _____

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

Ranch
Raised Ranch
Cape Cod
Duplex
Modular

2-Family
Split Level
Contemporary
Apartment House
Log Home

3-Family
Colonial
Mobile Home
Townhouses/Condos
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 1

Building age 32

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)

A/C drain 1/2 hole / washer,
to sewer / Kitchen + bath
Electrical is above-grade

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)

- | | | |
|----------------------------|------------------|---------------------------------|
| <u>Hot air circulation</u> | 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:

- | | | |
|--------------------|----------|----------|
| <u>Natural Gas</u> | Fuel Oil | Kerosene |
| Electric | Propane | Solar |
| Wood | Coal | |

Domestic hot water tank fueled by: Natural gas

Boiler/furnace located in: Basement Outdoors Main Floor Other _____
utility closet

Air conditioning:

Central Air

Window units

Open Windows

None

4

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.

Ceiling system. Supply + return
in most rooms

7. OCCUPANCY

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

Level General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)

Basement N/A

1st Floor Living space, kitchen, baths, bedrooms

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 car

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? garage

g. Is there smoking in the building?

Y / ☒ N How frequently? _____

h. Have cleaning products been used recently?

Y / ☒ N When & Type? just common household

i. Have cosmetic products been used recently?

☒ Y ☐ N When & Type? _____

5

j. Has painting/staining been done in the last 6 months?

☒ Y ☐ N Where & When? 7 months. whole interior

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? outside. 7 months. 5 months. 1 month.

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)

Yes, use dry-cleaning infrequently (monthly or less)

Yes, work at a dry-cleaning service

☒ No

Unknown

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

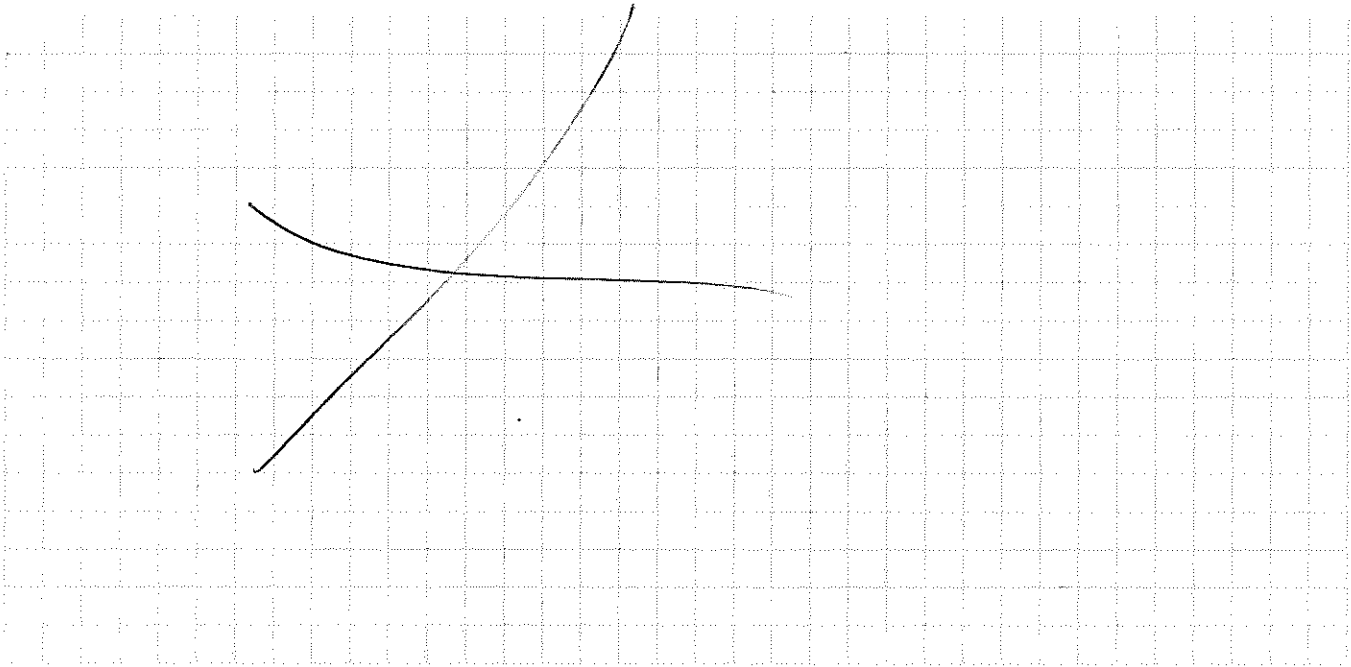
d. Relocation package provided and explained to residents? Y/N

6

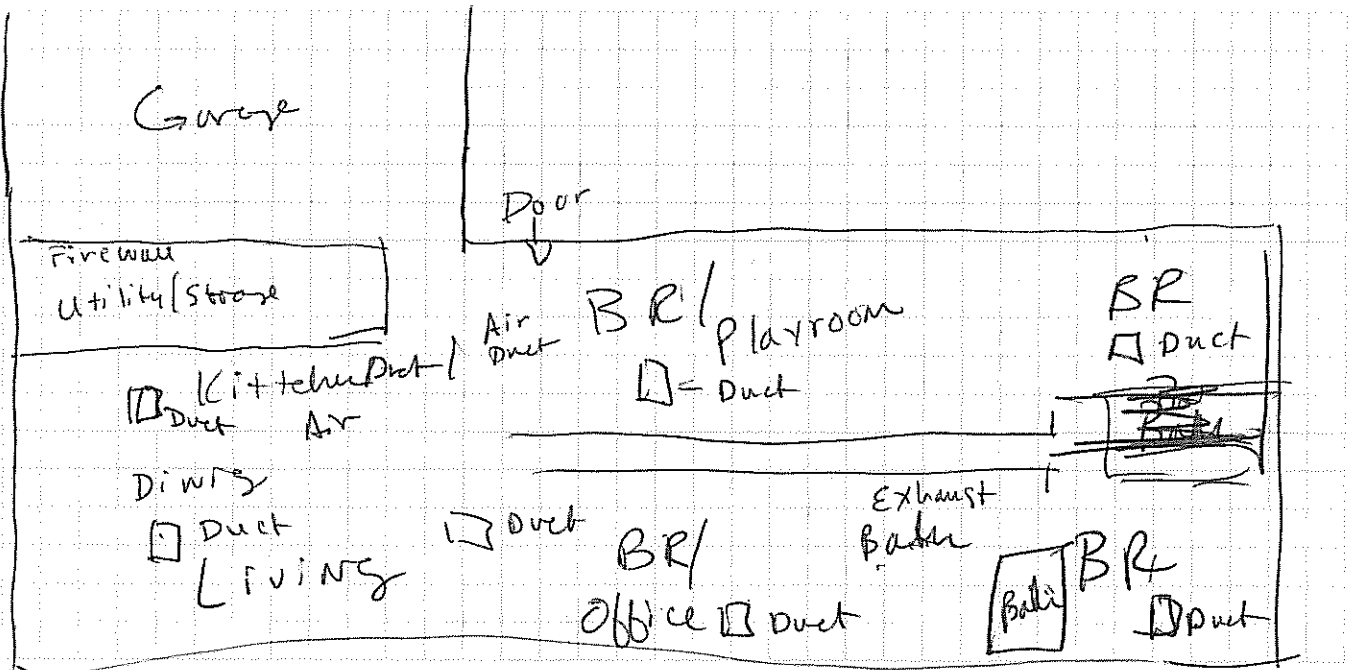
11. FLOOR PLANS

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.

industry

Air force base

200' back

UT

65

Garage

Street

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** <u>Y/N</u>
Kitchen	Dawn		Good			
	Oxyclean		↓			
	Totally degreaser					
	Method surface cleaner					
	Totatub clean					
	Oxyclean					
	Old butch powder					
	Mop + Glo					
	Furniture Polish					
	Glass Plus					
	Fabulosa					
	Soft Scrub					
	Easy Off					
	Powerhouse Glass Clean					
	Lestoil	28oz				
	Lime-Away					
	Crest Fresh	12oz				
	Dirt Devil	4oz.				
	Bissell Rug Clean					

* 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.

Aloderm outstap 8 oz

Out! Cat Sprays

Pine Sol

Scrubbing Bubbles

Mist + Go Shower

The Works Toilet
Bowl Clean

**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 Robert Miner Date/Time Prepared 11/19/08
Preparer's Affiliation AR Phone No. 314.367.8082
Purpose of Investigation indoor air

1. OCCUPANT:**Interviewed:** Y/N

Last Name:

First Name:

Address: 74 Steele CircleCounty: Niagara

Home Phone:

Office Phone: _____

Number of Occupants/persons at this location 2 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
☐ Industrial☐ School
☐ Church☐ Commercial/Multi-use
Other: _____

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

<u>Ranch</u>	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 1

Building age ~~30~~ 40

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)

Drains - HVAC 1 1/2"

Sewer/water - 2 baths, kitchen, laundry - normal

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)

- | | | |
|----------------------------|------------------|---------------------------------|
| <u>Hot air circulation</u> | 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:

- | | | |
|--------------------|----------|----------|
| <u>Natural Gas</u> | Fuel Oil | Kerosene |
| Electric | Propane | Solar |
| Wood | Coal | |

Domestic hot water tank fueled by: Natural Gas

Boiler/furnace located in: Basement Outdoors Main Floor Other _____

Air conditioning:

Central Air

Window units

Open Windows

None

4

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.

1 per room + 2 in living room

7. OCCUPANCY

Is basement/lowest level occupied?

Full-time

Occasionally

Seldom

Almost Never

Level

General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)

Basement

1st Floor

living, kitchen, bath, bedroom

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 car

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?

Normal

i. Have cosmetic products been used recently?

~~Y~~ N When & Type? _____

5

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? Microwave
circulates, no vent

n. Is there a bathroom exhaust fan?

Y / ~~N~~ If yes, where vented? main to attic

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? August - spiders

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)

Yes, use dry-cleaning infrequently (monthly or less)

Yes, work at a dry-cleaning service

No
Unknown

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)

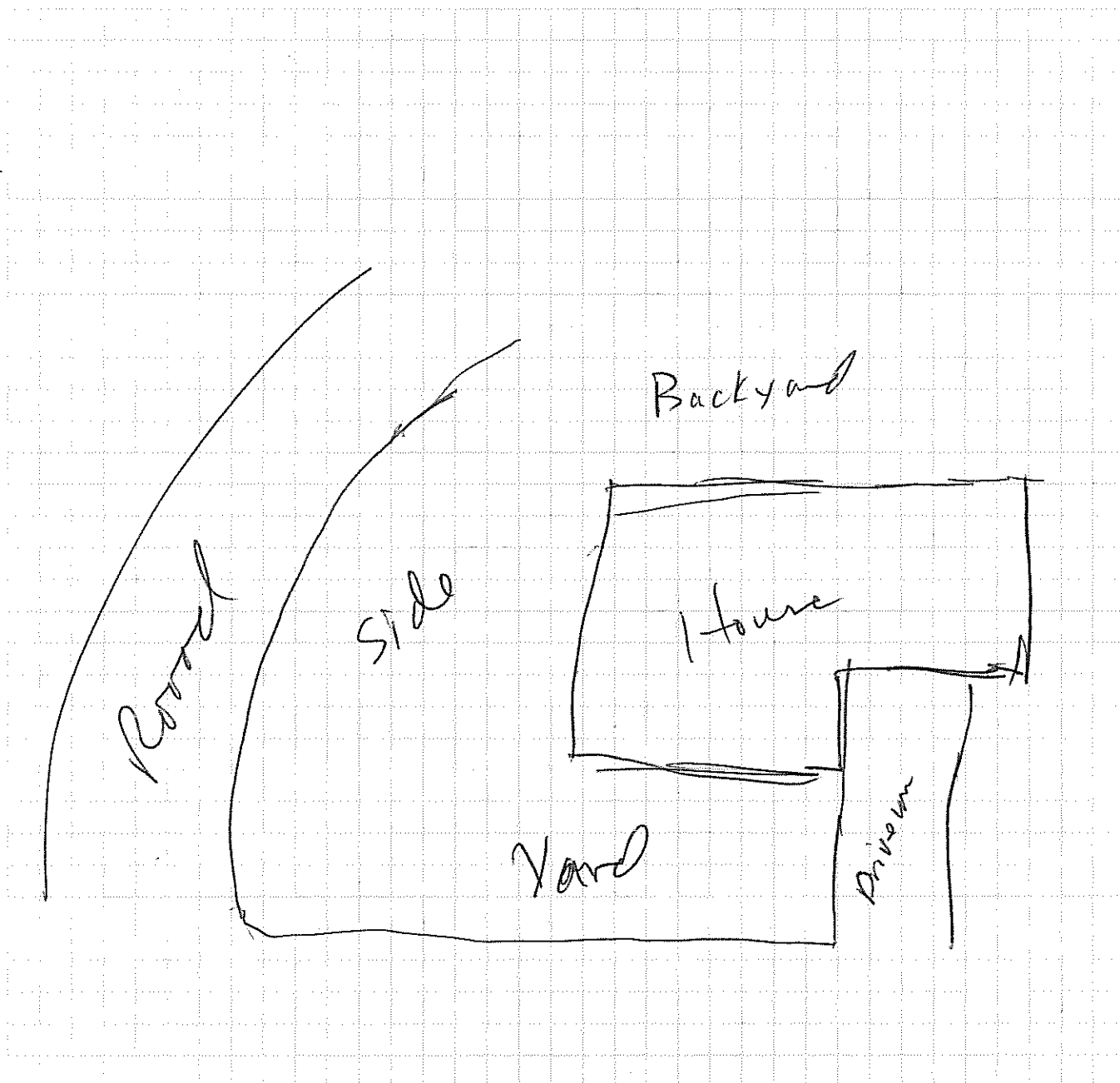
a. Provide reasons why relocation is recommended: _____

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

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.



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

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

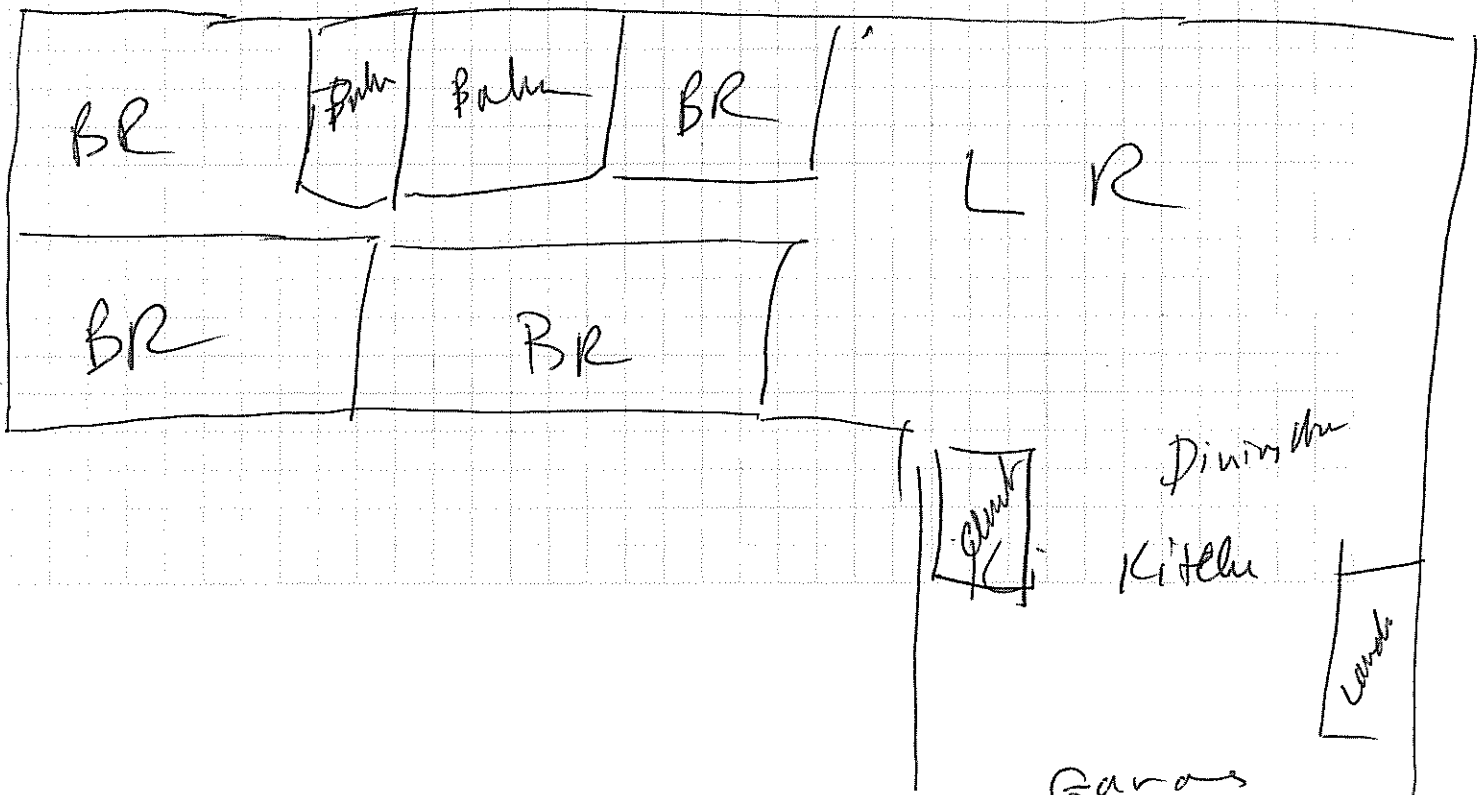
6

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:



13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: N/A

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 ** <u>Y/N</u>
Kitchen	Comet		Good			
	Clorox Bleach					
	Windex					
	Bona Wood Floor Cleaner					
	Pledge					
	Endust					
	Dishwasher Soap					
	Softscrub					
	Clorox ^{Clean Water} Bleach					
	Mr. Clean					
	Faster ^{Power} Power ^{Wash}					
	Off! Deep Woods					
	Quakle ^{Carpet} Carpet ^{Over} Over ^{Clean}					
	Pledge ^{Resin}					
	Bissell Floor Cleaner					
	Oxy Pro					
	Orange Glo					
	Oxi Magre					
	Jetway					

* 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.

