

New York State Electric & Gas Corporation

Vapor Intrusion Evaluation Report

Geneva (Wadsworth Street) Former MGP Site
Geneva, New York

May 2007
(Revised August 2007)



Keith A. White, C.P.G.
Associate



Scott A. Powlin
Sr. Geologist I

**Vapor Intrusion Evaluation
Report**

Geneva (Wadsworth Street)
Former MGP Site
Geneva, New York

Prepared for:
New York State Electric & Gas
Corporation

Prepared by:
ARCADIS of New York, Inc.
6723 Towpath Road
Syracuse
New York 13214-0066
Tel 315.446.9120
Fax 315.446.8053

Our Ref.:
B0013057

Date:
August 2007

Introduction	1
Sampling Activities	2
Sampling Results and Discussion	4
Conclusions and Recommendations	5

Tables

Table 1	Subslab Vapor, Indoor Air, & Ambient Air VOC Analytical Results
Table 2	Subslab Vapor Helium Analytical Results

Figure

Figure 1	Public Safety Building Sampling Locations
----------	---

Attachments

Attachment A	NYSDOH Indoor Air Quality Questionnaire and Building Inventory Forms
Attachment B	Photographs of Sampling In Progress
Attachment C	Field Sampling Logs
Attachment D	Analytical Data Validation Report

Introduction

This report is submitted on behalf of New York State Electric & Gas Corporation (NYSEG) and presents laboratory analytical results for a vapor intrusion evaluation performed at the City of Geneva Public Safety Building (PSB) located at 255 Exchange Street in Geneva, New York. The PSB is partially located on property formerly occupied by a manufactured gas plant (MGP). The evaluation was conducted as an element of the remedial investigation of the former MGP, known formally as the Wadsworth Street former MGP site (the "site").

Sampling Activities

Representatives from the City of Geneva, the New York State Department of Health (NYSDOH), and ARCADIS of New York, Inc. (ARCADIS BBL, formerly known as Blasland, Bouck & Lee, Inc.) performed a building walk-over on December 18, 2006 to select sub-slab vapor and indoor air sampling locations. Based on discussions with the NYSDOH during the building walk-over and review of demolition plans for a former service garage that previously occupied the site, co-located sub-slab and indoor air samples were collected at three locations in the PSB (locations SS-1/IA-1, SS-2/IA-2, and SS-3/IA-3), and an ambient air sample was collected outside the building (location AA-1). Samples SS-1/IA-1 and SS-2/IA-2 were collected in the men's and women's cell block areas, respectively, and sample SS-3/IA-3 was collected in the custodial/maintenance closet. These areas were chosen for sampling because historical mapping suggests that several MGP structures may have once existed near or below these areas. The building layout and the sampling locations are shown on Figure 1.

On March 21, 2007, ARCADIS BBL conducted a pre-sampling building walk-through and interviewed the head of the City of Geneva Building, Grounds, and Parks Department (Mr. Mark Perry) to complete the NYSDOH Indoor Air Quality Questionnaire, included as Appendix B to the NYSDOH document titled *Guidance for Evaluating Soil Vapor Intrusion in the State of New York*, dated October 2006 (the "NYSDOH Soil Vapor Intrusion Guidance"). The completed questionnaire is included in Attachment A. Following the building walk-through, samples were collected in accordance with the procedures detailed in the *Soil Vapor Intrusion Evaluation Work Plan* (ARCADIS BBL, February 2007). Each sample was collected using a 6-liter SUMMA[®] canister with an attached, pre-set flow regulator. The laboratory-supplied, batch-certified-clean canisters and flow regulators were pre-set to uniformly collect samples over an approximately 2-hour sampling period (i.e., a flow rate of approximately 50 milliliters per minute). Photographs taken by ARCADIS BBL during the sampling activities are included in Attachment B. Copies of the field sampling logs are presented in Attachment C.

After sampling was completed, the slab penetrations (i.e., cored concrete holes) for the sub-slab vapor sampling were restored using hydraulic cement. Samples were submitted to Severn Trent Laboratories, Inc. (STL) of Knoxville, Tennessee and analyzed in accordance with United States Environmental Protection Agency (USEPA) Compendium Method TO-15. STL–Knoxville is certified in the State of New York to perform air analyses. Each sample was analyzed for volatile organic compounds

(VOCs) included in the laboratory's standard TO-15 Target Analyte List, plus n-alkanes and VOC tentatively-identified compounds (TICs) to provide additional data (if needed) to help differentiate between potential sources. The sub-slab vapor samples were also analyzed for a tracer gas (helium) in accordance with ASTM Method D1946 to provide a mechanism for evaluating the integrity of the seal at each sub-slab sampling point.

The laboratory analytical data report is provided on the attached compact disc. ARCADIS BBL validated the data in accordance with the USEPA National Functional Guidelines dated October 1999. The data validation report is included in Attachment D. Validated sub-slab vapor, indoor air, and ambient air analytical results for VOCs are presented in Table 1. The validated sub-slab vapor analytical results for helium are presented in Table 2.

Sampling Results and Discussion

Several VOCs were identified in vapor samples collected beneath the PSB floor slab, in the air inside the building, and in ambient air. The helium tracer gas was not detected in any of the sub-slab vapor samples, which indicates that the seal was adequate and sub-slab vapor samples were not diluted by surface air during sample collection.

New York State does not currently have standards, criteria, or guidance values (SCGs) for concentrations of compounds in subsurface vapors. The concentrations detected in indoor air are all less than the NYSDOH indoor air guidance values presented in Section 3.2.5 (Table 3.1) of the NYSDOH Soil Vapor Intrusion Guidance. The detected indoor air concentrations are also less than the 90th percentile of background indoor air levels observed by the USEPA in public and commercial office buildings as referenced in Section 3.2.4 of the NYSDOH Soil Vapor Intrusion Guidance. Five VOC constituents (1,2,4-trichlorobenzene, carbon tetrachloride, styrene, toluene, and trichloroethene) were detected in indoor air at concentrations slightly above the 75th percentile of background values observed by the NYSDOH in a study of single-family fuel oil heated homes as referenced in Section 3.2.4 of the NYSDOH Soil Vapor Intrusion Guidance. One VOC constituent (m- and p-xylene) was detected in outdoor air at a concentration slightly above the 75th percentile of background values observed by the NYSDOH in a study of single-family fuel oil heated homes as referenced in Section 3.2.4 of the NYSDOH Soil Vapor Intrusion Guidance.

Despite the fact that trichloroethene did not exceed the NYSDOH Soil Vapor Intrusion guidance value listed in Section 3.2.5 (Table 3.1), this same guidance document includes a decision matrix for trichloroethene (Section 3.4 Decision Matrix 1), which indicates the results for sampling location SS-3/IA-3 should be addressed as follows: "Take reasonable and practical actions to identify source(s) and to reduce exposure". It should be noted that trichloroethene is not associated with former MGP operations. Accordingly, the property owner (the City) should consult directly with the NYSDOH to determine the applicability of this guidance to the PSB, and any action that should be taken in regard to the detection of trichloroethene.

Conclusions and Recommendations

It is not possible to attribute the constituents detected in sub-slab vapor, indoor air, and outdoor air to a particular source. However, the chemical signature of the VOCs detected in indoor air is typically associated with common cleaning products, solvents, pesticides, fire extinguishers, paint removers, refrigerants, and/or gasoline. While MGP-related waste materials do contain some of the same VOCs as gasoline, most notably benzene, toluene, ethylbenzene and xylenes (BTEX), the chlorinated VOCs (such as 1,2,4-trichlorobenzene and carbon tetrachloride) are not related to former MGP operations. The presence of numerous alkanes (e.g., n-butane, n-decane, etc.) suggests that the BTEX detected in the indoor air samples are from a gasoline source. Based on the investigation results, the former MGP does not appear to be contributing VOCs to the indoor air at the PSB.