409

Fantabach

Lands

Clux upper

Clux Bleach

Windex

Woolite

Zinsser Perma-wrap
Paint

Bathru

Softscrub

Clux Uplocks
Toilet Bowl

Crack Spray

Clux upper

Tilex
Lime Away

The Works
Toilet Bowl
Clean

CLR Bathroom
+ Kitchen

Lime Away

APPENDIX B
SUB-SLAB, INDOOR AIR, AND OUTDOOR AIR SAMPLE LOCATIONS



LEGEND



Outdoor Air Sample Location (arrow indicates wind direction)

61 Address



Monitoring well



FIGURE B - 1

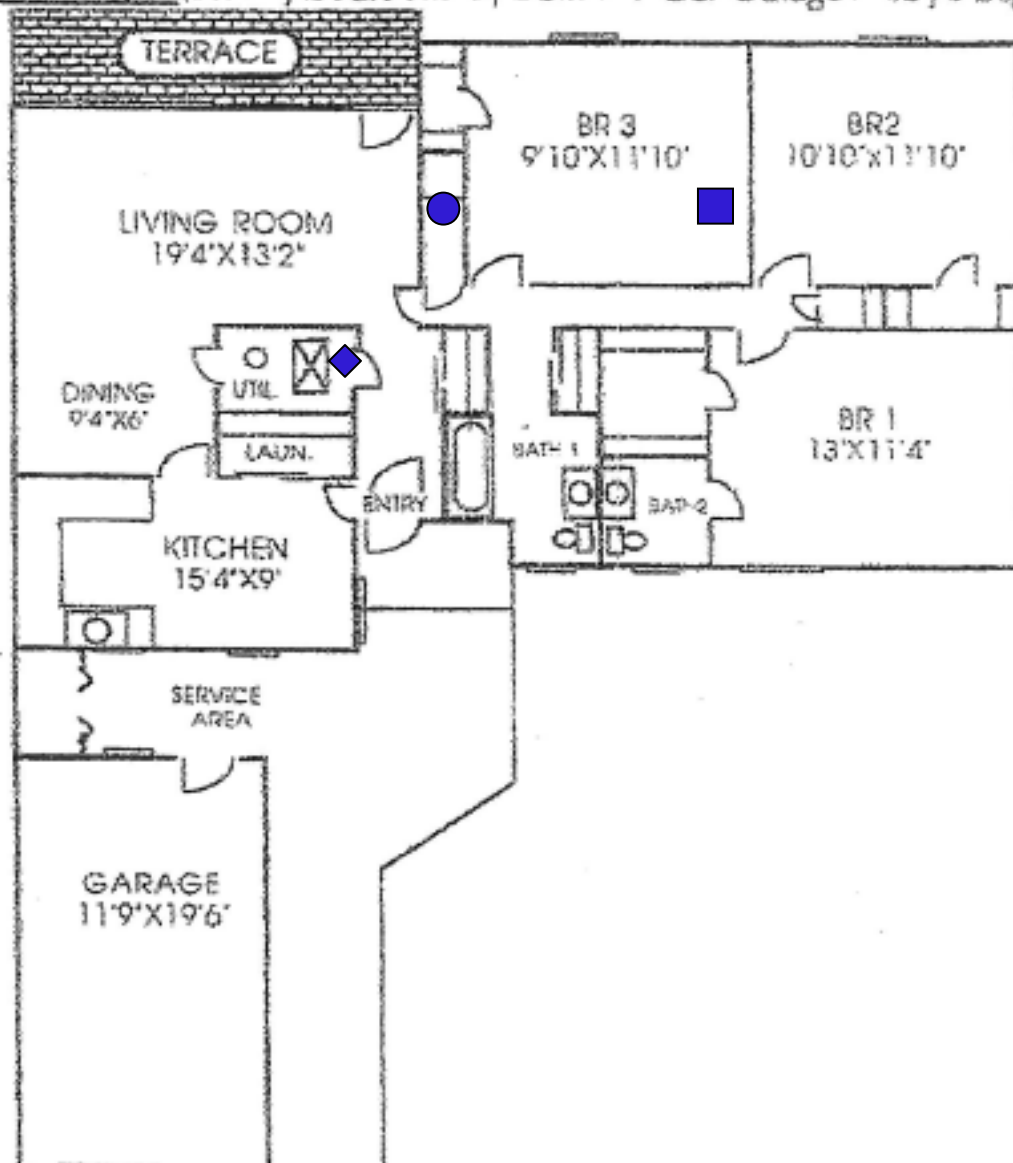
OUTDOOR AIR LOCATIONS

PARSONS

40 La Riviere Dr., Suite 350 Buffalo, NY 14202 (716) 541-0730

Notes: Well locations are approximate.

'The Birch' (R1): 3 Bedroom 1.5 Bath / 1 Car Garage / 1,250 Sq. Ft.



LEGEND

- SUB-SLAB LOCATION
- INDOOR AIR LOCATION
- ◆ FURNACE DRAIN

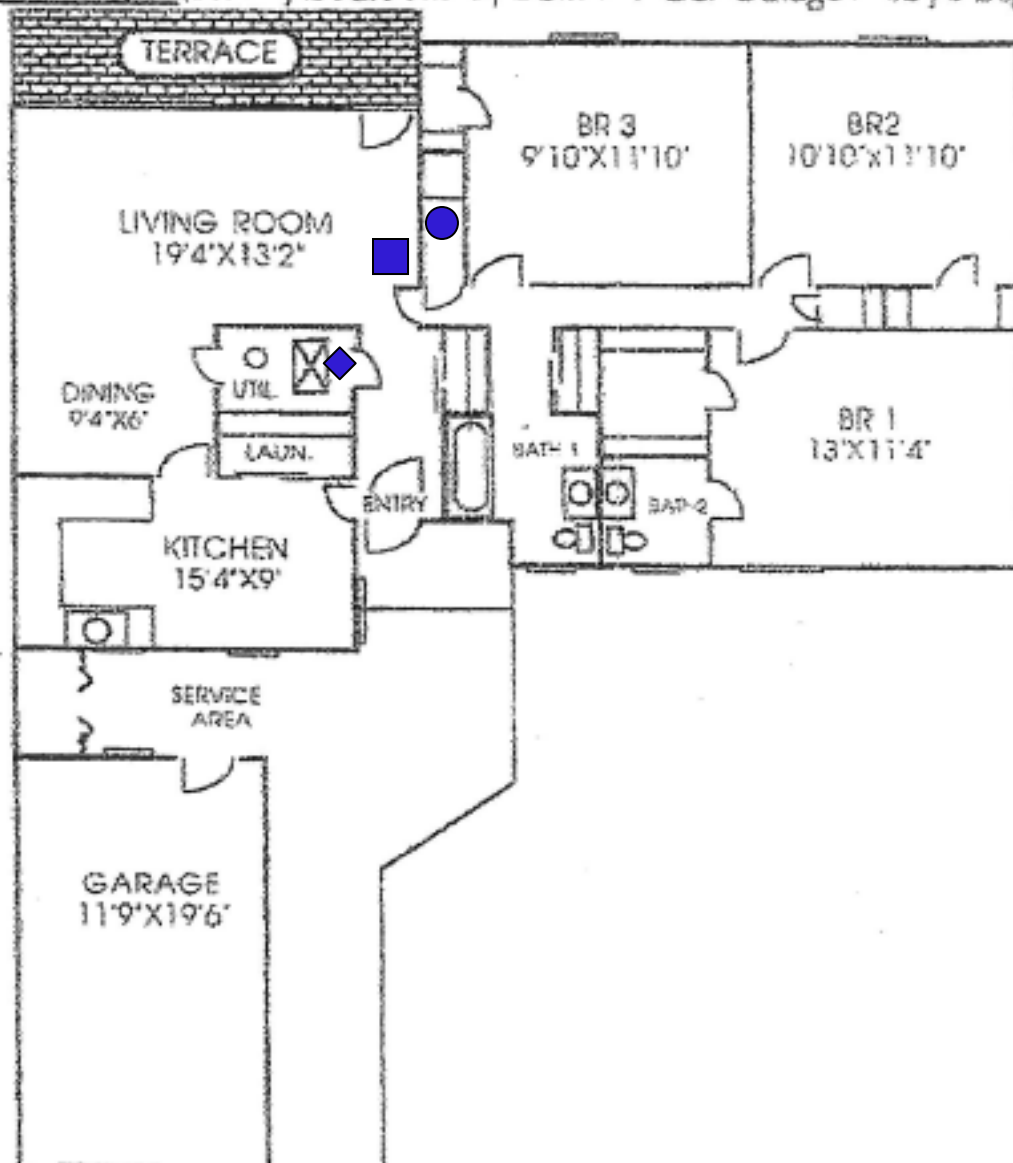
FIGURE B-2

HOUSE LAYOUT AND SAMPLE LOCATIONS

61 STEELE

PARSONS

'The Birch' (R1): 3 Bedroom 1.5 Bath / 1 Car Garage / 1,250 Sq. Ft.



LEGEND

- SUB-SLAB LOCATION
- INDOOR AIR LOCATION
- ◆ FURNACE DRAIN

LAYOUT SHOWN HERE IS MIRROR IMAGE
ACTUAL CONSTRUCTION

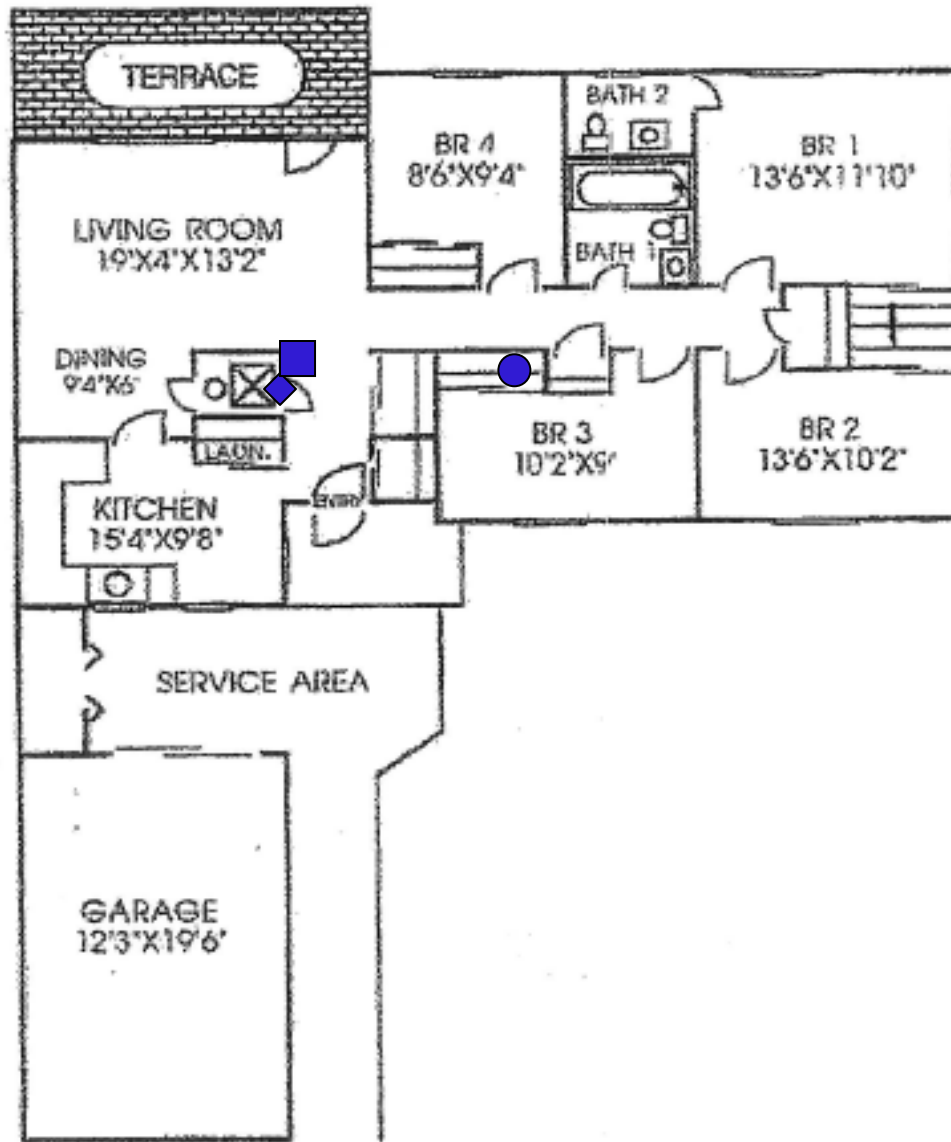
FIGURE B-3

HOUSE LAYOUT AND SAMPLE LOCATIONS

63 STEELE

PARSONS

"The Chestnut" (F): 4 Bedroom 1.5 Bath / 1 Car Garage / 1,250 Sq. Ft.



LEGEND

- SUB-SLAB LOCATION
- INDOOR AIR LOCATION
- ◆ FURNACE DRAIN

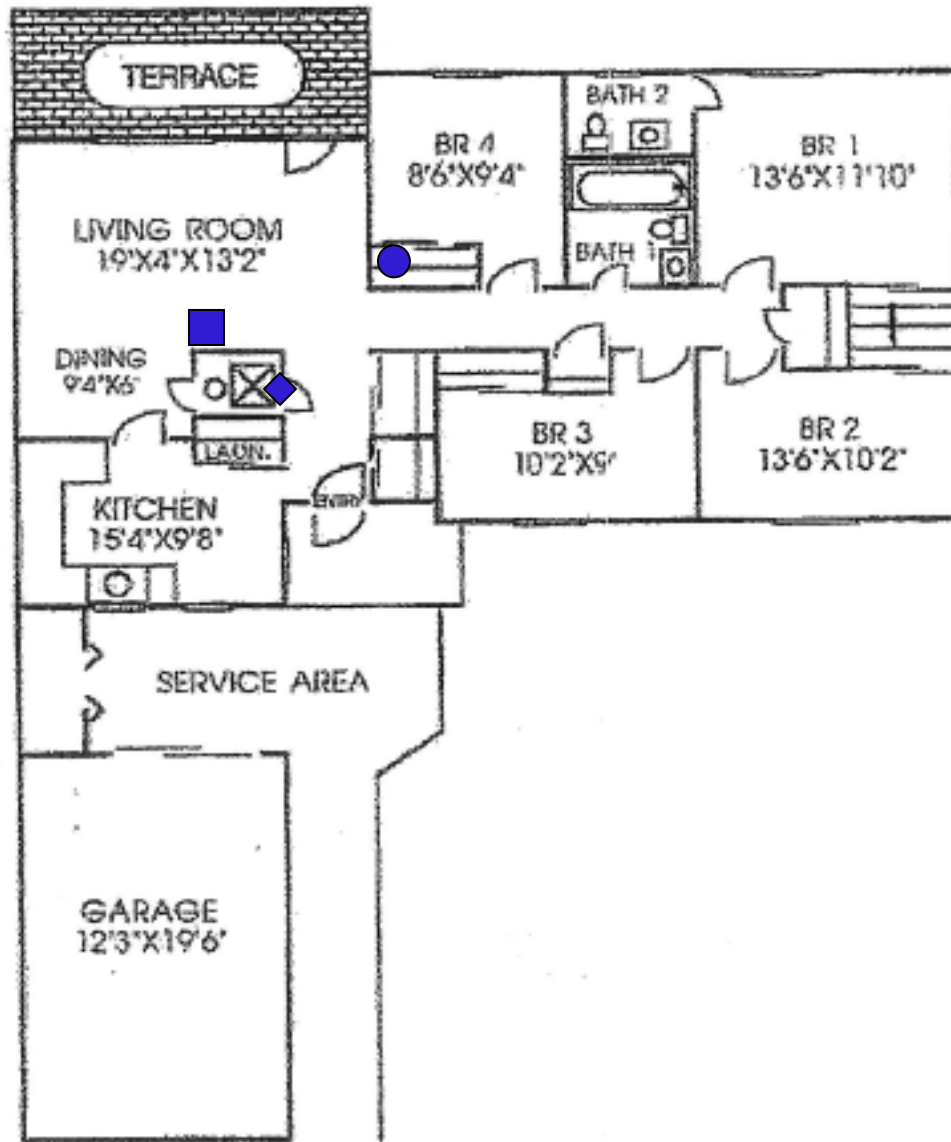
FIGURE B-4

HOUSE LAYOUT AND SAMPLE LOCATIONS

65 STEELE

PARSONS

"The Chestnut" (F): 4 Bedroom 1.5 Bath / 1 Car Garage / 1,250 Sq. Ft.



LEGEND

- SUB-SLAB LOCATION
- INDOOR AIR LOCATION
- ◆ FURNACE DRAIN

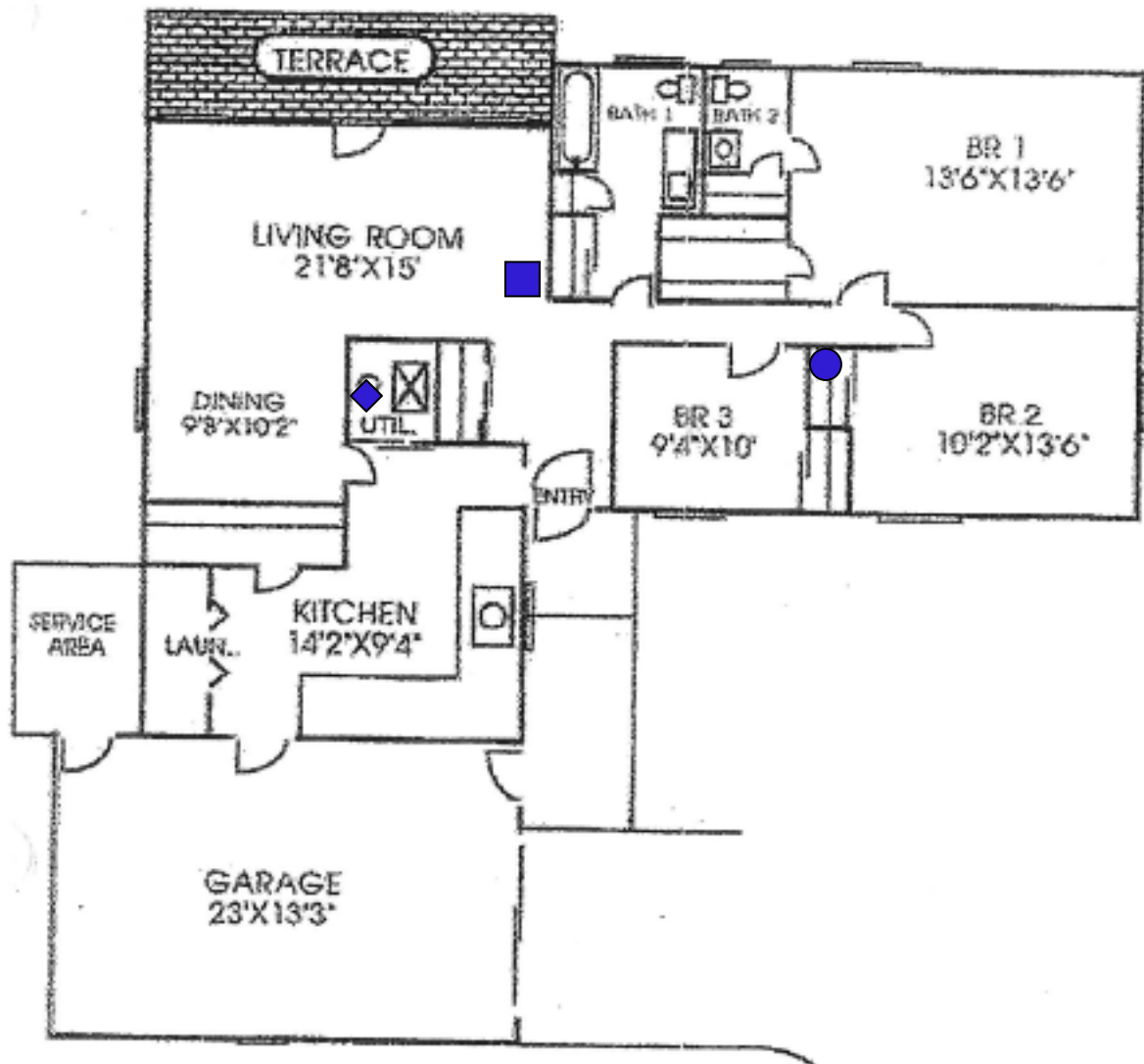
FIGURE B-5

HOUSE LAYOUT AND SAMPLE LOCATIONS

67 STEELE

PARSONS

"The Ash" (G-2): 3 Bedroom & Bath / 1 Car Garage / 1,400 Sq. Ft.