Upon review of the vapor intrusion data, concern regarding the concentrations of BTEX and naphthalene in the sub-slab vapor samples was raised by NYSDEC/NYSDOH in a June 12, 2007 letter from NYSDEC (See Attachment E). NYSDEC and NYSDOH believe that the concentrations of BTEX and naphthalene compounds detected in sub-slab vapor of the PSB have the potential for future vapor intrusion into the building. In the June 12 letter, NYSDEC recommended that either a sub-slab depressurization system be installed in the PSB to mitigate the potential for future vapor intrusion or to conduct additional vapor sampling at the PSB during the 2007/2008 heating season to further evaluate vapor intrusion potential.

BTEX and naphthalene are components of both petroleum products (e.g., gasoline) and MGP wastes; however, several paraffins (e.g., n-butane, n-decane, etc.) and methyl tert-butyl ether (MTBE), which were also detected in the sub-slab vapor samples, suggest a gasoline source. The PSB was previously used as an automotive repair shop known as Tallmadge Tire.

Although the results of the sub-slab vapor sampling suggest that the BTEX and naphthalene may be related to a gasoline source, the groundwater data from one of the five monitoring wells proximate to the PSB (i.e., MW-3, located just north of the PSB), exhibit characteristics likely related to MGP waste (i.e., polycyclic aromatic hydrocarbons, total cyanide, and BTEX). In light of this, it is possible that some fraction of the BTEX and naphthalene measured in the sub-slab vapor samples may be attributed to MGP wastes and that there could be sub-slab vapor phase commingling of these compounds from both a gasoline and an MGP source. Accordingly, NYSEG is

in agreement with the recommendation for the additional measures set forth by NYSDEC and NYSDOH in the June 12 letter from NYSDEC.

In discussions conducted during a meeting between NYSEG, NYSDEC, NYSDOH and the City of Geneva on July 18, 2007 (meeting minutes presented in Attachment F), options to install a sub-slab depressurization system in the PSB or conduct additional vapor sampling at the PSB during the 2007/2008 heating season were presented to the City. The decision as to which course of action will be implemented will be largely influenced by the desires of the City, who currently have the matter under consideration.

TABLES

Table 1. Subslab Vapor, Indoor Air, & Ambient Air VOC Analytical Results (ug/m3)
Vapor Intrusion Evaluation, New York State Electric & Gas Corporation, Wadsworth Former MGP Site, Geneva, New York

Sample ID:	NYSDOH Fuel Oil Heated Homes Outdoor Air (Exceedences in Bold)	NYSDOH Fuel Oil Heated Homes Indoor Air (Exceedences Shaded)	NYSDOH Indoor Air Guidance Value (No Exceedences)	USEPA Indoor Air Background Level (No Exceedences)	VOC Analytical Results (ug/m3)						
					Ambient (Outdoor) Air	Indoor Air			Subslab Vapor		
						AA-1	IA-1	IA-2	IA-3	SS-1	SS-2
Volatile Organic Compounds (VOCs)											
1,1,1-Trichloroethane	0.3	1.1	--	20.6	<1.1	<1.1	<1.1	<1.1	<1.1 [<1.1]	11	23
1,1,2,2-Tetrachloroethane	< 0.25	< 0.25	--	--	<1.4	<1.4	<1.4	<1.4	<1.4 [<1.4]	<1.4	<1.4
1,1,2-Trichloro-1,2,2-trifluoroethane	--	--	--	--	0.49 J	0.72 J	0.63 J	0.81 J	0.61 J [0.58 J]	0.67 J	0.70 J
1,1,2-Trichloroethane	< 0.25	< 0.25	--	< 1.5	<1.1	<1.1	<1.1	<1.1	<1.1 [<1.1]	<1.1	<1.1
1,1-Dichloroethane	< 0.25	< 0.25	--	< 0.7	<0.81	<0.81	<0.81	<0.81	<0.81 [<0.81]	<0.81	<0.81
1,1-Dichloroethene	< 0.25	< 0.25	--	< 1.4	<0.79	<0.79	<0.79	<0.79	<0.79 [<0.79]	<0.79	<0.79
1,2,4-Trichlorobenzene	< 0.25	< 0.25	--	< 6.8	<7.4	2.9 J	0.76 J	0.75 J	0.76 J [2.0 J]	1.6 J	<7.4 J
1,2,4-Trimethylbenzene	0.8	4.3	--	9.5	0.55 J	0.53 J	0.47 J	7.3	[5.1]	8.1	13
1,2-Dibromoethane	< 0.25	< 0.25	--	< 1.5	<1.5	<1.5	<1.5	<1.5	<1.5 [<1.5]	<1.5	<1.5
1,2-Dichloro-1,1,2,2-tetrafluoroethane	< 0.25	< 0.25	--	--	<1.4	<1.4	<1.4	<1.4	<1.4 [<1.4]	<1.4	<1.4
1,2-Dichlorobenzene	< 0.25	< 0.25	--	< 1.2	<1.2	<1.2	<1.2	<1.2	<1.2 [0.58 J]	<1.2	<1.2
1,2-Dichloroethane	< 0.25	< 0.25	--	< 0.9	<0.81	<0.81	<0.81	<0.81	<0.81 [<0.81]	<0.81	<0.81
1,2-Dichloropropane	< 0.25	< 0.25	--	< 1.6	<0.92	<0.92	<0.92	<0.92	<0.92 [<0.92]	<0.92	<0.92
1,3,5-Trimethylbenzene	0.3	1.7	--	3.7	<0.98	<0.98	0.33 J	<0.98	2.6 [1.9]	3.5	7.1
1,3-Dichlorobenzene	< 0.25	< 0.25	--	< 2.4	<1.2	<1.2	<1.2	<1.2	<1.2 [<1.2]	<1.2	<1.2
1,4-Dichlorobenzene	< 0.25	0.5	--	5.5	<1.2	<1.2	<1.2	<1.2	<1.2 [0.43 J]	1.6	3.9
Benzene	2.2	5.9	--	9.4	0.50 J	1.0	1.2	0.97	0.71 [0.44 J]	4.0	11
Bromomethane	< 0.25	< 0.25	--	< 1.7	<0.78	<0.78	<0.78	<0.78	<0.78 [<0.78]	<0.78	<0.78
Carbon Tetrachloride	0.6	0.6	--	< 1.3	0.42 J	0.67 J	0.79 J	0.61 J	0.62 J [0.40 J]	0.27 J	<1.3
Chlorobenzene	< 0.25	< 0.25	--	< 0.9	<0.92	<0.92	<0.92	<0.92	<0.92 [<0.92]	<0.92	<0.92
Chloroethane	< 0.25	< 0.25	--	< 1.1	<0.53	<0.53	<0.53	<0.53	<0.53 [<0.53]	<0.53	<0.53
Chloroform	< 0.25	0.5	--	1.1	<0.98	<0.98	<0.98	<0.98	<0.98 [<0.98]	<0.98	0.32
Chloromethane	1.8	1.8	--	3.7	1.1	1.5	1.7	1.5	0.39 J [<1.0]	0.95 J	<1.0
cis-1,2-Dichloroethene	< 0.25	< 0.25	--	< 1.9	<0.79	<0.79	<0.79	<0.79	<0.79 [<0.79]	<0.79	<0.79
cis-1,3-Dichloropropene	< 0.25	< 0.25	--	< 2.3	<0.91	<0.91	<0.91	<0.91	<0.91 [<0.91]	<0.91	<0.91
Dichlorodifluoromethane	4.2	4.1	--	16.5	2.1	2.9	2.4	3.4	2.5 [2.2]	2.7	3.4
Ethylbenzene	0.5	2.8	--	5.7	0.27 J	0.66 J	0.59 J	1.2	16 [10]	7.0	61
Hexachlorobutadiene	--	--	--	< 6.8	<11	<11	<11	<11	<11 [<11]	<11	<11
Isopropylbenzene	< 0.25	0.4	--	--	<2.0	<2.0	<2.0	<2.0	2.7 [1.7 J]	0.57 J	9.5
Methyl tert-butyl ether	--	--	--	11.5	<3.6	<3.6	<3.6	<3.6	<3.6 [<3.6]	0.47 J	1.7 J
Methylene Chloride	0.7	6.6	60	10	<1.7	<1.7	<1.7	<1.7	<1.7 [<1.7]	<1.7	<1.7
m-Xylene & p-Xylene	0.5	4.6	--	--	0.93	2.0	1.9	4.1	89 [53]	33	260
Naphthalene	--	--	--	5.1	0.50 J	<2.6	<2.6	<2.6	3.6 [1.7 J]	23	2.4 J
n-Butane	--	--	--	--	1.0	2.6	2.3	3.4	2.6 [1.8]	33	61
n-Decane	--	--	--	17.5	<5.8	0.35 J	<5.8	2.2 J	4.5 J [3.0 J]	21	88
n-Dodecane	--	--	--	--	<7.0	0.87 J	<7.0	1.2 J	20 [16]	19	28