LEGEND

- SUB-SLAB LOCATION
- INDOOR AIR LOCATION
- ◆ FURNACE DRAIN

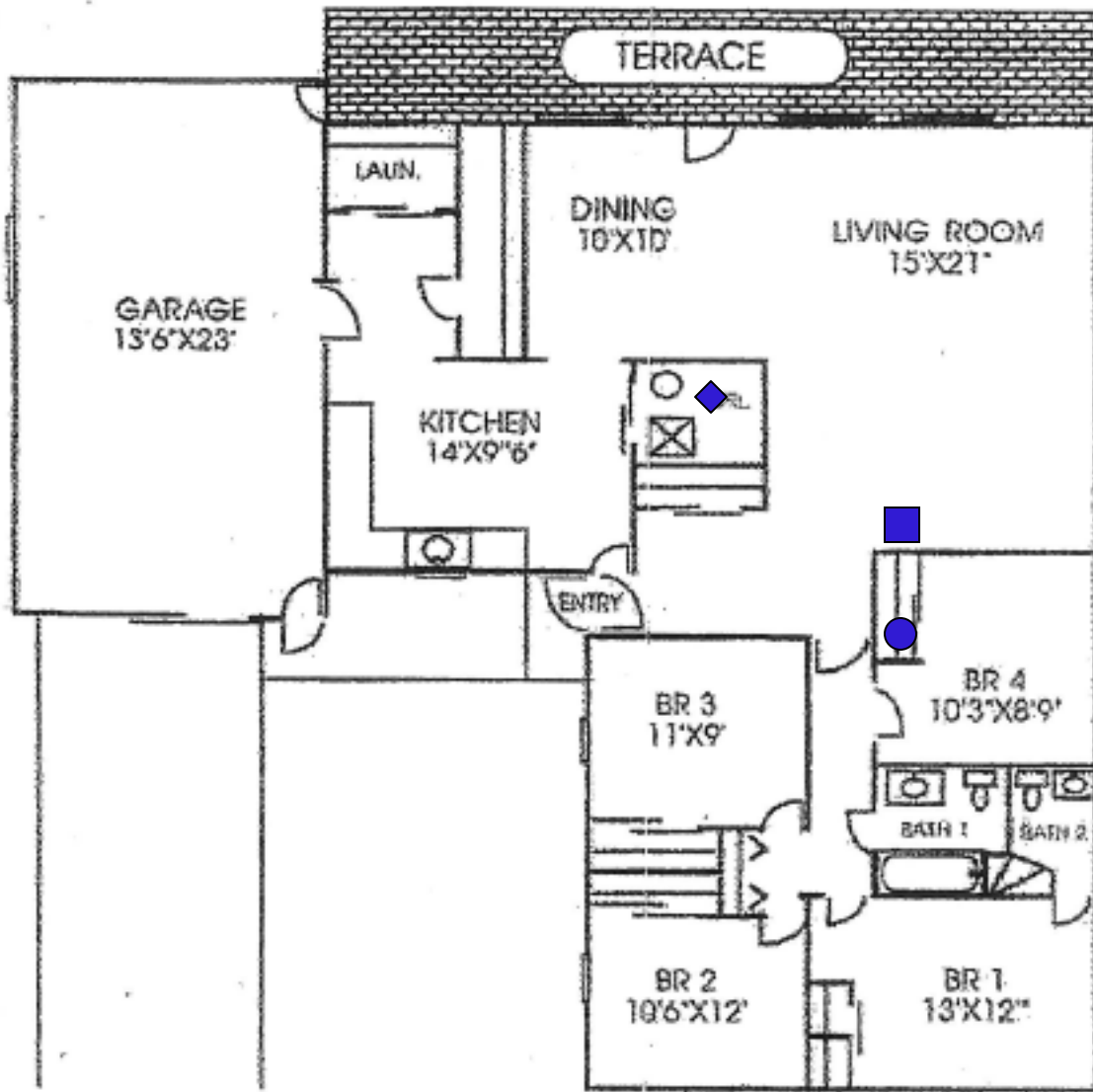
FIGURE B-6

HOUSE LAYOUT AND SAMPLE LOCATIONS

73 STEELE

PARSONS

'The Cedar' (H): 4 Bedroom 2 Bath / 1 Car Garage / 1,400 Sq. Ft.



LEGEND

- SUB-SLAB LOCATION
- INDOOR AIR LOCATION
- ◆ FURNACE DRAIN

LAYOUT SHOWN HERE IS MIRROR IMAGE
ACTUAL CONSTRUCTION

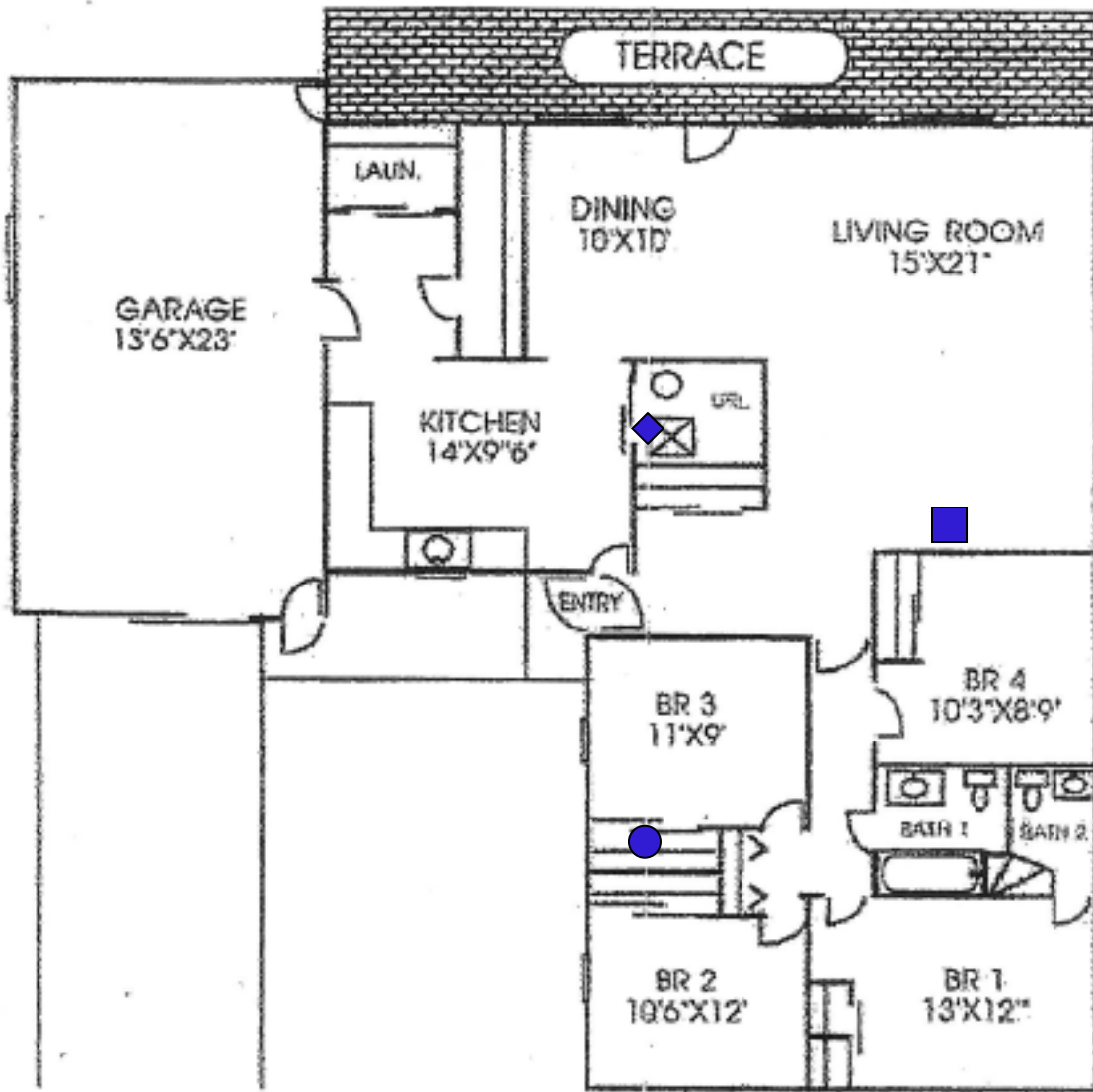
FIGURE B-7

HOUSE LAYOUT AND SAMPLE LOCATIONS

74 STEELE

PARSONS

'The Cedar' (11): 4 Bedroom 2 Bath / 1 Car Garage / 1,400 Sq. Ft.



LEGEND

- SUB-SLAB LOCATION
- INDOOR AIR LOCATION
- ◆ FURNACE DRAIN

LAYOUT SHOWN HERE IS MIRROR IMAGE
ACTUAL CONSTRUCTION

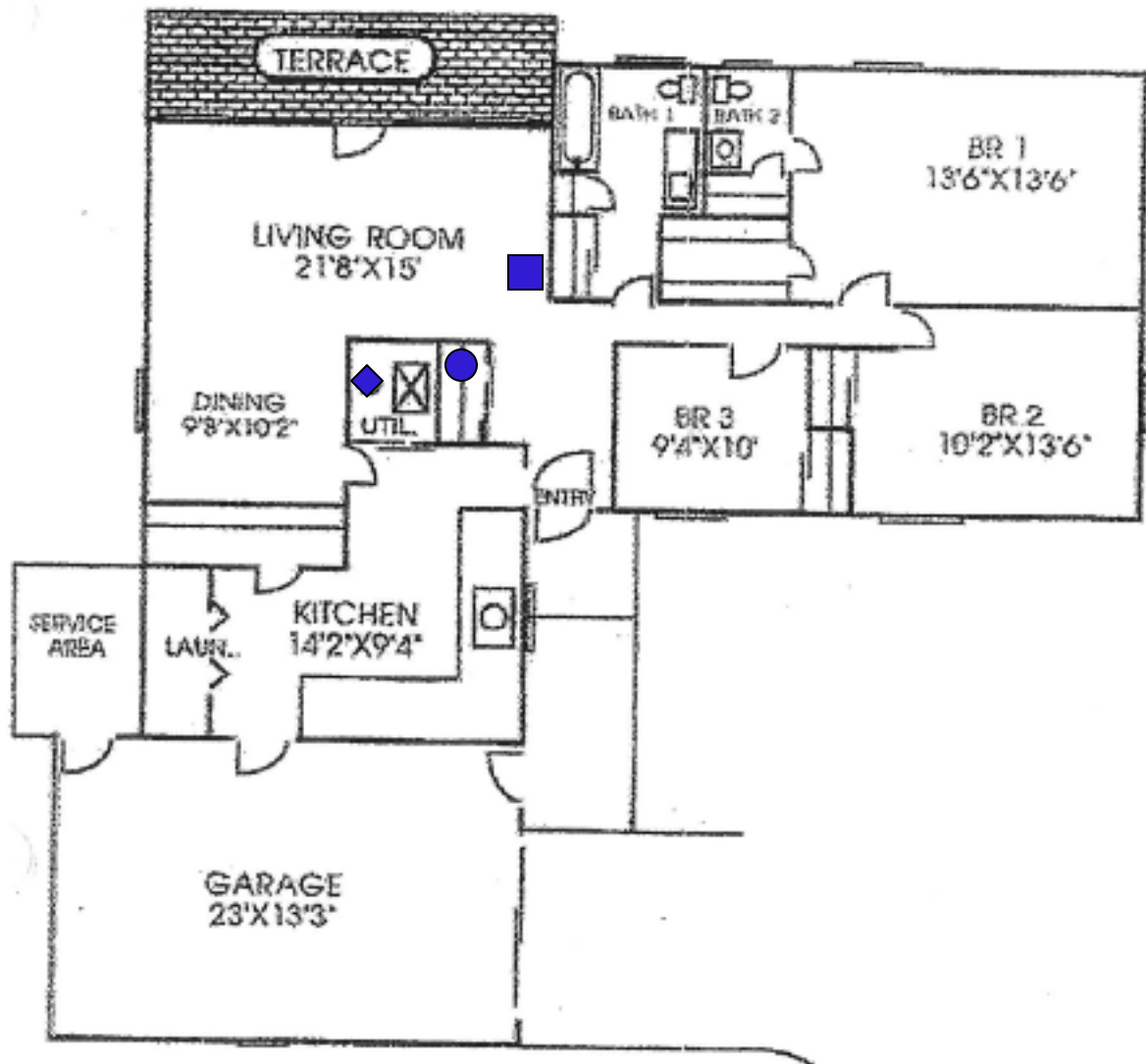
FIGURE B-8

HOUSE LAYOUT AND SAMPLE LOCATIONS

75 STEELE

PARSONS

"The Ash" (G-2): 3 Bedroom & Bath / 1 Car Garage / 1,400 Sq. Ft.



LEGEND

- SUB-SLAB LOCATION
- INDOOR AIR LOCATION
- ◆ FURNACE DRAIN

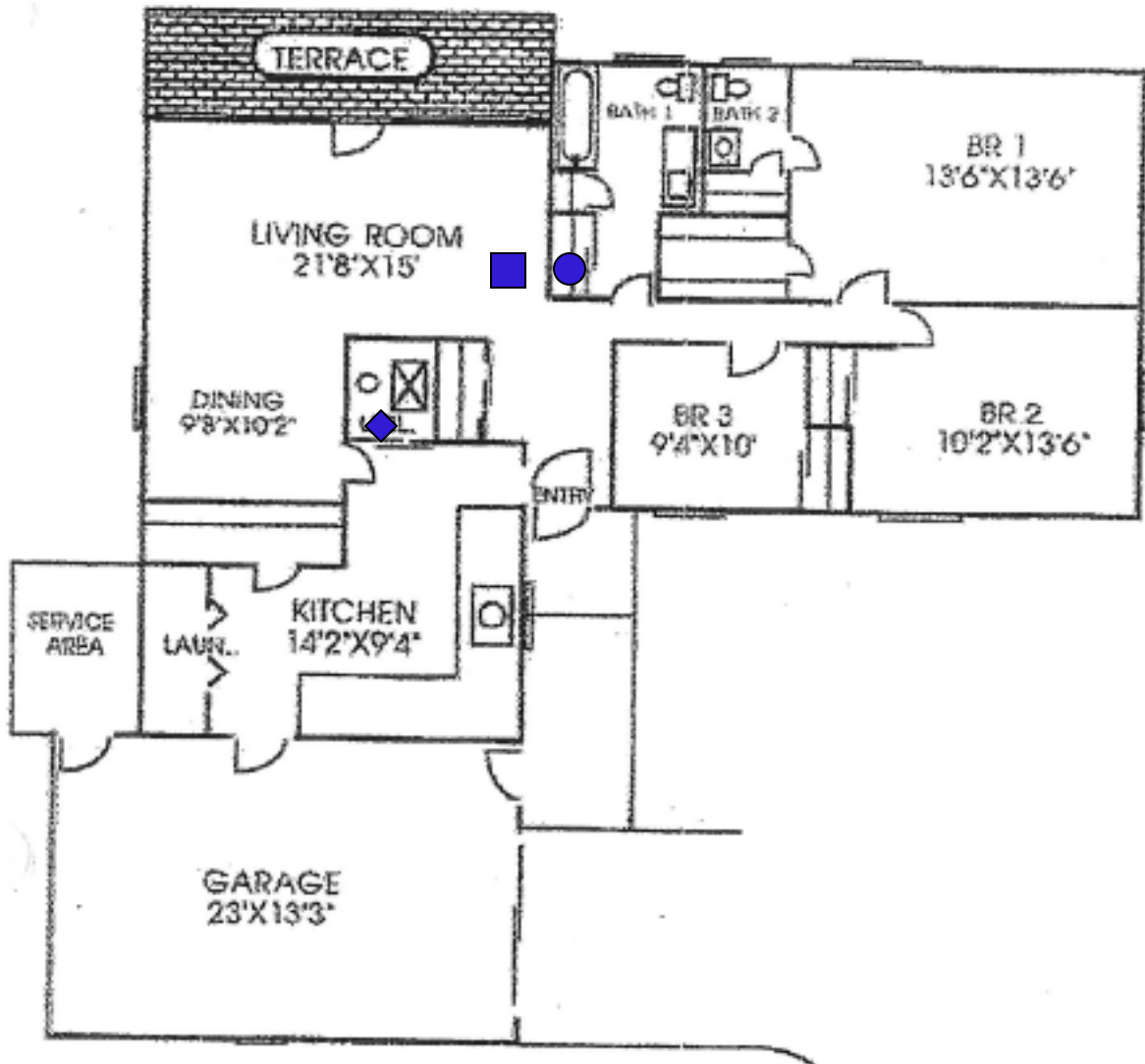
FIGURE B-9

HOUSE LAYOUT AND SAMPLE LOCATIONS

76 STEELE

PARSONS

"The Ash" (G-2): 3 Bedroom & Bath / 1 Car Garage / 1,400 Sq. Ft.



LEGEND

- SUB-SLAB LOCATION
- INDOOR AIR LOCATION
- ◆ FURNACE DRAIN

LAYOUT SHOWN HERE IS MIRROR IMAGE
ACTUAL CONSTRUCTION

FIGURE B-10

HOUSE LAYOUT AND SAMPLE LOCATIONS

77 STEELE

PARSONS

APPENDIX C
LABORATORY ANALYTICAL RESULTS AND DATA USABILITY
REPORT

ANALYTICAL RESULTS

Prepared for:

Atlantic Richfield(Parsons-NY)
BP Corporation
501 WestLake Park Blvd
Houston TX 77079

281-366-2000

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 1121293. Samples arrived at the laboratory on Friday, November 21, 2008. The PO# for this group is 001Q0-0130 and the release number is BARBER.