See Notes on Page 3.

Table 1. Subslab Vapor, Indoor Air, & Ambient Air VOC Analytical Results (ug/m3)
Vapor Intrusion Evaluation, New York State Electric & Gas Corporation, Wadsworth Former MGP Site, Geneva, New York

Sample ID:	NYSDOH Fuel Oil Heated Homes Outdoor Air (Exceedences in Bold)	NYSDOH Fuel Oil Heated Homes Indoor Air (Exceedences Shaded)	NYSDOH Indoor Air Guidance Value (No Exceedences)	USEPA Indoor Air Background Level (No Exceedences)	VOC Analytical Results (ug/m3)						
					Ambient (Outdoor) Air	Indoor Air			Subslab Vapor		
						AA-1	IA-1	IA-2	IA-3	SS-1	SS-2
VOCs (Cont'd.)											
n-Heptane	1.9	7.6	--	--	<2.0	0.40 J	0.43 J	0.61 J	2.0 J [1.3 J]	23	42
n-Hexane	1	5.9	--	10.2	0.20 J	0.42 J	0.37 J	0.47 J	2.8 [2.1]	19	42
n-Octane	--	--	--	--	<1.9	<1.9	<1.9	0.38 J	2.2 [1.2 J]	26	88
Nonane	--	--	--	7.8	<2.6	<2.6	<2.6	0.31 J	3.2 [1.9 J]	27	59
n-Undecane	--	--	--	22.6	<6.4	0.38 J	<6.4	0.76 J	13 [9.9]	21	34
o-Xylene	0.6	3.1	--	7.9	0.30 J	0.69 J	0.72 J	1.3	33 [20]	10	92
Pentane	--	--	--	--	0.62 J	1.3 J	0.95 J	0.97 J	1.5 J [1.3 J]	19	38
Styrene	< 0.25	0.6	--	1.9	<0.85	0.63 J	0.18 J	0.26 J	0.25 J [<0.85]	0.46 J	1.1
Tetrachloroethene	0.3	1.1	100	15.9	<1.4	<1.4	0.31 J	0.24 J	0.77 J [1.9]	14	9.1
Toluene	2.4	25	--	43	0.74	2.4	2.5	26	5.3 J [3.2 J]	17	68
trans-1,3-Dichloropropene	< 0.25	< 0.25	--	< 1.3	<0.91	<0.91	<0.91	<0.91	<0.91 [<0.91]	<0.91	<0.91
Trichloroethene	< 0.25	< 0.25	5	4.2	<1.1	<1.1	<1.1	0.72 J	<1.1 [<1.1]	<1.1	0.20 J
Trichlorofluoromethane	2.2	5.4	--	18.1	1.1	1.4	1.2	1.7	1.2 [1.3]	1.2	1.5
Vinyl Chloride	< 0.25	< 0.25	--	< 1.9	<0.51	<0.51	<0.51	<0.51	<0.51 [<0.51]	<0.51	<0.51
VOC Tentatively Identified Compounds (TICs)											
1,2,3-trimethylbenzene	--	--	--	--	ND	ND	ND	ND	ND [ND]	ND	ND
1-Methylnaphthalene	--	--	--	--	ND	ND	ND	ND	ND [ND]	4.8	ND
2,2,4-Trimethyl pentane	--	--	--	--	ND	ND	ND	ND	ND [ND]	39	ND
2,3-dimethylheptane	--	--	--	--	ND	ND	ND	ND	ND [ND]	ND	ND
2,3-dimethylpentane	--	--	--	--	ND	ND	ND	ND	ND [ND]	ND	ND
2-Methylnaphthalene	--	--	--	--	ND	ND	ND	ND	ND [ND]	2.5	ND
Butylcyclohexane	--	--	--	--	ND	ND	ND	ND	ND [ND]	ND	ND
Indane	--	--	--	--	ND	ND	ND	ND	ND [ND]	ND	ND
Indene	--	--	--	--	ND	ND	ND	ND	ND [ND]	ND	ND
Isopentane	--	--	--	--	ND	ND	ND	ND	ND [ND]	57	52
Thiopene	--	--	--	--	ND	ND	ND	ND	ND [ND]	ND	ND
Totals											
Total BTEX	--	--	--	--	2.7 J	6.8 J	6.9 J	34	140 J [87 J]	71	490
Total VOCs	--	--	--	--	11 J	26 J	21 J	56 J	220 J [150 J]	450 J	1,100

See Notes on Page 3.

Table 1. Subslab Vapor, Indoor Air, & Ambient Air VOC Analytical Results (ug/m³)
Vapor Intrusion Evaluation, New York State Electric & Gas Corporation, Wadsworth Former MGP Site, Geneva, New York

Notes:

1. Samples were collected by ARCADIS BBL on March 21, 2007.
2. Samples were analyzed for volatile organic compounds (VOCs) by Severn Trent Laboratories, Inc. (STL) of Knoxville, Tennessee using United States Environmental Protection Agency (USEPA) Compendium Method TO-15.
3. Sample designations indicate the following:
 - "SS" = subslab vapor sample
 - "IA" = indoor air sample
 - "AA" = ambient (outdoor) air sample
4. "NYSDOH Fuel Oil Heated Home Outdoor Air" and "NYSDOH Fuel Oil Heated Home Indoor Air" are the 75th percentile of values observed by the NYSDOH in a study of homes that heat with fuel oil, per NYSDOH database information presented in Appendix C of the "Guidance for Evaluating Soil Vapor Intrusion in the State of New York" (NYSDOH, October 2006).
5. "NYSDOH Indoor Air Guidance Value" is from the "Guidance for Evaluating Soil Vapor in the State of New York" (NYSDOH, October 2006). No indoor air sample results exceeded NYSDOH Indoor Air Guidance Values.
6. "USEPA Indoor Air Background Levels" are the 90th percentile of background indoor air values observed by the USEPA in public and commercial office buildings, per USEPA database information referenced in Section 3.2.4 of the "Guidance for Evaluating Soil Vapor Intrusion in the State of New York" (NYSDOH, October 2006). No Indoor air sample results exceeded USEPA Indoor Air Background Levels.
7. Ambient (outdoor) air sample results that exceeded NYSDOH Fuel Oil Heated Home Outdoor Air values are presented in bold font.
8. Indoor air sample results that exceeded NYSDOH Fuel Oil Heated Home Indoor Air 75th percentile values are shaded.
9. Concentrations reported in micrograms per cubic meter (ug/m³).
10. < = Not detected at or above the associated reporting limit.
11. J - Indicates an estimated value.
12. ND - Not Detected.
13. TIC = Tentatively Identified Compound.
14. -- = Comparison value not available.
15. Field duplicate sample results are presented in brackets.
16. Results have been validated by ARCADIS BBL.