Client Description

67S-Subslab 979 Air
67S-IA 860 Air
67S-OA 833 Air
74S-Subslab 991 Air
61S-Subslab 913 Air

Lancaster Labs Number

5536848
5536849
5536850
5536851
5536852

1 COPY TO Parsons
ELECTRONIC Parsons
COPY TO

Attn: George Hermance
Attn: Lorraine Weber

Questions? Contact your Client Services Representative
Jessica A Oknefski at (717) 656-2300

Respectfully Submitted,



Charles J. Neslund
Manager



Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

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Lancaster Laboratories Sample No. 5536848 AQ

Group No. 1121293

67S-Subslab 979 Air
BP Sanborn COC: 181161
2040 Cory Dr - Sanborn, NY 67S-Sub

Collected: 11/18/2008 11:12 by JWS

Account Number: 12495

Submitted: 11/21/2008 09:10
Reported: 12/08/2008 at 16:25
Discard: 01/08/2009

Atlantic Richfield (Parsons-NY)
BP Corporation
501 WestLake Park Blvd
Houston TX 77079

CAT No.	Analysis Name	CAS Number	As Received Final	MDL	Units	As Received Final	MDL	Units	DF
			Result			Result			
07345	TO-15 by SIM								
07349	Vinyl Chloride	75-01-4	N.D.	0.0230	ug/m3	N.D.	0.00900	ppb (v)	1
07358	1,1-Dichloroethene	75-35-4	0.0750 J	0.0238	ug/m3	0.0189 J	0.00600	ppb (v)	1
07366	Methylene Chloride	75-09-2	0.773	0.0278	ug/m3	0.222	0.00800	ppb (v)	1
07368	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0396	ug/m3	N.D.	0.0100	ppb (v)	1
07371	1,1-Dichloroethane	75-34-3	0.0461 J	0.0364	ug/m3	0.0114 J	0.00900	ppb (v)	1
07372	cis-1,2-Dichloroethene	156-59-2	0.0856 J	0.0555	ug/m3	0.0216 J	0.0140	ppb (v)	1
07373	1,1,1-Trichloroethane	71-55-6	0.209 J	0.0709	ug/m3	0.0383 J	0.0130	ppb (v)	1
07377	Trichloroethene	79-01-6	0.127 J	0.107	ug/m3	0.0236 J	0.0200	ppb (v)	1

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis	Analyst	Dilution Factor
				Date and Time		
07345	TO-15 by SIM	EPA TO-15 using SIM	1	12/06/2008 15:06	Jonathan K Nardelli	1



Analysis Report

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Lancaster Laboratories Sample No. 5536849 AQ

Group No. 1121293

67S-IA 860 Air

BP Sanborn COC: 181161

2040 Cory Dr - Sanborn, NY 67S-IA

Collected: 11/18/2008 11:29 by JWS

Account Number: 12495

Submitted: 11/21/2008 09:10

Reported: 12/08/2008 at 16:25

Discard: 01/08/2009

Atlantic Richfield (Parsons-NY)

BP Corporation

501 WestLake Park Blvd

Houston TX 77079

CAT No.	Analysis Name	CAS Number	As Received Final	MDL	Units	As Received Final	MDL	Units	DF
			Result			Result			
07345	TO-15 by SIM								
07349	Vinyl Chloride	75-01-4	N.D.	0.0230	ug/m3	N.D.	0.00900	ppb (v)	1
07358	1,1-Dichloroethene	75-35-4	N.D.	0.0238	ug/m3	N.D.	0.00600	ppb (v)	1
07366	Methylene Chloride	75-09-2	1.92	0.0278	ug/m3	0.551	0.00800	ppb (v)	1
07368	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0396	ug/m3	N.D.	0.0100	ppb (v)	1
07371	1,1-Dichloroethane	75-34-3	N.D.	0.0364	ug/m3	N.D.	0.00900	ppb (v)	1
07372	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0555	ug/m3	N.D.	0.0140	ppb (v)	1
07373	1,1,1-Trichloroethane	71-55-6	N.D.	0.0709	ug/m3	N.D.	0.0130	ppb (v)	1
07377	Trichloroethene	79-01-6	N.D.	0.107	ug/m3	N.D.	0.0200	ppb (v)	1

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis	Analyst	Dilution Factor
				Date and Time		
07345	TO-15 by SIM	EPA TO-15 using SIM	1	12/06/2008 03:52	Jonathan K Nardelli	1



Analysis Report

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Lancaster Laboratories Sample No. 5536850 AQ

Group No. 1121293

67S-OA 833 Air

BP Sanborn COC: 181161

2040 Cory Dr - Sanborn, NY 67S-OA

Collected: 11/18/2008 11:21 by JWS

Account Number: 12495

Submitted: 11/21/2008 09:10

Reported: 12/08/2008 at 16:25

Discard: 01/08/2009

Atlantic Richfield (Parsons-NY)

BP Corporation

501 WestLake Park Blvd

Houston TX 77079

CAT No.	Analysis Name	CAS Number	As Received Final	MDL	Units	As Received Final	MDL	Units	DF
			Result			Result			
07345	TO-15 by SIM								
07349	Vinyl Chloride	75-01-4	N.D.	0.0230	ug/m3	N.D.	0.00900	ppb (v)	1
07358	1,1-Dichloroethene	75-35-4	N.D.	0.0238	ug/m3	N.D.	0.00600	ppb (v)	1
07366	Methylene Chloride	75-09-2	0.327	0.0278	ug/m3	0.0941	0.00800	ppb (v)	1
07368	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0396	ug/m3	N.D.	0.0100	ppb (v)	1
07371	1,1-Dichloroethane	75-34-3	N.D.	0.0364	ug/m3	N.D.	0.00900	ppb (v)	1
07372	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0555	ug/m3	N.D.	0.0140	ppb (v)	1
07373	1,1,1-Trichloroethane	71-55-6	N.D.	0.0709	ug/m3	N.D.	0.0130	ppb (v)	1
07377	Trichloroethene	79-01-6	N.D.	0.107	ug/m3	N.D.	0.0200	ppb (v)	1

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis	Analyst	Dilution Factor
				Date and Time		
07345	TO-15 by SIM	EPA TO-15 using SIM	1	12/07/2008 17:51	Jonathan K Nardelli	1

Lancaster Laboratories Sample No. 5536851 AQ

Group No. 1121293

74S-Subslab 991 Air
BP Sanborn COC: 181161
2040 Cory Dr - Sanborn, NY 74S-Sub

Collected: 11/19/2008 10:26 by JWS

Account Number: 12495

Submitted: 11/21/2008 09:10
Reported: 12/08/2008 at 16:25
Discard: 01/08/2009

Atlantic Richfield (Parsons-NY)
BP Corporation
501 WestLake Park Blvd
Houston TX 77079

CAT No.	Analysis Name	CAS Number	As Received Final		MDL	Units	As Received Final		MDL	Units	DF
			Result				Result				
07345	TO-15 by SIM										
07349	Vinyl Chloride	75-01-4	0.112	J	0.0230	ug/m3	0.0439	J	0.00900	ppb (v)	1
07358	1,1-Dichloroethene	75-35-4	0.195	J	0.0238	ug/m3	0.0493	J	0.00600	ppb (v)	1
07366	Methylene Chloride	75-09-2	1.43		0.0278	ug/m3	0.413		0.00800	ppb (v)	1
07368	trans-1,2-Dichloroethene	156-60-5	0.108	J	0.0396	ug/m3	0.0273	J	0.0100	ppb (v)	1
07371	1,1-Dichloroethane	75-34-3	0.137	J	0.0364	ug/m3	0.0340	J	0.00900	ppb (v)	1
07372	cis-1,2-Dichloroethene	156-59-2	0.161	J	0.0555	ug/m3	0.0405	J	0.0140	ppb (v)	1
07373	1,1,1-Trichloroethane	71-55-6	0.647		0.0709	ug/m3	0.119		0.0130	ppb (v)	1
07377	Trichloroethene	79-01-6	0.885		0.107	ug/m3	0.165		0.0200	ppb (v)	1

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken.

The GC/MS volatile internal standard peak areas were outside QC limits. The sample was re-analyzed and internal standard areas were again outside of QC limits, indicating a sample matrix effect on internal standard response.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
07345	TO-15 by SIM	EPA TO-15 using SIM	1	12/06/2008 15:44	Jonathan K Nardelli	1



Analysis Report

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Lancaster Laboratories Sample No. 5536852 AQ

Group No. 1121293

61S-Subslab 913 Air
BP Sanborn COC: 181161
2040 Cory Dr - Sanborn, NY 61S-Sub

Collected: 11/19/2008 14:52 by JWS

Account Number: 12495

Submitted: 11/21/2008 09:10
Reported: 12/08/2008 at 16:25
Discard: 01/08/2009

Atlantic Richfield (Parsons-NY)
BP Corporation
501 WestLake Park Blvd
Houston TX 77079

CAT No.	Analysis Name	CAS Number	As Received Final		Units	As Received Final		Units	DF
			Result	MDL		Result	MDL		
07345	TO-15 by SIM								
07349	Vinyl Chloride	75-01-4	0.0286 J	0.0230	ug/m3	0.0112 J	0.00900	ppb (v)	1
07358	1,1-Dichloroethene	75-35-4	0.0538 J	0.0238	ug/m3	0.0136 J	0.00600	ppb (v)	1
07366	Methylene Chloride	75-09-2	0.676	0.0278	ug/m3	0.195	0.00800	ppb (v)	1
07368	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0396	ug/m3	N.D.	0.0100	ppb (v)	1
07371	1,1-Dichloroethane	75-34-3	0.0416 J	0.0364	ug/m3	0.0103 J	0.00900	ppb (v)	1
07372	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0555	ug/m3	N.D.	0.0140	ppb (v)	1
07373	1,1,1-Trichloroethane	71-55-6	0.175 J	0.0709	ug/m3	0.0321 J	0.0130	ppb (v)	1
07377	Trichloroethene	79-01-6	N.D.	0.107	ug/m3	N.D.	0.0200	ppb (v)	1

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken.

The GC/MS volatile internal standard peak areas were outside QC limits. The sample was re-analyzed and internal standard areas were again outside of QC limits, indicating a sample matrix effect on internal standard response.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
07345	TO-15 by SIM	EPA TO-15 using SIM	1	12/06/2008 16:21	Jonathan K Nardelli	1

Quality Control Summary

Client Name: Atlantic Richfield(Parsons-NY)
Reported: 12/08/08 at 04:25 PM

Group Number: 1121293

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: C0833830AB								
Sample number(s): 5536848-5536849, 5536851-5536852								
Vinyl Chloride	N.D.	0.0230	ug/m3	116	93	70-130	22	25
1,1-Dichloroethene	N.D.	0.0238	ug/m3	132*	109	70-130	19	25
Methylene Chloride	0.109 J	0.0278	ug/m3	116	104	70-130	11	25
trans-1,2-Dichloroethene	N.D.	0.0396	ug/m3					
1,1-Dichloroethane	N.D.	0.0364	ug/m3	99	89	70-130	11	25
cis-1,2-Dichloroethene	N.D.	0.0555	ug/m3	113	103	70-130	9	25
1,1,1-Trichloroethane	N.D.	0.0709	ug/m3	113	103	70-130	10	25
Trichloroethene	N.D.	0.107	ug/m3	172	151	49-173	13	25
Batch number: C0833830AC								
Sample number(s): 5536850								
Vinyl Chloride	N.D.	0.0230	ug/m3	116	93	70-130	22	25
1,1-Dichloroethene	N.D.	0.0238	ug/m3	132*	109	70-130	19	25
Methylene Chloride	0.109 J	0.0278	ug/m3	116	104	70-130	11	25
trans-1,2-Dichloroethene	N.D.	0.0396	ug/m3					
1,1-Dichloroethane	N.D.	0.0364	ug/m3	99	89	70-130	11	25
cis-1,2-Dichloroethene	N.D.	0.0555	ug/m3	113	103	70-130	9	25
1,1,1-Trichloroethane	N.D.	0.0709	ug/m3	113	103	70-130	10	25
Trichloroethene	N.D.	0.107	ug/m3	172	151	49-173	13	25

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Project Name: BP Sanborn
LLI Group #: 1121293

General Comments:

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client. The compliance signature is located on the cover page of the Analysis Reports.

See the Laboratory Chronicle section of the Analysis Report for the method references

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:**07345: TO-15 by SIM**

Batch #: C0833830AB (Sample number(s): 5536848-5536849, 5536851-5536852)

The recovery(ies) for the following analyte(s) in the LCS and/or LCSD exceeded the acceptance window indicating a positive bias: 1,1-Dichloroethene

Batch #: C0833830AC (Sample number(s): 5536850)

The recovery(ies) for the following analyte(s) in the LCS and/or LCSD exceeded the acceptance window indicating a positive bias: 1,1-Dichloroethene

Sample #s: 5536848, 5536849, 5536850

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken.

Sample #s: 5536851, 5536852

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken. The GC/MS volatile internal standard peak areas were outside QC limits. The sample was re-analyzed and internal standard areas were again outside of QC limits, indicating a sample matrix effect on internal standard response.

Atlantic Richfield Company

bp
A BP affiliated company

A12495/1121293/5536848-52 181161

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Chain of Custody Record

Project Name: Sanborn Indoor Air
BP BU/AR Region/Enfos Segment: _____
State or Lead Regulatory Agency: NYS DEC
Requested Due Date (mm/dd/yy): 5day TAT

On-site Time: <u>9am</u>	Temp: <u>30</u>
Off-site Time: <u>4pm</u>	Temp: <u>30</u>
Sky Conditions: <u>cloudy</u>	
Meteorological Events: <u>light snow</u>	
Wind Speed: <u>5 mph</u>	Direction: _____

Lab Name: <u>Lancaster Lab</u>	BP/AR Facility No.: _____	Consultant/Contractor: <u>Parsons</u>
Address: <u>2425 New Holland Pk</u> <u>Lancaster, PA 17601</u>	BP/AR Facility Address: <u>2040 Cory Dr, Sanborn NY</u>	Address: <u>40 La Riviere Dr. Suite 350</u> <u>Buffalo, NY 14222</u>
Lab PM: <u>Jessica Oknefski</u>	Site Lat/Long: _____	Consultant/Contractor Project No.: <u>444183</u>
Tele/Fax: <u>717 656 2300 x1815</u>	California Global ID No.: _____	Consultant/Contractor PM: _____
BP/AR EBM: <u>Bill Barber</u>	Enfos Project No.: <u>000120-0130</u>	Tele/Fax: <u>716 541 0730</u>
Address: <u>4850 East 99th Street MBL 147</u> <u>Cayahoga Heights, OH 44125</u>	Provision or OOC (circle one): <u>40</u>	Report Type & QC Level: _____
Tele/Fax: <u>(216) 271 8038</u>	Phase/WBS: <u>03</u>	E-mail EDD To: _____
	Sub Phase/Task: <u>01</u>	Invoice to: Consultant or BP of Atlantic Richfield Co. (circle one)
	Cost Element: _____	

Lab Bottle Order No:				Matrix			Laboratory No.	No. of Containers	Preservative					Requested Analysis										Sample Point Lat/Long and Comments	
Item No.	Sample Description	Time	Date	Soil/Solid	Water/Liquid	Air			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol												
1	675-Subslab 979	11/2	11/18			✓	1	✓					✓												
2	675-IA 860	11/29	11/18			✓	1	✓					✓												
3	675-OA 833	11/21	11/18			✓	1	✓					✓												
4	745-Subslab 991	10/26	11/19			✓	1	✓					✓												
5	615-Subslab 913	11/52	11/19			✓	1	✓					✓												
6																									
7																									
8																									
9																									
10																									

Can 814 returned because of low vac pressure

Can 814 returned because of low vac pressure

Sampler's Name: <u>James W Schuette</u>	Relinquished By / Affiliation: <u>[Signature]</u>	Date: <u>11/19/08</u>	Time: <u>1030</u>	Accepted By / Affiliation: <u>[Signature]</u>	Date: <u>11-20-08</u>	Time: <u>0910</u>
Sampler's Company: <u>Parsons</u>						
Shipment Date: <u>11/20/08</u>						
Shipment Method: <u>Fedex</u>						
Shipment Tracking No: <u>8696 0919 2375</u>						
Special Instructions: <u>TCE; trans-1,2-DCE; cis-1,2-DCE; VC; 1,1-DCE; methylene chloride; 1,1-DCA; TCA</u>						

Custody Seals In Place: Yes (No) Temp Blank: Yes (No) Cooler Temp on Receipt: 11A°F/C Trip Blank: Yes (No) MS/MSD Sample Submitted: Yes (No)

Environmental Sample Administration Receipt Documentation Log

Client/Project: Atlantic Richfield Shipping Container Sealed: YES NO
 Date of Receipt: 11-21-08 Custody Seal Present: YES NO
 Time of Receipt: 0910 Custody Seal Intact: YES NO NA
 Source Code: 50-1 Package: Chilled Not Chilled
 Unpacker Emp. No.: 2299

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1							
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

Summa # 814 Reject, Recvd 5 Flow Controls & one Broken one. Total of 6

Sample Administration Internal Chain of Custody			
Name	Date	Time	Reason for Transfer
<u>Buandy Barclay</u>	<u>11-21-08</u>	<u>10:57</u>	Unpacking
<u>Da Neslund</u>	<u>11/21/08</u>	<u>1100</u>	Place in Storage or <u>Entry</u>
			Entry
			Entry

Lancaster Laboratories

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	BMQL	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	MPN	Most Probable Number
IU	International Units	CP Units	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	NTU	nephelometric turbidity units
C	degrees Celsius	F	degrees Fahrenheit
Cal	(diet) calories	lb.	pound(s)
meq	milliequivalents	kg	kilogram(s)
g	gram(s)	mg	milligram(s)
ug	microgram(s)	l	liter(s)
ml	milliliter(s)	ul	microliter(s)
m3	cubic meter(s)	fib >5 um/ml	fibers greater than 5 microns in length per ml
<	less than – The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
ppm	parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.		

U.S. EPA data qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike amount not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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ANALYTICAL RESULTS

Prepared for:

Atlantic Richfield(Parsons-NY)
BP Corporation
501 WestLake Park Blvd
Houston TX 77079

281-366-2000

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 1121555. Samples arrived at the laboratory on Saturday, November 22, 2008. The PO# for this group is 001Q0-0130 and the release number is BARBER.

Client Description

73S-Subslab 1011 Air
73S-Subslab 983 Air
61S-IA 1027 Air
77S-Subslab 912 Air
75S-Subslab 986 Air
74S-OA 136 Air
74S-IA 319 Air

Lancaster Labs Number

5538764
5538765
5538766
5538767
5538768
5538769
5538770

METHODOLOGY

The specific methodologies used in obtaining the enclosed analytical results are indicated on the laboratory chronicles.