Table 2. Subslab Vapor Helium Analytical Results (%v/v)
Vapor Intrusion Evaluation, New York State Electric & Gas Corporation, Wadsworth Former MGP Site, Geneva, New York

Sample ID:	SS-1	SS-2	SS-3
Helium	<0.34 [<0.24]	<0.25	< 0.27

Notes:

1. Samples were collected by ARCADIS BBL on March 21, 2007.
2. Samples were analyzed for helium by Severn Trent Laboratories, Inc. (STL) of Knoxville, Tennessee using ASTM Method D1946.
3. Concentrations reported in percent volume (%v/v).
4. < = Not detected at or above the associated reporting limit.
5. Field duplicate sample results are presented in brackets.
6. Results have been validated by ARCADIS BBL.

FIGURE

ATTACHMENTS

Attachment A

NYSDOH Indoor Air Quality
Questionnaire and Building
Inventory Forms

**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 Chris Angles Date/Time Prepared March 21, 2007 11 AM

Preparer's Affiliation ARCADIS Phone No. 446-2570

Purpose of Investigation Evaluate SS + IA

1. OCCUPANT:

Interviewed: ☒ Y ☐ N

Last Name: Perry First Name: Mark

Address: 47 Castle Street

County: Ontario

Home Phone: _____ Office Phone: (315) 789-7271

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

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

Interviewed: Y / N

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

Residential
Industrial

School
Church

Commercial/Multi-use
Other: _____

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

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

If multiple units, how many? _____

If the property is commercial, type?

Business Type(s) Police Department, ~~City Court~~ City Court

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

Other characteristics:

Number of floors 1

Building age 50+

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

N/A

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 ^{→ block wall} stone brick
- b. Basement type: None full crawlspace slab other _____
- c. Basement floor: concrete dirt stone other _____
- d. Basement floor: uncovered covered covered with tile, carpet in some areas
- e. Concrete floor: unsealed sealed sealed with paint
- f. Foundation walls: poured block stone other _____
- g. Foundation walls: unsealed sealed sealed with paint
- 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: 0 (feet)

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

Floor drains

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

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

Hot air circulation
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 GasBoiler/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.

Cold air return is present, ductwork is tight,
completely rebuilt in 1997-1998

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

None

1st Floor

City Court, Offices, Police Department

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 Trucks

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? 5 days a week
clean restrooms,
floors, etc.

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? _____

n. Is there a bathroom exhaust fan?

Y ☒ N If yes, where vented? _____

o. Is there a clothes dryer?

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

p. Has there been a pesticide application?

Y ☒ N When & Type? _____

Are there odors in the building?

Y ☒ N

If yes, please describe: _____

Do any of the building occupants use solvents at work?

Y ☒ N

(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist)

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work?

Y / N

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

Yes, use dry-cleaning regularly (weekly)