1 COPY TO Parsons
ELECTRONIC Parsons
COPY TO
1 COPY TO Data Package Group

Attn: George Hermance
Attn: Lorraine Weber

Questions? Contact your Client Services Representative
Jessica A Oknefski at (717) 656-2300

Respectfully Submitted,



Chad A. Moline
Group Leader

Lancaster Laboratories Sample No. 5538764 AQ

Group No. 1121555

73S-Subslab 1011 Air

BP Sanborn COC: 181163

2040 Cory Dr-Sanborn, NY 73S- 1011

Collected: 11/20/2008 10:59 by JWS

Account Number: 12495

Submitted: 11/22/2008 10:20

Reported: 12/15/2008 at 09:52

Discard: 01/15/2009

Atlantic Richfield (Parsons-NY)

BP Corporation

501 WestLake Park Blvd

Houston TX 77079

--011 SDG#: BPP10-01

CAT No.	Analysis Name	CAS Number	As Received Final		Units	As Received Final		Units	DF
			Result	MDL		Result	MDL		
07345	TO-15 by SIM								
07349	Vinyl Chloride	75-01-4	0.0407 J	0.0230	ug/m3	0.0159 J	0.00900	ppb (v)	1
07358	1,1-Dichloroethene	75-35-4	0.0422 J	0.0238	ug/m3	0.0106 J	0.00600	ppb (v)	1
07366	Methylene Chloride	75-09-2	19.5	0.278	ug/m3	5.61	0.0800	ppb (v)	10
07368	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0396	ug/m3	N.D.	0.0100	ppb (v)	1
07371	1,1-Dichloroethane	75-34-3	0.0391 J	0.0364	ug/m3	0.00967 J	0.00900	ppb (v)	1
07372	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0555	ug/m3	N.D.	0.0140	ppb (v)	1
07373	1,1,1-Trichloroethane	71-55-6	0.139 J	0.0709	ug/m3	0.0254 J	0.0130	ppb (v)	1
07377	Trichloroethene	79-01-6	0.327	0.107	ug/m3	0.0609	0.0200	ppb (v)	1

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken.

The GC/MS volatile internal standard peak areas were outside QC limits. The sample was re-analyzed and internal standard areas were again outside of QC limits, indicating a sample matrix effect on internal standard response.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis		Analyst	Dilution Factor
				Date and Time			
07345	TO-15 by SIM	EPA TO-15 using SIM	1	12/06/2008 17:09		Jonathan K Nardelli	1
07345	TO-15 by SIM	EPA TO-15 using SIM	1	12/08/2008 23:46		Jonathan K Nardelli	10



Analysis Report

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Lancaster Laboratories Sample No. 5538765 AQ

Group No. 1121555

73S-Subslab 983 Air
BP Sanborn COC: 181163
2040 Cory Dr-Sanborn, NY 73S- 983

Collected: 11/20/2008 10:59 by JWS

Account Number: 12495

Submitted: 11/22/2008 10:20
Reported: 12/15/2008 at 09:52
Discard: 01/15/2009

Atlantic Richfield (Parsons-NY)
BP Corporation
501 WestLake Park Blvd
Houston TX 77079

--983 SDG#: BPP10-02

CAT No.	Analysis Name	CAS Number	As Received Final		MDL	Units	As Received Final		MDL	Units	DF
			Result				Result				
07345	TO-15 by SIM										
07349	Vinyl Chloride	75-01-4	0.0286 J		0.0230	ug/m3	0.0112 J		0.00900	ppb (v)	1
07358	1,1-Dichloroethene	75-35-4	0.0557 J		0.0238	ug/m3	0.0141 J		0.00600	ppb (v)	1
07366	Methylene Chloride	75-09-2	1.67		0.0278	ug/m3	0.479		0.00800	ppb (v)	1
07368	trans-1,2-Dichloroethene	156-60-5	0.0494 J		0.0396	ug/m3	0.0125 J		0.0100	ppb (v)	1
07371	1,1-Dichloroethane	75-34-3	0.0538 J		0.0364	ug/m3	0.0133 J		0.00900	ppb (v)	1
07372	cis-1,2-Dichloroethene	156-59-2	0.111 J		0.0555	ug/m3	0.0279 J		0.0140	ppb (v)	1
07373	1,1,1-Trichloroethane	71-55-6	0.180 J		0.0709	ug/m3	0.0330 J		0.0130	ppb (v)	1
07377	Trichloroethene	79-01-6	0.657		0.107	ug/m3	0.122		0.0200	ppb (v)	1

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis		Analyst	Dilution Factor
				Date and Time			
07345	TO-15 by SIM	EPA TO-15 using SIM	1	12/07/2008 18:29		Jonathan K Nardelli	1



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Lancaster Laboratories Sample No. 5538766 AQ

Group No. 1121555

61S-IA 1027 Air

BP Sanborn COC: 181163

2040 Cory Dr-Sanborn, NY 61S- 1027

Collected: 11/20/2008 18:00 by JWS

Account Number: 12495

Submitted: 11/22/2008 10:20

Reported: 12/15/2008 at 09:52

Discard: 01/15/2009

Atlantic Richfield (Parsons-NY)

BP Corporation

501 WestLake Park Blvd

Houston TX 77079

-1072 SDG#: BPP10-03

CAT No.	Analysis Name	CAS Number	As Received Final	MDL	Units	As Received Final	MDL	Units	DF
			Result			Result			
07345	TO-15 by SIM								
07349	Vinyl Chloride	75-01-4	N.D.	0.0115	ug/m3	N.D.	0.00450	ppb (v)	0.5
07358	1,1-Dichloroethene	75-35-4	N.D.	0.0119	ug/m3	N.D.	0.00300	ppb (v)	0.5
07366	Methylene Chloride	75-09-2	0.835	0.0139	ug/m3	0.240	0.00400	ppb (v)	0.5
07368	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0198	ug/m3	N.D.	0.00500	ppb (v)	0.5
07371	1,1-Dichloroethane	75-34-3	N.D.	0.0182	ug/m3	N.D.	0.00450	ppb (v)	0.5
07372	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0278	ug/m3	N.D.	0.00700	ppb (v)	0.5
07373	1,1,1-Trichloroethane	71-55-6	N.D.	0.0355	ug/m3	N.D.	0.00650	ppb (v)	0.5
07377	Trichloroethene	79-01-6	N.D.	0.0537	ug/m3	N.D.	0.0100	ppb (v)	0.5

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis	Analyst	Dilution Factor
				Date and Time		
07345	TO-15 by SIM	EPA TO-15 using SIM	1	12/06/2008 13:17	Jonathan K Nardelli	0.5



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Lancaster Laboratories Sample No. 5538767 AQ

Group No. 1121555

77S-Subslab 912 Air
BP Sanborn COC: 181163
2040 Cory Dr-Sanborn, NY 77S- 912

Collected: 11/20/2008 17:46 by JWS

Account Number: 12495

Submitted: 11/22/2008 10:20
Reported: 12/15/2008 at 09:52
Discard: 01/15/2009

Atlantic Richfield (Parsons-NY)
BP Corporation
501 WestLake Park Blvd
Houston TX 77079

--912 SDG#: BPP10-04

CAT No.	Analysis Name	CAS Number	As Received Final	MDL	Units	As Received Final	MDL	Units	DF
			Result			Result			
07345	TO-15 by SIM								
07349	Vinyl Chloride	75-01-4	N.D.	0.0230	ug/m3	N.D.	0.00900	ppb (v)	1
07358	1,1-Dichloroethene	75-35-4	0.0284 J	0.0238	ug/m3	0.00716 J	0.00600	ppb (v)	1
07366	Methylene Chloride	75-09-2	0.553	0.0278	ug/m3	0.159	0.00800	ppb (v)	1
07368	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0396	ug/m3	N.D.	0.0100	ppb (v)	1
07371	1,1-Dichloroethane	75-34-3	N.D.	0.0364	ug/m3	N.D.	0.00900	ppb (v)	1
07372	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0555	ug/m3	N.D.	0.0140	ppb (v)	1
07373	1,1,1-Trichloroethane	71-55-6	0.312	0.0709	ug/m3	0.0573	0.0130	ppb (v)	1
07377	Trichloroethene	79-01-6	N.D.	0.107	ug/m3	N.D.	0.0200	ppb (v)	1

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken.

The GC/MS volatile internal standard peak area for the internal standard used to quantify trichloroethene was outside QC limits. Sufficient sample volume was not remaining to reanalyze the sample.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis	Analyst	Dilution Factor
				Date and Time		
07345	TO-15 by SIM	EPA TO-15 using SIM	1	12/07/2008 19:06	Jonathan K Nardelli	1



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Lancaster Laboratories Sample No. 5538768 AQ

Group No. 1121555

75S-Subslab 986 Air
BP Sanborn COC: 181163
2040 Cory Dr-Sanborn, NY 75S- 986

Collected: 11/20/2008 12:58 by JWS

Account Number: 12495

Submitted: 11/22/2008 10:20
Reported: 12/15/2008 at 09:52
Discard: 01/15/2009

Atlantic Richfield (Parsons-NY)
BP Corporation
501 WestLake Park Blvd
Houston TX 77079

--986 SDG#: BPP10-05

CAT No.	Analysis Name	CAS Number	As Received Final	MDL	Units	As Received Final	MDL	Units	DF
			Result			Result			
07345	TO-15 by SIM								
07349	Vinyl Chloride	75-01-4	N.D.	0.0230	ug/m3	N.D.	0.00900	ppb (v)	1
07358	1,1-Dichloroethene	75-35-4	N.D.	0.0238	ug/m3	N.D.	0.00600	ppb (v)	1
07366	Methylene Chloride	75-09-2	0.915	0.0278	ug/m3	0.263	0.00800	ppb (v)	1
07368	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0396	ug/m3	N.D.	0.0100	ppb (v)	1
07371	1,1-Dichloroethane	75-34-3	N.D.	0.0364	ug/m3	N.D.	0.00900	ppb (v)	1
07372	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0555	ug/m3	N.D.	0.0140	ppb (v)	1
07373	1,1,1-Trichloroethane	71-55-6	N.D.	0.0709	ug/m3	N.D.	0.0130	ppb (v)	1
07377	Trichloroethene	79-01-6	N.D.	0.107	ug/m3	N.D.	0.0200	ppb (v)	1

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken.

The GC/MS volatile internal standard peak areas were outside QC limits. The sample was re-analyzed and internal standard areas were again outside of QC limits, indicating a sample matrix effect on internal standard response.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
07345	TO-15 by SIM	EPA TO-15 using SIM	1	12/06/2008 17:45	Jonathan K Nardelli	1



Analysis Report

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Lancaster Laboratories Sample No. 5538769 AQ

Group No. 1121555

74S-OA 136 Air

BP Sanborn COC: 181163

2040 Cory Dr-Sanborn, NY 74S- 136

Collected: 11/20/2008 12:00 by JWS

Account Number: 12495

Submitted: 11/22/2008 10:20

Reported: 12/15/2008 at 09:52

Discard: 01/15/2009

Atlantic Richfield (Parsons-NY)

BP Corporation

501 WestLake Park Blvd

Houston TX 77079

--136 SDG#: BPP10-06

CAT No.	Analysis Name	CAS Number	As Received	MDL	Units	As Received	MDL	Units	DF
			Final Result			Final Result			
07345	TO-15 by SIM								
07349	Vinyl Chloride	75-01-4	N.D.	0.0230	ug/m3	N.D.	0.00900	ppb (v)	1
07358	1,1-Dichloroethene	75-35-4	N.D.	0.0238	ug/m3	N.D.	0.00600	ppb (v)	1
07366	Methylene Chloride	75-09-2	1.30	0.0278	ug/m3	0.373	0.00800	ppb (v)	1
07368	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0396	ug/m3	N.D.	0.0100	ppb (v)	1
07371	1,1-Dichloroethane	75-34-3	N.D.	0.0364	ug/m3	N.D.	0.00900	ppb (v)	1
07372	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0555	ug/m3	N.D.	0.0140	ppb (v)	1
07373	1,1,1-Trichloroethane	71-55-6	0.0770 J	0.0709	ug/m3	0.0141 J	0.0130	ppb (v)	1
07377	Trichloroethene	79-01-6	0.238 J	0.107	ug/m3	0.0443 J	0.0200	ppb (v)	1

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis	Analyst	Dilution Factor
				Date and Time		
07345	TO-15 by SIM	EPA TO-15 using SIM	1	12/06/2008 13:53	Jonathan K Nardelli	1



Analysis Report

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Lancaster Laboratories Sample No. 5538770 AQ

Group No. 1121555

74S-IA 319 Air

BP Sanborn COC: 181163

2040 Cory Dr-Sanborn, NY 74S- 319

Collected: 11/20/2008 12:00 by JWS

Account Number: 12495

Submitted: 11/22/2008 10:20

Reported: 12/15/2008 at 09:52

Discard: 01/15/2009

Atlantic Richfield (Parsons-NY)

BP Corporation

501 WestLake Park Blvd

Houston TX 77079

--319 SDG#: BPP10-07*

CAT No.	Analysis Name	CAS Number	As Received	MDL	Units	As Received	MDL	Units	DF
			Final Result			Final Result			
07345	TO-15 by SIM								
07349	Vinyl Chloride	75-01-4	N.D.	0.0230	ug/m3	N.D.	0.00900	ppb (v)	1
07358	1,1-Dichloroethene	75-35-4	N.D.	0.0238	ug/m3	N.D.	0.00600	ppb (v)	1
07366	Methylene Chloride	75-09-2	1.21	0.0278	ug/m3	0.347	0.00800	ppb (v)	1
07368	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0396	ug/m3	N.D.	0.0100	ppb (v)	1
07371	1,1-Dichloroethane	75-34-3	N.D.	0.0364	ug/m3	N.D.	0.00900	ppb (v)	1
07372	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0555	ug/m3	N.D.	0.0140	ppb (v)	1
07373	1,1,1-Trichloroethane	71-55-6	N.D.	0.0709	ug/m3	N.D.	0.0130	ppb (v)	1
07377	Trichloroethene	79-01-6	0.256 J	0.107	ug/m3	0.0476 J	0.0200	ppb (v)	1

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis	Analyst	Dilution Factor
				Date and Time		
07345	TO-15 by SIM	EPA TO-15 using SIM	1	12/06/2008 14:29	Jonathan K Nardelli	1

Quality Control Summary

Client Name: Atlantic Richfield(Parsons-NY)

Group Number: 1121555

Reported: 12/15/08 at 09:52 AM

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: C0833830AB	Sample number(s): 5538764, 5538766, 5538768-5538770							
Vinyl Chloride	N.D.	0.0230	ug/m3	116	93	70-130	22	25
1,1-Dichloroethene	N.D.	0.0238	ug/m3	132*	109	70-130	19	25
Methylene Chloride	0.109 J	0.0278	ug/m3	116	104	70-130	11	25
trans-1,2-Dichloroethene	N.D.	0.0396	ug/m3					
1,1-Dichloroethane	N.D.	0.0364	ug/m3	99	89	70-130	11	25
cis-1,2-Dichloroethene	N.D.	0.0555	ug/m3	113	103	70-130	9	25
1,1,1-Trichloroethane	N.D.	0.0709	ug/m3	113	103	70-130	10	25
Trichloroethene	N.D.	0.107	ug/m3	172	151	49-173	13	25
Batch number: C0833830AC	Sample number(s): 5538765, 5538767							
Vinyl Chloride	N.D.	0.0230	ug/m3	116	93	70-130	22	25
1,1-Dichloroethene	N.D.	0.0238	ug/m3	132*	109	70-130	19	25
Methylene Chloride	0.109 J	0.0278	ug/m3	116	104	70-130	11	25
trans-1,2-Dichloroethene	N.D.	0.0396	ug/m3					
1,1-Dichloroethane	N.D.	0.0364	ug/m3	99	89	70-130	11	25
cis-1,2-Dichloroethene	N.D.	0.0555	ug/m3	113	103	70-130	9	25
1,1,1-Trichloroethane	N.D.	0.0709	ug/m3	113	103	70-130	10	25
Trichloroethene	N.D.	0.107	ug/m3	172	151	49-173	13	25
Batch number: C0834330AA	Sample number(s): 5538764							
Methylene Chloride	0.114 J	0.0278	ug/m3	100	106	70-130	5	25

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Project Name: BP Sanborn
LLI Group #: 1121555

General Comments:

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client. The compliance signature is located on the cover page of the Analysis Reports.

See the Laboratory Chronicle section of the Analysis Report for the method references

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:**07345: TO-15 by SIM**

Batch #: C0833830AB (Sample number(s): 5538764, 5538766, 5538768-5538770)

The recovery(ies) for the following analyte(s) in the LCS and/or LCSD exceeded the acceptance window indicating a positive bias: 1,1-Dichloroethene

Batch #: C0833830AC (Sample number(s): 5538765, 5538767)

The recovery(ies) for the following analyte(s) in the LCS and/or LCSD exceeded the acceptance window indicating a positive bias: 1,1-Dichloroethene

Sample #s: 5538765, 5538766, 5538769, 5538770

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken.

Sample #s: 5538767

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken. The GC/MS volatile internal standard peak area for the internal standard used to quantify trichloroethene was outside QC limits. Sufficient sample volume was not remaining to reanalyze the sample.

Sample #s: 5538764, 5538768

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken. The GC/MS volatile internal standard peak areas were outside QC limits. The sample was re-analyzed and internal standard areas were again outside of QC limits, indicating a sample matrix effect on internal standard response.

Atlantic Richfield Company



A BP affiliated company

12495/1121555/5538764-70 181163

Chain of Custody Record

Project Name: Saraborn Indoor Air
 BP BU/AR Region/Enfos Segment: _____
 State or Lead Regulatory Agency: NYS DEC
 Requested Due Date (mm/dd/yy): 5 Oct 14

Page 1 of 1

On-site Time: <u>7 am</u>	Temp: <u>30</u>
Off-site Time: <u>7:30 PM</u>	Temp: <u>30</u>
Sky Conditions: <u>Cloudy</u>	
Meteorological Events: _____	
Wind Speed: <u>15-20</u>	Direction: <u>N, E</u>

Lab Name: <u>Lancaster Lab</u>	BP/AR Facility No.: _____	Consultant/Contractor: <u>Parsons</u>
Address: <u>2425 New Holland Pk</u> <u>Lancaster, PA 17601</u>	BP/AR Facility Address: <u>2040 Cory Dr, Saraborn NY</u>	Address: <u>40 La Riviére Dr suite 300</u> <u>Buffalo, NY 14222</u>
Lab PM: <u>Jessica Oknietzki</u>	Site Lat/Long: _____	Consultant/Contractor Project No.: <u>444183</u>
Tele/Fax: <u>717 656 2300 x 1815</u>	California Global ID No.: _____	Consultant/Contractor PM: _____
BP/AR EBM: <u>Bill Barber</u>	Enfos Project No.: <u>000100-0130</u>	Tele/Fax: <u>716 541 0730</u>
Address: <u>4850 East 49th Street MBL 147</u> <u>Caynoga Heights, OH 44125</u>	Provision or OOC (circle one)	Report Type & QC Level: _____
Tele/Fax: <u>(216) 771 8038</u>	Phase/WBS: <u>90</u>	E-mail EDD To: _____
	Sub Phase/Task: <u>02</u>	Invoice to: Consultant or BP or Atlantic Richfield Co. (circle one)
	Cost Element: <u>01</u>	

Lab Bottle Order No:				Matrix			Laboratory No.	No. of Containers	Preservative					Requested Analysis							Sample Point Lat/Long and Comments			
Item No.	Sample Description	Time	Date	Soil/Solid	Water/Liquid	Air			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol											
1	735-Subslab 1011	1059	11/20			✓		1	✓					✓										
2	735-Subslab 983	1059	11/20			✓		1	✓					✓										
3	605-IA 1027	1800	11/19			✓		1	✓					✓										
4	775-Subslab 912	1746	11/20			✓		1	✓					✓										
5	755-Subslab 986	1258	11/20			✓		1	✓					✓										
6	745- OA 136	1200	11/19			✓		1	✓					✓										
7	745-IA 319	1200	11/19			✓		1	✓					✓										
8																								
9																								
10																								

Sampler's Name: <u>James W Schwetz</u>	Relinquished By / Affiliation: <u>[Signature]</u>	Date: <u>11/21</u>	Time: <u>100</u>	Accepted By / Affiliation: <u>[Signature]</u>	Date: <u>11/22/08</u>	Time: <u>10:00</u>
Sampler's Company: <u>Parsons</u>						
Shipment Date: <u>11/21/08</u>						
Shipment Method: <u>FedEx</u>						
Shipment Tracking No: _____						
Special Instructions: <u>TCE; Trans-1,2-DCE; cis-1,2-DCE; VC; 1,1-DCE; Acetylene Chloride; 1,1-DCH; TCA</u>						
Custody Seals In Place: Yes <u>(No)</u>	Temp Blank: Yes <u>(No)</u>	Cooler Temp on Receipt: <u>NA</u> °F/C	Trip Blank: Yes <u>(No)</u>	MS/MSD Sample Submitted: Yes <u>(No)</u>		

Environmental Sample Administration Receipt Documentation Log

Client/Project: Parson

Shipping Container Sealed: YES NO

Date of Receipt: 11/22/08

Custody Seal Present: YES NO

Time of Receipt: 10:20

Custody Seal Intact: YES NO NA

Source Code: 50-1

Package: Chilled Not Chilled

Unpacker Emp. No.: 2114

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1							
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

Sample Administration Internal Chain of Custody			
Name	Date	Time	Reason for Transfer
<u>Kare Harch</u>	<u>11/22/08</u>	<u>13:27</u>	Unpacking <u>to Storage</u>
<u>CC</u>	<u>11/22/08</u>	<u>16:37</u>	Place in Storage or <u>Entry</u>
			Entry
			Entry

Lancaster Laboratories

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	BMQL	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	MPN	Most Probable Number
IU	International Units	CP Units	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	NTU	nephelometric turbidity units
C	degrees Celsius	F	degrees Fahrenheit
Cal	(diet) calories	lb.	pound(s)
meq	milliequivalents	kg	kilogram(s)
g	gram(s)	mg	milligram(s)
ug	microgram(s)	l	liter(s)
ml	milliliter(s)	ul	microliter(s)
m3	cubic meter(s)	fib >5 um/ml	fibers greater than 5 microns in length per ml
<	less than – The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
ppm	parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.		

U.S. EPA data qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike amount not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

WARRANTY AND LIMITS OF LIABILITY – In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL LANCASTER LABORATORIES BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF LANCASTER LABORATORIES AND (B) WHETHER LANCASTER LABORATORIES HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Lancaster Laboratories which includes any conditions that vary from the Standard Terms and Conditions of Lancaster Laboratories and we hereby object to any conflicting terms contained in any acceptance or order submitted by client.

ANALYTICAL RESULTS

Prepared for:

Atlantic Richfield(Parsons-NY)
BP Corporation
501 WestLake Park Blvd
Houston TX 77079

281-366-2000

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 1121792. Samples arrived at the laboratory on Tuesday, November 25, 2008. The PO# for this group is 001Q0-0130 and the release number is BARBER.

Client Description

73S IA 005 Air
75S IA 048 Air
75S OA 147 Air
77S IA 506 Air

Lancaster Labs Number

5540122
5540123
5540124
5540125

1 COPY TO Parsons
ELECTRONIC Parsons
COPY TO

Attn: George Hermance
Attn: Lorraine Weber

Questions? Contact your Client Services Representative
Jessica A Oknefski at (717) 656-2300

Respectfully Submitted,



Charles J. Neslund
Manager



Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

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Lancaster Laboratories Sample No. 5540122 AQ

Group No. 1121792

73S IA 005 Air

BP Sanborn COC: 181162

2040 Cory Dr - Sanborn, NY 73S IA

Collected: 11/20/2008 12:10 by JWS

Account Number: 12495

Submitted: 11/25/2008 09:55

Reported: 12/08/2008 at 16:28

Discard: 01/08/2009

Atlantic Richfield (Parsons-NY)

BP Corporation

501 WestLake Park Blvd

Houston TX 77079

CAT No.	Analysis Name	CAS Number	As Received	MDL	Units	As Received	MDL	Units	DF
			Final Result			Final Result			
07345	TO-15 by SIM								
07349	Vinyl Chloride	75-01-4	N.D.	0.0230	ug/m3	N.D.	0.00900	ppb (v)	1
07358	1,1-Dichloroethene	75-35-4	N.D.	0.0238	ug/m3	N.D.	0.00600	ppb (v)	1
07366	Methylene Chloride	75-09-2	1.04	0.0278	ug/m3	0.298	0.00800	ppb (v)	1
07368	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0396	ug/m3	N.D.	0.0100	ppb (v)	1
07371	1,1-Dichloroethane	75-34-3	N.D.	0.0364	ug/m3	N.D.	0.00900	ppb (v)	1
07372	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0555	ug/m3	N.D.	0.0140	ppb (v)	1
07373	1,1,1-Trichloroethane	71-55-6	N.D.	0.0709	ug/m3	N.D.	0.0130	ppb (v)	1
07377	Trichloroethene	79-01-6	0.116 J	0.107	ug/m3	0.0216 J	0.0200	ppb (v)	1

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis	Analyst	Dilution Factor
				Date and Time		
07345	TO-15 by SIM	EPA TO-15 using SIM	1	12/06/2008 01:27	Jonathan K Nardelli	1



Analysis Report

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Lancaster Laboratories Sample No. 5540123 AQ

Group No. 1121792

75S IA 048 Air

BP Sanborn COC: 181162

2040 Cory Dr - Sanborn, NY 75S IA

Collected: 11/20/2008 12:45 by JWS

Account Number: 12495

Submitted: 11/25/2008 09:55

Reported: 12/08/2008 at 16:28

Discard: 01/08/2009

Atlantic Richfield (Parsons-NY)

BP Corporation

501 WestLake Park Blvd

Houston TX 77079

CAT No.	Analysis Name	CAS Number	As Received	MDL	Units	As Received	MDL	Units	DF
			Final Result			Final Result			
07345	TO-15 by SIM								
07349	Vinyl Chloride	75-01-4	N.D.	0.0230	ug/m3	N.D.	0.00900	ppb (v)	1
07358	1,1-Dichloroethene	75-35-4	N.D.	0.0238	ug/m3	N.D.	0.00600	ppb (v)	1
07366	Methylene Chloride	75-09-2	0.382	0.0278	ug/m3	0.110	0.00800	ppb (v)	1
07368	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0396	ug/m3	N.D.	0.0100	ppb (v)	1
07371	1,1-Dichloroethane	75-34-3	N.D.	0.0364	ug/m3	N.D.	0.00900	ppb (v)	1
07372	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0555	ug/m3	N.D.	0.0140	ppb (v)	1
07373	1,1,1-Trichloroethane	71-55-6	N.D.	0.0709	ug/m3	N.D.	0.0130	ppb (v)	1
07377	Trichloroethene	79-01-6	N.D.	0.107	ug/m3	N.D.	0.0200	ppb (v)	1

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis	Analyst	Dilution Factor
				Date and Time		
07345	TO-15 by SIM	EPA TO-15 using SIM	1	12/06/2008 02:03	Jonathan K Nardelli	1



Analysis Report

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Page 1 of 1

Lancaster Laboratories Sample No. 5540124 AQ

Group No. 1121792

75S OA 147 Air

BP Sanborn COC: 181162

2040 Cory Dr - Sanborn, NY 75S OA

Collected: 11/20/2008 12:55 by JWS

Account Number: 12495

Submitted: 11/25/2008 09:55

Reported: 12/08/2008 at 16:28

Discard: 01/08/2009

Atlantic Richfield (Parsons-NY)

BP Corporation

501 WestLake Park Blvd

Houston TX 77079

CAT No.	Analysis Name	CAS Number	As Received Final	MDL	Units	As Received Final	MDL	Units	DF
			Result			Result			
07345	TO-15 by SIM								
07349	Vinyl Chloride	75-01-4	N.D.	0.0230	ug/m3	N.D.	0.00900	ppb (v)	1
07358	1,1-Dichloroethene	75-35-4	N.D.	0.0238	ug/m3	N.D.	0.00600	ppb (v)	1
07366	Methylene Chloride	75-09-2	1.79	0.0278	ug/m3	0.515	0.00800	ppb (v)	1
07368	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0396	ug/m3	N.D.	0.0100	ppb (v)	1
07371	1,1-Dichloroethane	75-34-3	N.D.	0.0364	ug/m3	N.D.	0.00900	ppb (v)	1
07372	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0555	ug/m3	N.D.	0.0140	ppb (v)	1
07373	1,1,1-Trichloroethane	71-55-6	N.D.	0.0709	ug/m3	N.D.	0.0130	ppb (v)	1
07377	Trichloroethene	79-01-6	N.D.	0.107	ug/m3	N.D.	0.0200	ppb (v)	1

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis	Analyst	Dilution Factor
				Date and Time		
07345	TO-15 by SIM	EPA TO-15 using SIM	1	12/06/2008 02:40	Jonathan K Nardelli	1



Analysis Report

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Lancaster Laboratories Sample No. 5540125 AQ

Group No. 1121792

77S IA 506 Air

BP Sanborn COC: 181162

2040 Cory Dr - Sanborn, NY 77S IA

Collected: 11/20/2008 18:00 by JWS

Account Number: 12495

Submitted: 11/25/2008 09:55

Reported: 12/08/2008 at 16:28

Discard: 01/08/2009

Atlantic Richfield (Parsons-NY)

BP Corporation

501 WestLake Park Blvd

Houston TX 77079

CAT No.	Analysis Name	CAS Number	As Received Final	MDL	Units	As Received Final	MDL	Units	DF
			Result			Result			
07345	TO-15 by SIM								
07349	Vinyl Chloride	75-01-4	N.D.	0.0230	ug/m3	N.D.	0.00900	ppb (v)	1
07358	1,1-Dichloroethene	75-35-4	N.D.	0.0238	ug/m3	N.D.	0.00600	ppb (v)	1
07366	Methylene Chloride	75-09-2	0.492	0.0278	ug/m3	0.142	0.00800	ppb (v)	1
07368	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0396	ug/m3	N.D.	0.0100	ppb (v)	1
07371	1,1-Dichloroethane	75-34-3	N.D.	0.0364	ug/m3	N.D.	0.00900	ppb (v)	1
07372	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0555	ug/m3	N.D.	0.0140	ppb (v)	1
07373	1,1,1-Trichloroethane	71-55-6	0.0860 J	0.0709	ug/m3	0.0158 J	0.0130	ppb (v)	1
07377	Trichloroethene	79-01-6	0.143 J	0.107	ug/m3	0.0267 J	0.0200	ppb (v)	1

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis	Analyst	Dilution Factor
				Date and Time		
07345	TO-15 by SIM	EPA TO-15 using SIM	1	12/06/2008 03:16	Jonathan K Nardelli	1

Quality Control Summary

Client Name: Atlantic Richfield(Parsons-NY)

Group Number: 1121792

Reported: 12/08/08 at 04:28 PM

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: C0833830AB	Sample number(s): 5540122-5540125							
Vinyl Chloride	N.D.	0.0230	ug/m3	116	93	70-130	22	25
1,1-Dichloroethene	N.D.	0.0238	ug/m3	132*	109	70-130	19	25
Methylene Chloride	0.109 J	0.0278	ug/m3	116	104	70-130	11	25
trans-1,2-Dichloroethene	N.D.	0.0396	ug/m3					
1,1-Dichloroethane	N.D.	0.0364	ug/m3	99	89	70-130	11	25
cis-1,2-Dichloroethene	N.D.	0.0555	ug/m3	113	103	70-130	9	25
1,1,1-Trichloroethane	N.D.	0.0709	ug/m3	113	103	70-130	10	25
Trichloroethene	N.D.	0.107	ug/m3	172	151	49-173	13	25

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

Project Name: BP Sanborn
LLI Group #: 1121792

General Comments:

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client. The compliance signature is located on the cover page of the Analysis Reports.

See the Laboratory Chronicle section of the Analysis Report for the method references

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:**07345: TO-15 by SIM**

Batch #: C0833830AB (Sample number(s): 5540122-5540125)

The recovery(ies) for the following analyte(s) in the LCS and/or LCSD exceeded the acceptance window indicating a positive bias: 1,1-Dichloroethene

Sample #s: 5540122, 5540123, 5540124, 5540125

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken.

Atlantic Richfield Company



A BP affiliated company

A12495/1121792/5540122-25 181162

Chain of Custody Record

Project Name: Sanborn Indoor Air

BP BU/AR Region/Enfos Segment: _____

State or Lead Regulatory Agency: NYSDEC

Requested Due Date (mm/dd/yy): 5 day TAT

Page 1 of 1

On-site Time: <u>900</u>	Temp: <u>24°F</u>
Off-site Time: <u>1800</u>	Temp: <u>28°F</u>
Sky Conditions: <u>Cloudy</u>	
Meteorological Events: <u>light snow</u>	
Wind Speed: <u>5 mph</u>	Direction: <u>N, E</u>

Lab Name: <u>Lancaster Lab</u>	BP/AR Facility No.: _____	Consultant/Contractor: <u>Parsons</u>
Address: <u>2425 New Holland Pike</u> <u>Lancaster, PA. 17601</u>	BP/AR Facility Address: <u>2040 Cory Dr, Sanborn, NY</u>	Address: <u>90 La Riviere, Dr. Suite 350</u> <u>Buffalo, NY 14222</u>
Lab PM: <u>Jessica Oknefski</u>	Site Lat/Long: _____	Consultant/Contractor Project No.: <u>444183.07027</u>
Tele/Fax: <u>717 656 2300 x 1815</u>	California Global ID No.: _____	Consultant/Contractor PM: <u>George Hermance</u>
BP/AR EBM: <u>Bill Barber</u>	Enfos Project No.: <u>000120-0130</u>	Tele/Fax: <u>716 541-0730 or 716 4074990</u>
Address: <u>4850 East 49th St. MBC 147</u> <u>Cayahoga Heights, OH 44125</u>	Provision or OOC (circle one)	Report Type & QC Level: _____
Tele/Fax: <u>216 271 8038</u>	Phase/WBS: <u>40</u>	E-mail EDD To: _____
	Sub Phase/Task: <u>03</u>	Invoice to: Consultant or BP or Atlantic Richfield Co. (circle one)
	Cost Element: <u>01</u>	

Lab Bottle Order No:				Matrix			Laboratory No.	No. of Containers	Preservative					Requested Analysis										Sample Point Lat/Long and Comments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
Item No.	Sample Description	Time	Date	Soil/Solid	Water/Liquid	Air			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																

Sampler's Name: <u>James W Schwetz</u>	Relinquished By / Affiliation: <u>[Signature]</u>	Date: <u>11/22</u>	Time: <u>1203</u>	Accepted By / Affiliation: <u>[Signature]</u>	Date: <u>11/22</u>	Time: <u>0800</u>
Sampler's Company: <u>Parsons</u>						
Shipment Date: <u>11/23/08</u>						
Shipment Method: <u>Fed Ex</u>						
Shipment Tracking No: _____						
Special Instructions: <u>TCE, trans-1,2-DCE; cis-1,2-DCE; VC; 1,1-DCE, Methylen Chloride; 1,1-DiA, TCA</u>						
Custody Seals In Place: Yes <u>No</u>	Temp Blank: Yes <u>No</u>	Cooler Temp on Receipt: <u>—</u> °F/C	Trip Blank: Yes <u>No</u>	MS/MSD Sample Submitted: Yes <u>No</u>		

Environmental Sample Administration Receipt Documentation Log

Client/Project: Parsons

Shipping Container Sealed: YES NO

Date of Receipt: 11/25/08

Custody Seal Present: YES NO

Time of Receipt: 0955

Custody Seal Intact: YES NO NA

Source Code: 50-1

Package: Chilled Not Chilled

Unpacker Emp. No.: 1454

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1							
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

Rec. 4 flow controllers

Sample Administration Internal Chain of Custody			
Name	Date	Time	Reason for Transfer
<u>John Damergut</u>	<u>11/25/08</u>	<u>1121</u>	Unpacking
<u>D. Neslund</u>	<u>11/25/08</u>	<u>1130</u>	Place in Storage or <u>Entry</u>
			Entry
			Entry

Lancaster Laboratories

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	BMQL	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	MPN	Most Probable Number
IU	International Units	CP Units	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	NTU	nephelometric turbidity units
C	degrees Celsius	F	degrees Fahrenheit
Cal	(diet) calories	lb.	pound(s)
meq	milliequivalents	kg	kilogram(s)
g	gram(s)	mg	milligram(s)
ug	microgram(s)	l	liter(s)
ml	milliliter(s)	ul	microliter(s)
m3	cubic meter(s)	fib >5 um/ml	fibers greater than 5 microns in length per ml
<	less than – The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
ppm	parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.		

U.S. EPA data qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike amount not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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ANALYTICAL RESULTS

Prepared for:

Atlantic Richfield(Parsons-NY)
BP Corporation
501 WestLake Park Blvd
Houston TX 77079

281-366-2000

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 1123083. Samples arrived at the laboratory on Friday, December 05, 2008. The PO# for this group is 001Q0-0130 and the release number is BARBER.

Client Description

65S-SS-922 Air
76S-SS-973 Air
65S-IA-012 Air
63S-SS-924 Air
63S-IA-155 Air
65S-OA-806 Air
76S-IA-513 Air
76S-IA-504 Air

Lancaster Labs Number

5548132
5548133
5548134
5548135
5548136
5548137
5548138
5548139

METHODOLOGY

The specific methodologies used in obtaining the enclosed analytical results are indicated on the laboratory chronicles.

1 COPY TO Parsons
ELECTRONIC Parsons
COPY TO
1 COPY TO Data Package Group

Attn: George Hermance
Attn: Lorraine Weber

Questions? Contact your Client Services Representative
Jessica A Oknefski at (717) 656-2300

Respectfully Submitted,



Chad A. Moline
Group Leader



Analysis Report

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Lancaster Laboratories Sample No. 5548132 AQ

Group No. 1123083

65S-SS-922 Air

BP Sanborn COC: 181178

2040 Cory Dr - Sanborn, NY 65S-SS

Collected: 12/02/2008 10:30 by JWS

Account Number: 12495

Submitted: 12/05/2008 08:45

Reported: 12/12/2008 at 15:11

Discard: 01/12/2009

Atlantic Richfield (Parsons-NY)

BP Corporation

501 WestLake Park Blvd

Houston TX 77079

SDG#: BPP11-01

CAT No.	Analysis Name	CAS Number	As Received Final	MDL	Units	As Received Final	MDL	Units	DF
			Result			Result			
07345	TO-15 by SIM								
07349	Vinyl Chloride	75-01-4	N.D.	0.0230	ug/m3	N.D.	0.00900	ppb (v)	1
07358	1,1-Dichloroethene	75-35-4	0.0869 J	0.0238	ug/m3	0.0219 J	0.00600	ppb (v)	1
07366	Methylene Chloride	75-09-2	0.615	0.0278	ug/m3	0.177	0.00800	ppb (v)	1
07368	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0396	ug/m3	N.D.	0.0100	ppb (v)	1
07371	1,1-Dichloroethane	75-34-3	N.D.	0.0364	ug/m3	N.D.	0.00900	ppb (v)	1
07372	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0555	ug/m3	N.D.	0.0140	ppb (v)	1
07373	1,1,1-Trichloroethane	71-55-6	N.D.	0.0709	ug/m3	N.D.	0.0130	ppb (v)	1
07377	Trichloroethene	79-01-6	0.673	0.107	ug/m3	0.125	0.0200	ppb (v)	1

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis	Analyst	Dilution Factor
				Date and Time		
07345	TO-15 by SIM	EPA TO-15 using SIM	1	12/09/2008 11:47	Jonathan K Nardelli	1



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Lancaster Laboratories Sample No. 5548133 AQ

Group No. 1123083

76S-SS-973 Air

BP Sanborn COC: 181178

2040 Cory Dr - Sanborn, NY 76S-SS

Collected: 12/02/2008 14:11 by JWS

Account Number: 12495

Submitted: 12/05/2008 08:45

Reported: 12/12/2008 at 15:11

Discard: 01/12/2009

Atlantic Richfield (Parsons-NY)

BP Corporation

501 WestLake Park Blvd

Houston TX 77079

SDG#: BPP11-02

CAT No.	Analysis Name	CAS Number	As Received Final		MDL	Units	As Received Final		MDL	Units	DF
			Result				Result				
07345	TO-15 by SIM										
07349	Vinyl Chloride	75-01-4	N.D.		0.0230	ug/m3	N.D.		0.00900	ppb (v)	1
07358	1,1-Dichloroethene	75-35-4	N.D.		0.0238	ug/m3	N.D.		0.00600	ppb (v)	1
07366	Methylene Chloride	75-09-2	21.8		0.278	ug/m3	6.27		0.0800	ppb (v)	10
07368	trans-1,2-Dichloroethene	156-60-5	N.D.		0.0396	ug/m3	N.D.		0.0100	ppb (v)	1
07371	1,1-Dichloroethane	75-34-3	N.D.		0.0364	ug/m3	N.D.		0.00900	ppb (v)	1
07372	cis-1,2-Dichloroethene	156-59-2	N.D.		0.0555	ug/m3	N.D.		0.0140	ppb (v)	1
07373	1,1,1-Trichloroethane	71-55-6	0.103	J	0.0709	ug/m3	0.0188	J	0.0130	ppb (v)	1
07377	Trichloroethene	79-01-6	0.193	J	0.107	ug/m3	0.0359	J	0.0200	ppb (v)	1

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken.

The GC/MS volatile internal standard peak areas were outside QC limits. The sample was re-analyzed and internal standard areas were again outside of QC limits, indicating a sample matrix effect on internal standard response.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
07345	TO-15 by SIM	EPA TO-15 using SIM	1	12/09/2008 00:58	Jonathan K Nardelli	1
07345	TO-15 by SIM	EPA TO-15 using SIM	1	12/09/2008 12:24	Jonathan K Nardelli	10



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Lancaster Laboratories Sample No. 5548134 AQ

Group No. 1123083

65S-IA-012 Air

BP Sanborn COC: 181178

2040 Cory Dr - Sanborn, NY 65S-IA

Collected: 12/02/2008 09:35 by JWS

Account Number: 12495

Submitted: 12/05/2008 08:45

Reported: 12/12/2008 at 15:11

Discard: 01/12/2009

Atlantic Richfield (Parsons-NY)

BP Corporation

501 WestLake Park Blvd

Houston TX 77079

SDG#: BPP11-03

CAT No.	Analysis Name	CAS Number	As Received	MDL	Units	As Received	MDL	Units	DF
			Final Result			Final Result			
07345	TO-15 by SIM								
07349	Vinyl Chloride	75-01-4	N.D.	0.0230	ug/m3	N.D.	0.00900	ppb (v)	1
07358	1,1-Dichloroethene	75-35-4	N.D.	0.0238	ug/m3	N.D.	0.00600	ppb (v)	1
07366	Methylene Chloride	75-09-2	2.38	0.0278	ug/m3	0.686	0.00800	ppb (v)	1
07368	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0396	ug/m3	N.D.	0.0100	ppb (v)	1
07371	1,1-Dichloroethane	75-34-3	N.D.	0.0364	ug/m3	N.D.	0.00900	ppb (v)	1
07372	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0555	ug/m3	N.D.	0.0140	ppb (v)	1
07373	1,1,1-Trichloroethane	71-55-6	N.D.	0.0709	ug/m3	N.D.	0.0130	ppb (v)	1
07377	Trichloroethene	79-01-6	0.320	0.107	ug/m3	0.0595	0.0200	ppb (v)	1

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken.

The GC/MS volatile internal standard peak areas were outside QC limits. The sample was re-analyzed and internal standard areas were again outside of QC limits, indicating a sample matrix effect on internal standard response.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
07345	TO-15 by SIM	EPA TO-15 using SIM	1	12/09/2008 13:00	Jonathan K Nardelli	1



Analysis Report

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Lancaster Laboratories Sample No. 5548135 AQ

Group No. 1123083

63S-SS-924 Air

BP Sanborn COC: 181178

2040 Cory Dr - Sanborn, NY 63S-SS

Collected: 12/02/2008 18:28 by JWS

Account Number: 12495

Submitted: 12/05/2008 08:45

Reported: 12/12/2008 at 15:11

Discard: 01/12/2009

Atlantic Richfield (Parsons-NY)

BP Corporation

501 WestLake Park Blvd

Houston TX 77079

SDG#: BPP11-04

CAT No.	Analysis Name	CAS Number	As Received	MDL	Units	As Received	MDL	Units	DF
			Final Result			Final Result			
07345	TO-15 by SIM								
07349	Vinyl Chloride	75-01-4	N.D.	0.0230	ug/m3	N.D.	0.00900	ppb (v)	1
07358	1,1-Dichloroethene	75-35-4	N.D.	0.0238	ug/m3	N.D.	0.00600	ppb (v)	1
07366	Methylene Chloride	75-09-2	0.801	0.0278	ug/m3	0.231	0.00800	ppb (v)	1
07368	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0396	ug/m3	N.D.	0.0100	ppb (v)	1
07371	1,1-Dichloroethane	75-34-3	N.D.	0.0364	ug/m3	N.D.	0.00900	ppb (v)	1
07372	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0555	ug/m3	N.D.	0.0140	ppb (v)	1
07373	1,1,1-Trichloroethane	71-55-6	0.227 J	0.0709	ug/m3	0.0416 J	0.0130	ppb (v)	1
07377	Trichloroethene	79-01-6	0.817	0.107	ug/m3	0.152	0.0200	ppb (v)	1

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis	Analyst	Dilution Factor
				Date and Time		
07345	TO-15 by SIM	EPA TO-15 using SIM	1	12/09/2008 13:37	Jonathan K Nardelli	1



Analysis Report

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Lancaster Laboratories Sample No. 5548136 AQ

Group No. 1123083

63S-IA-155 Air

BP Sanborn COC: 181178

2040 Cory Dr - Sanborn, NY 63S-IA

Collected: 12/02/2008 18:45 by JWS

Account Number: 12495

Submitted: 12/05/2008 08:45

Atlantic Richfield (Parsons-NY)

Reported: 12/12/2008 at 15:11

BP Corporation

Discard: 01/12/2009

501 WestLake Park Blvd

Houston TX 77079

SDG#: BPP11-05

CAT No.	Analysis Name	CAS Number	As Received Final	MDL	Units	As Received Final	MDL	Units	DF
			Result			Result			
07345	TO-15 by SIM								
07349	Vinyl Chloride	75-01-4	N.D.	0.0230	ug/m3	N.D.	0.00900	ppb (v)	1
07358	1,1-Dichloroethene	75-35-4	N.D.	0.0238	ug/m3	N.D.	0.00600	ppb (v)	1
07366	Methylene Chloride	75-09-2	0.271	0.0278	ug/m3	0.0781	0.00800	ppb (v)	1
07368	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0396	ug/m3	N.D.	0.0100	ppb (v)	1
07371	1,1-Dichloroethane	75-34-3	N.D.	0.0364	ug/m3	N.D.	0.00900	ppb (v)	1
07372	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0555	ug/m3	N.D.	0.0140	ppb (v)	1
07373	1,1,1-Trichloroethane	71-55-6	N.D.	0.0709	ug/m3	N.D.	0.0130	ppb (v)	1
07377	Trichloroethene	79-01-6	0.281	0.107	ug/m3	0.0522	0.0200	ppb (v)	1

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis	Analyst	Dilution Factor
				Date and Time		
07345	TO-15 by SIM	EPA TO-15 using SIM	1	12/09/2008 14:17	Jonathan K Nardelli	1



Analysis Report

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Lancaster Laboratories Sample No. 5548137 AQ

Group No. 1123083

65S-OA-806 Air

BP Sanborn COC: 181178

2040 Cory Dr - Sanborn, NY 65S-OA

Collected: 12/02/2008 10:55 by JWS

Account Number: 12495

Submitted: 12/05/2008 08:45

Reported: 12/12/2008 at 15:11

Discard: 01/12/2009

Atlantic Richfield (Parsons-NY)

BP Corporation

501 WestLake Park Blvd

Houston TX 77079

SDG#: BPP11-06

CAT No.	Analysis Name	CAS Number	As Received	MDL	Units	As Received	MDL	Units	DF
			Final Result			Final Result			
07345	TO-15 by SIM								
07349	Vinyl Chloride	75-01-4	N.D.	0.0230	ug/m3	N.D.	0.00900	ppb (v)	1
07358	1,1-Dichloroethene	75-35-4	N.D.	0.0238	ug/m3	N.D.	0.00600	ppb (v)	1
07366	Methylene Chloride	75-09-2	0.257	0.0278	ug/m3	0.0739	0.00800	ppb (v)	1
07368	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0396	ug/m3	N.D.	0.0100	ppb (v)	1
07371	1,1-Dichloroethane	75-34-3	N.D.	0.0364	ug/m3	N.D.	0.00900	ppb (v)	1
07372	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0555	ug/m3	N.D.	0.0140	ppb (v)	1
07373	1,1,1-Trichloroethane	71-55-6	N.D.	0.0709	ug/m3	N.D.	0.0130	ppb (v)	1
07377	Trichloroethene	79-01-6	N.D.	0.107	ug/m3	N.D.	0.0200	ppb (v)	1

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis	Analyst	Dilution Factor
				Date and Time		
07345	TO-15 by SIM	EPA TO-15 using SIM	1	12/09/2008 14:53	Jonathan K Nardelli	1



Analysis Report

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Page 1 of 1

Lancaster Laboratories Sample No. 5548138 AQ

Group No. 1123083

76S-IA-513 Air

BP Sanborn COC: 181178

2040 Cory Dr - Sanborn, NY 76S-IA

Collected: 12/02/2008 14:21 by JWS

Account Number: 12495

Submitted: 12/05/2008 08:45

Reported: 12/12/2008 at 15:11

Discard: 01/12/2009

Atlantic Richfield (Parsons-NY)

BP Corporation

501 WestLake Park Blvd

Houston TX 77079

SDG#: BPP11-07

CAT No.	Analysis Name	CAS Number	As Received Final	MDL	Units	As Received Final	MDL	Units	DF
			Result			Result			
07345	TO-15 by SIM								
07349	Vinyl Chloride	75-01-4	N.D.	0.0230	ug/m3	N.D.	0.00900	ppb (v)	1
07358	1,1-Dichloroethene	75-35-4	N.D.	0.0238	ug/m3	N.D.	0.00600	ppb (v)	1
07366	Methylene Chloride	75-09-2	0.405	0.0278	ug/m3	0.117	0.00800	ppb (v)	1
07368	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0396	ug/m3	N.D.	0.0100	ppb (v)	1
07371	1,1-Dichloroethane	75-34-3	N.D.	0.0364	ug/m3	N.D.	0.00900	ppb (v)	1
07372	cis-1,2-Dichloroethene	156-59-2	0.404	0.0555	ug/m3	0.102	0.0140	ppb (v)	1
07373	1,1,1-Trichloroethane	71-55-6	N.D.	0.0709	ug/m3	N.D.	0.0130	ppb (v)	1
07377	Trichloroethene	79-01-6	0.265 J	0.107	ug/m3	0.0493 J	0.0200	ppb (v)	1

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis	Analyst	Dilution Factor
				Date and Time		
07345	TO-15 by SIM	EPA TO-15 using SIM	1	12/09/2008 08:52	Jonathan K Nardelli	1



Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

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Lancaster Laboratories Sample No. 5548139 AQ

Group No. 1123083

76S-IA-504 Air

BP Sanborn COC: 181178

2040 Cory Dr - Sanborn, NY 76S-IA

Collected: 12/02/2008 14:21 by JWS

Account Number: 12495

Submitted: 12/05/2008 08:45

Reported: 12/12/2008 at 15:12

Discard: 01/12/2009

Atlantic Richfield (Parsons-NY)

BP Corporation

501 WestLake Park Blvd

Houston TX 77079

SDG#: BPP11-08*

CAT No.	Analysis Name	CAS Number	As Received	MDL	Units	As Received	MDL	Units	DF
			Final Result			Final Result			
07345	TO-15 by SIM								
07349	Vinyl Chloride	75-01-4	N.D.	0.0230	ug/m3	N.D.	0.00900	ppb (v)	1
07358	1,1-Dichloroethene	75-35-4	N.D.	0.0238	ug/m3	N.D.	0.00600	ppb (v)	1
07366	Methylene Chloride	75-09-2	0.902	0.0278	ug/m3	0.260	0.00800	ppb (v)	1
07368	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0396	ug/m3	N.D.	0.0100	ppb (v)	1
07371	1,1-Dichloroethane	75-34-3	N.D.	0.0364	ug/m3	N.D.	0.00900	ppb (v)	1
07372	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0555	ug/m3	N.D.	0.0140	ppb (v)	1
07373	1,1,1-Trichloroethane	71-55-6	N.D.	0.0709	ug/m3	N.D.	0.0130	ppb (v)	1
07377	Trichloroethene	79-01-6	N.D.	0.107	ug/m3	N.D.	0.0200	ppb (v)	1

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken.

The GC/MS volatile internal standard peak areas were outside QC limits. The sample was re-analyzed and internal standard areas were again outside of QC limits, indicating a sample matrix effect on internal standard response.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

MDL = Method Detection Limit

Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis		Analyst	Dilution Factor
			Trial#	Date and Time		
07345	TO-15 by SIM	EPA TO-15 using SIM	1	12/09/2008 15:29	Jonathan K Nardelli	1

Quality Control Summary

Client Name: Atlantic Richfield(Parsons-NY)

Group Number: 1123083

Reported: 12/12/08 at 03:12 PM

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: C0834330AA	Sample number(s): 5548132-5548139							
Vinyl Chloride	N.D.	0.0230	ug/m3	85	92	70-130	8	25
1,1-Dichloroethene	N.D.	0.0238	ug/m3	108	113	70-130	4	25
Methylene Chloride	0.114 J	0.0278	ug/m3	100	106	70-130	5	25
trans-1,2-Dichloroethene	N.D.	0.0396	ug/m3					
1,1-Dichloroethane	N.D.	0.0364	ug/m3	86	90	70-130	5	25
cis-1,2-Dichloroethene	N.D.	0.0555	ug/m3	96	101	70-130	5	25
1,1,1-Trichloroethane	N.D.	0.0709	ug/m3	101	104	70-130	3	25
Trichloroethene	N.D.	0.107	ug/m3	150	154	49-173	3	25

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.



Case Narrative

Project Name: BP Sanborn
LLI Group #: 1123083

General Comments:

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client. The compliance signature is located on the cover page of the Analysis Reports.

See the Laboratory Chronicle section of the Analysis Report for the method references

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

07345: TO-15 by SIM

Sample #s: 5548132, 5548135, 5548136, 5548137, 5548138

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken.

Sample #s: 5548133, 5548134, 5548139

Methylene chloride was detected in the method blank associated with this sample at a concentration of 0.03 ppbv. Since this concentration was below the client specified limit, no further action was taken. The GC/MS volatile internal standard peak areas were outside QC limits. The sample was re-analyzed and internal standard areas were again outside of QC limits, indicating a sample matrix effect on internal standard response.

Atlantic Richfield Company



A BP affiliated company

A12495/1123083/5548132-39

181178

Chain of Custody Record

Project Name: Sanborn Indoor Air

BP BU/AR Region/Enfos Segment:

State or Lead Regulatory Agency: NYSDEC

Requested Due Date (mm/dd/yy): 5 day TAT

Page 1 of 1

On-site Time:	Temp: <u>28°F</u>
Off-site Time:	Temp: <u>30°F</u>
Sky Conditions: <u>Variable</u>	
Meteorological Events: <u>Snow</u>	
Wind Speed: <u>5-10 mph</u>	Direction: <u>South</u>

Lab Name: <u>Lancaster Lab</u>	BP/AR Facility No.:	Consultant/Contractor: <u>Parsons</u>
Address: <u>2425 New Holland Pike</u> <u>Lancaster PA 17601</u>	BP/AR Facility Address: <u>2040 Cory Dr. Sanborn, NY</u>	Address: <u>40 La Riviere Dr. Suite 350</u>
Lab PM: <u>Jessica DKnefski</u>	Site Lat/Long:	
Tele/Fax: <u>717 656 2300 x 1815</u>	California Global ID No.:	Consultant/Contractor Project No.: <u>444183.07627</u>
BP/AR EBM: <u>Bill Bryber</u>	Enfos Project No.: <u>000100-130</u>	Consultant/Contractor PM: <u>George Hermance</u>
Address: <u>4850 East 49th St. MBC 147</u> <u>Caychoga Heights OH 44125</u>	Provision or OOC (circle one)	Tele/Fax: <u>716 541-0730</u> or <u>716 4074990</u>
Tele/Fax: <u>216 231 8030</u>	Phase/WBS: <u>40</u>	Report Type & QC Level:
	Sub Phase/Task: <u>03</u>	E-mail EDD To:
	Cost Element: <u>01</u>	Invoice to: Consultant or BP or Atlantic Richfield Co. (circle one)

Lab Bottle Order No:				Matrix			Laboratory No.	No. of Containers	Preservative					Requested Analysis										Sample Point Lat/Long and Comments	
Item No.	Sample Description	Time	Date	Soil/Solid	Water/Liquid	Air			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol												
1	65S-SS-922	12/2/08	1030			✓	1	✓					TO-15												
2	76S-SS-973	1411	12/2/08			✓	1	✓					✓												
3	65S-IA-012	0935	12/2			✓	1	✓					✓												
4	63S-SS-924	1828	12/2/08			✓	2	✓					✓												
5	63S-IA-155	1845	12/2			✓	1	✓					✓												
6	65S-0A-006	1055	12/2			✓	1	✓					✓												
7	76S-IA-513	1421	12/2			✓	1	✓					✓												
8	76S-IA-504	1421	12/2			✓	1	✓					✓												
9																									
10																									

Sampler's Name: <u>James W Schuetz</u>	Relinquished By / Affiliation: <u>[Signature]</u>	Date: <u>12/4/08</u>	Time: <u>1010</u>	Accepted By / Affiliation: <u>[Signature]</u>	Date: <u>12-5-08</u>	Time: <u>0845</u>
Sampler's Company: <u>Parsons</u>						
Shipment Date: <u>12/4/08</u>						
Shipment Method: <u>Fed ex.</u>						
Shipment Tracking No:						
Special Instructions: <u>TCE; Trans-1,2-DCE; Cis-1,2-DCE; VC; 1,1-DCE; Methylene Chloride; 1,1-DCA; TCA</u>						
Custody Seals In Place: <u>Yes</u> / No	Temp Blank: <u>Yes</u> / No	Cooler Temp on Receipt: <u>NA</u> F/C	Trip Blank: <u>Yes</u> / No	MS/MSD Sample Submitted: <u>Yes</u> / No		

**Environmental Sample Administration
Receipt Documentation Log**

Client/Project: (Parsons) Atlantic Richfield

Shipping Container Sealed: YES NO

Date of Receipt: 12-5-08

Custody Seal Present: YES NO

Time of Receipt: 0845

Custody Seal Intact: YES NO NA

Source Code: 50-1

Package: Chilled Not Chilled

Unpacker Emp. No.: 2132

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1							
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

ID on tag on summa #504 says 76S-TA-513
Rcvd Extra summas: #929, 1000, 836, 957
Rcvd 11 Flow controllers - 1 cracked glass face

Sample Administration Internal Chain of Custody			
Name	Date	Time	Reason for Transfer
<u>Shirley Moore</u>	<u>12-5-08</u>	<u>1056</u>	Unpacking
<u>W. A. Neslund</u>	<u>12/5/08</u>	<u>1100</u>	Place in Storage or <u>Entry</u>
			Entry
			Entry

Lancaster Laboratories

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	BMQL	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	MPN	Most Probable Number
IU	International Units	CP Units	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	NTU	nephelometric turbidity units
C	degrees Celsius	F	degrees Fahrenheit
Cal	(diet) calories	lb.	pound(s)
meq	milliequivalents	kg	kilogram(s)
g	gram(s)	mg	milligram(s)
ug	microgram(s)	l	liter(s)
ml	milliliter(s)	ul	microliter(s)
m3	cubic meter(s)	fib >5 um/ml	fibers greater than 5 microns in length per ml
<	less than – The number following the sign is the <u>limit of quantitation</u> , the smallest amount of analyte which can be reliably determined using this specific test.		
>	greater than		
ppm	parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.		

U.S. EPA data qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike amount not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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DATA USABILITY SUMMARY REPORT

Soil Vapor Intrusion Samples

Prepared By:

PARSONS

290 Elwood Davis Road, Suite 312

Liverpool, New York 13088

Phone: (315) 451-9560

Fax: (315) 451-9570

FEBRUARY 2009

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LIST OF ATTACHMENTS

Attachment A - Validated Laboratory Data

SECTION 1

DATA USABILITY SUMMARY

Air samples were collected for the Sanborn Site from November 18, 2008 through December 2, 2008. Analytical results from these samples were validated and reviewed by Parsons for usability with respect to the following requirements:

- Work Plan, and
- USEPA Region II Standard Operating Procedures (SOPs).

The analytical laboratory for this project was Lancaster Laboratories, Inc. (LLI) located in Lancaster, PA. This laboratory is certified in New York State to conduct project analyses through the National Environmental Laboratory Accreditation Program (NELAP).

1.1 LABORATORY DATA PACKAGES

The laboratory data package turnaround time, defined as the time from sample receipt by the laboratory to receipt of the analytical data packages by Parsons, was 38 days on average for the air samples.

The data packages received from LLI were paginated, complete, and overall were of good quality. Comments on specific quality control (QC) and other requirements are discussed in detail in the data validation report (Section 2).

1.2 SAMPLING AND CHAIN-OF-CUSTODY

The samples were collected, shipped under a COC record, and received at LLI within one to five days of sampling. All samples were received intact and in good condition at LLI.

1.3 LABORATORY ANALYTICAL METHODS

The air samples were analyzed for the volatile organic compounds (VOCs) 1,1-dichloroethane, 1,1-dichloroethene, 1,1,1-trichloroethane, cis-1,2-dichloroethene, trans-1,2-dichloroethene, trichloroethene, methylene chloride, and vinyl chloride. Summaries of issues concerning this laboratory analysis are presented in Subsection 1.3.1. The data qualifications resulting from the data validation review and statements on the laboratory analytical precision, accuracy, representativeness, completeness, and comparability (PARCC) are discussed for each analytical method in Section 2. The laboratory data were reviewed and may be qualified with the following validation flags:

"U" - not detected at the value given,

"UJ" - estimated and not detected at the value given,

"J" - estimated at the value given,

"N" - presumptive evidence at the value given, and

"R" - unusable value.

The validated laboratory data were tabulated and are presented in Attachment A.

The air samples collected were analyzed for certain VOCs using the USEPA TO-15 analytical method. Certain reported results for the VOC samples were considered estimated from data validation because of noncompliant laboratory control sample recoveries, instrument calibrations, sample internal standard responses, and field duplicate precision. No data were rejected, therefore, the reported VOC analytical results were 100% complete (i.e., usable) for the data presented by LLI. PARCC requirements were met.

SECTION 2

DATA VALIDATION REPORT

2.1 AIR

Data review has been completed for data packages generated by LLI for air samples collected from the site. The specific samples contained in these data packages, the analyses performed, and a usability summary are presented in Table 2.1-1. All of these samples were shipped under a COC record and received intact by the analytical laboratory. The validated laboratory data are presented in Attachment A.

Data validation was performed for all samples in accordance with the most current editions of the USEPA Region II SOPs for organic data review. This data validation and usability report is presented by analysis type.

The following items were reviewed for compliance in the volatile analysis:

- Custody documentation
- Holding times
- Laboratory method blank contamination
- Laboratory control sample (LCS) recoveries
- GC/MS instrument performance
- Initial calibrations and continuing calibrations
- Internal standard area counts and retention times
- Field duplicate precision
- Sample result verification and identification
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of laboratory method blank contamination, LCS recoveries, continuing calibrations, internal standard area counts, and field duplicate precision.

Blank Contamination

The laboratory method blanks VBLKC85 and VBLKC86 both contained methylene chloride at a concentration of $0.109 \mu\text{g}/\text{m}^3$ associated with samples collected on 11/18/08, 11/19/08, and 11/20/08; and the laboratory method blank VBLKC87 contained methylene chloride at a concentration of $0.114 \mu\text{g}/\text{m}^3$ associated with samples collected on 12/2/08. Therefore, all methylene chloride sample results less than validation action concentrations were considered not detected and qualified "U" for the affected samples.

LCS Recoveries

All LCS recoveries were compliant and within QC acceptance limits with the exception of the high LCS recovery for 1,1-dichloroethene (132%R; QC limit 70-130%R) associated with samples collected on 11/18/08, 11/19/08, and 11/20/08. Therefore, the positive 1,1-dichloroethene results for these samples were considered estimated, possibly biased high, and qualified “J” for the affected samples.

Continuing Calibrations

All continuing calibration compounds were compliant with minimum relative response factors (RRFs) of 0.05 and percent differences (%D) within $\pm 20\%$ with the exception of trans-1,2-dichloroethene (-26%D) in the continuing calibration associated with samples collected on 11/18/08 (except sample 67S-OA 833), 11/19/08, and 11/20/08 (except sample 77S-SS 912). Therefore, all results for this compound were considered estimated with positive results qualified “J” and nondetected results qualified “UJ” for the affected samples.

Internal Standard Responses

All internal standard (IS) responses and retention times were within specified QC ranges based on associated calibration standards (i.e., sample’s area counts within -50% to +100% and retention times within ± 0.5 minutes of the standard) with the exception of the high response for the IS bromochloromethane in samples 74S-SS 991, 61S-SS 913, 75S-SS 986, 76S-SS-973, and 76S-IA-504; the high response for the IS 1,4-difluorobenzene in samples 74S-SS 991, 61S-SS 913, 75S-SS 986, 73S-SS 1011, 77S-SS 912, 76S-SS-973, 65S-IA-012, and 76S-IA-504; and the high response for the IS chlorobenzene-d5 in samples 74S-SS 991, 75S-SS 986, 73S-SS 1011, 77S-SS 912, 73S-SS 983, 76S-SS-973, and 76S-IA-504. These samples were reanalyzed yielding similar IS responses confirming the presence of matrix effects. Therefore, positive results associated with these noncompliant ISs were considered estimated, possibly biased high, and qualified “J” for the affected samples.

Field Duplicate Precision

All field duplicate results were considered acceptable with the exception of the poor precision (relative percent difference; RPD) measurement for methylene chloride (168%RPD) and trichloroethene (67%RPD) associated with sample 73S-SS 1011 and its field duplicate sample 73S-SS 983; and the poor precision for methylene chloride (76%RPD) and cis-1,2-dichloroethene (156%RPD) associated with sample 76S-IA-513 and its field duplicate sample 76S-IA-504. Therefore, these results for these compounds were considered estimated with positive results qualified “J” and nondetected results qualified “UJ” for the affected samples.

Usability

All volatile sample results were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, and comparability. The volatile data presented by LLI were 100% complete (i.e., usable). The validated volatile laboratory data are tabulated and presented in Attachment A.

TABLE 2.1-1
SUMMARY OF SAMPLE ANALYSES AND USABILITY
SANBORN – AIR

<u>SAMPLE ID</u>	<u>MATRIX</u>	<u>SAMPLE DATE</u>	<u>VOCs</u>
67S-SS 979	Air	11/18/08	OK
67S-IA 860	Air	11/18/08	OK
67S-OA 833	Air	11/18/08	OK
74S-SS 991	Air	11/19/08	OK
61S-SS 913	Air	11/19/08	OK
61S-IA 1027	Air	11/19/08	OK
74S-OA 136	Air	11/19/08	OK
74S-IA 319	Air	11/19/08	OK
73S-SS 1011	Air	11/20/08	OK
73S-SS 983	Air	11/20/08	OK
75S-SS 986	Air	11/20/08	OK
77S-SS 912	Air	11/20/08	OK
73S-IA 005	Air	11/20/08	OK
75S-IA 048	Air	11/20/08	OK
75S-OA147	Air	11/20/08	OK
77S-IA 506	Air	11/20/08	OK
65S-SS-922	Air	12/2/08	OK
65S-IA-012	Air	12/2/08	OK
65S-OA-806	Air	12/2/08	OK

TABLE 2.1-1 (CONTINUED)

**SUMMARY OF SAMPLE ANALYSES AND USABILITY
SANBORN – AIR**

<u>SAMPLE ID</u>	<u>MATRIX</u>	<u>SAMPLE DATE</u>	<u>VOCs</u>
63S-SS-924	Air	12/2/08	OK
63S-IA-155	Air	12/2/08	OK
76S-SS-973	Air	12/2/08	OK
76S-IA-513	Air	12/2/08	OK
76S-IA-504	Air	12/2/08	OK
TOTAL SAMPLES:			24

NOTES: OK – Sample analysis considered usable and valid.

ATTACHMENT A

VALIDATED LABORATORY DATA

BP Sanborn Validated Air Analytical Data Detected Compound Summary		Sample ID:	61S-IA 1027	61S-SS 913	63S-IA-155	63S-SS-924	65S-IA-012	65S-OA-806	65S-SS-922
		Lab Sample Id:	5538766	5536852	5548136	5548135	5548134	5548137	5548132
		SDG:	1121555	1121293	1123083	1123083	1123083	1123083	1123083
		Matrix:	AIR	AIR	AIR	AIR	AIR	AIR	AIR
		Sampled:	11/20/2008	11/19/2008	12/2/2008	12/2/2008	12/2/2008	12/2/2008	12/2/2008
		Validated:	1/20/2009	1/20/2009	1/20/2009	1/20/2009	1/20/2009	1/20/2009	1/20/2009
CAS NO.	COMPOUND	UNITS:							
	VOLATILES								
75-34-3	1,1-Dichloroethane	ug/m3	ND	0.0416 J	ND	ND	ND	ND	ND
156-59-2	cis-1,2-Dichloroethene	ug/m3	ND	ND	ND	ND	ND	ND	ND
71-55-6	1,1,1-Trichloroethane	ug/m3	ND	0.175 J	ND	0.227 J	ND	ND	ND
79-01-6	Trichloroethene	ug/m3	ND	ND	0.281	0.817	0.32 J	ND	0.673
75-01-4	Vinyl chloride	ug/m3	ND	0.0286 J	ND	ND	ND	ND	ND
156-60-5	trans-1,2-Dichloroethene	ug/m3	ND	ND	ND	ND	ND	ND	ND
75-35-4	1,1-Dichloroethene	ug/m3	ND	0.0538 J	ND	ND	ND	ND	0.0869 J
75-09-2	Methylene chloride	ug/m3	ND	ND	ND	ND	2.38	ND	ND

BP Sanborn Validated Air Analytical Data Detected Compound Summary		Sample ID:	67S-IA 860	67S-OA 833	67S-SS 979	73S-IA 005	73S-SS 1011	Dup of 73S-SS 1011
		Lab Sample Id:	5536849	5536850	5536848	5540122	5538764	73S-SS 983
		SDG:	1121293	1121293	1121293	1121792	1121555	5538765
		Matrix:	AIR	AIR	AIR	AIR	AIR	1121555
		Sampled:	11/18/2008	11/18/2008	11/18/2008	11/20/2008	11/20/2008	AIR
		Validated:	1/20/2009	1/20/2009	1/20/2009	1/20/2009	1/20/2009	11/20/2008
CAS NO.	COMPOUND	UNITS:						1/20/2009
	VOLATILES							
75-34-3	1,1-Dichloroethane	ug/m3	ND	ND	0.0461 J	ND	0.0391 J	0.0538 J
156-59-2	cis-1,2-Dichloroethene	ug/m3	ND	ND	0.0856 J	ND	ND	0.111 J
71-55-6	1,1,1-Trichloroethane	ug/m3	ND	ND	0.209 J	ND	0.139 J	0.18 J
79-01-6	Trichloroethene	ug/m3	ND	ND	0.127 J	0.116 J	0.327 J	0.657 J
75-01-4	Vinyl chloride	ug/m3	ND	ND	ND	ND	0.0407 J	0.0286 J
156-60-5	trans-1,2-Dichloroethene	ug/m3	ND	ND	ND	ND	ND	0.0494 J
75-35-4	1,1-Dichloroethene	ug/m3	ND	ND	0.075 J	ND	0.0422 J	0.0557 J
75-09-2	Methylene chloride	ug/m3	1.92	ND	ND	ND	19.5 J	1.67 J

BP Sanborn Validated Air Analytical Data Detected Compound Summary		Sample ID:	74S-IA 319	74S-OA 136	74S-SS 991	75S-IA 048	75S-OA 147	75S-SS 986
		Lab Sample Id:	5538770	5538769	5536851	5540123	5540124	5538768
		SDG:	1121555	1121555	1121293	1121792	1121792	1121555
		Matrix:	AIR	AIR	AIR	AIR	AIR	AIR
		Sampled:	11/20/2008	11/20/2008	11/19/2008	11/20/2008	11/20/2008	11/20/2008
		Validated:	1/20/2009	1/20/2009	1/20/2009	1/20/2009	1/20/2009	1/20/2009
CAS NO.	COMPOUND	UNITS:						
	VOLATILES							
75-34-3	1,1-Dichloroethane	ug/m3	ND	ND	0.137 J	ND	ND	ND
156-59-2	cis-1,2-Dichloroethene	ug/m3	ND	ND	0.161 J	ND	ND	ND
71-55-6	1,1,1-Trichloroethane	ug/m3	ND	0.077 J	0.647 J	ND	ND	ND
79-01-6	Trichloroethene	ug/m3	0.256 J	0.238 J	0.885 J	ND	ND	ND
75-01-4	Vinyl chloride	ug/m3	ND	ND	0.112 J	ND	ND	ND
156-60-5	trans-1,2-Dichloroethene	ug/m3	ND	ND	0.108 J	ND	ND	ND
75-35-4	1,1-Dichloroethene	ug/m3	ND	ND	0.195 J	ND	ND	ND
75-09-2	Methylene chloride	ug/m3	1.21	1.3	1.43 J	ND	1.79	ND

				Dup of 76S-IA-513			
BP Sanborn		Sample ID:	76S-IA-513	76S-IA-504	76S-SS-973	77S-IA 506	77S-SS 912
Validated Air Analytical Data		Lab Sample Id:	5548138	5548139	5548133	5540125	5538767
Detected Compound Summary		SDG:	1123083	1123083	1123083	1121792	1121555
		Matrix:	AIR	AIR	AIR	AIR	AIR
		Sampled:	12/2/2008	12/2/2008	12/2/2008	11/20/2008	11/20/2008
		Validated:	1/20/2009	1/20/2009	1/20/2009	1/20/2009	1/20/2009
CAS NO.	COMPOUND	UNITS:					
	VOLATILES						
75-34-3	1,1-Dichloroethane	ug/m3	ND	ND	ND	ND	ND
156-59-2	cis-1,2-Dichloroethene	ug/m3	0.404 J	ND	ND	ND	ND
71-55-6	1,1,1-Trichloroethane	ug/m3	ND	ND	0.103 J	0.086 J	0.312
79-01-6	Trichloroethene	ug/m3	0.265 J	ND	0.193 J	0.143 J	ND
75-01-4	Vinyl chloride	ug/m3	ND	ND	ND	ND	ND
156-60-5	trans-1,2-Dichloroethene	ug/m3	ND	ND	ND	ND	ND
75-35-4	1,1-Dichloroethene	ug/m3	ND	ND	ND	ND	0.0284 J
75-09-2	Methylene chloride	ug/m3	ND	ND	21.8	ND	ND