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

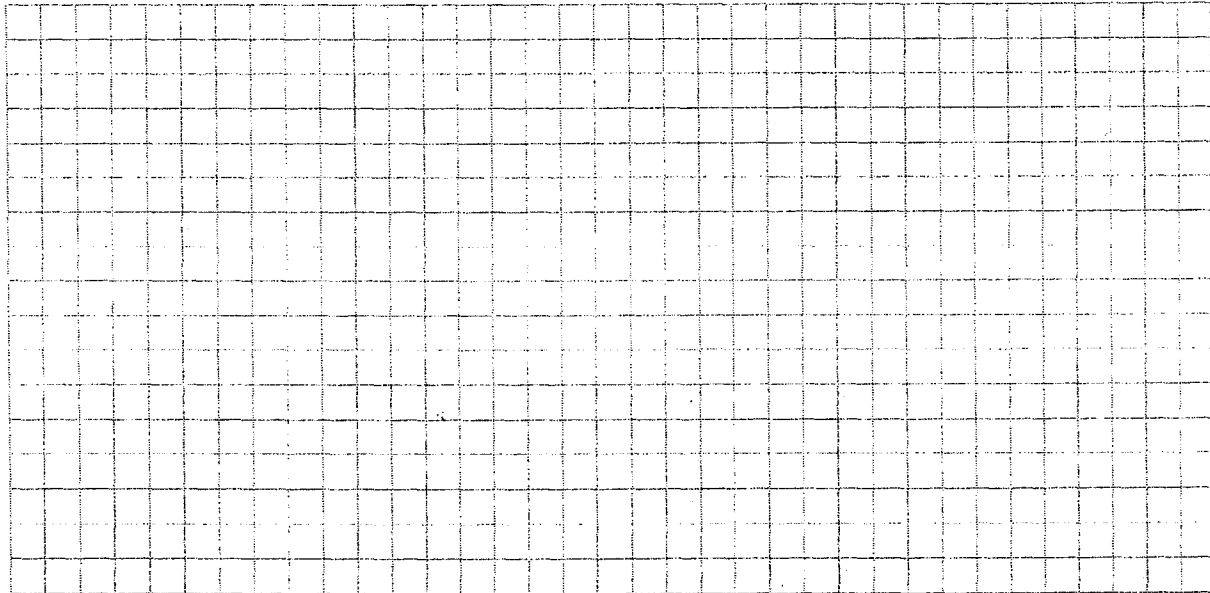
d. Relocation package provided and explained to residents? Y / N

6

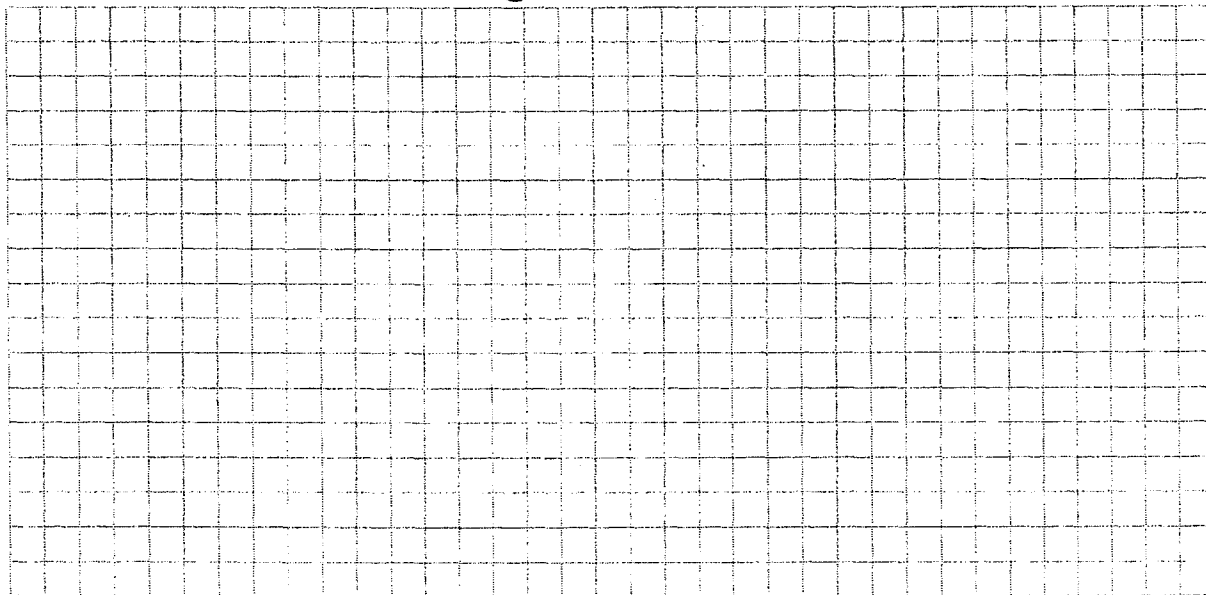
11. FLOOR PLANS

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: None



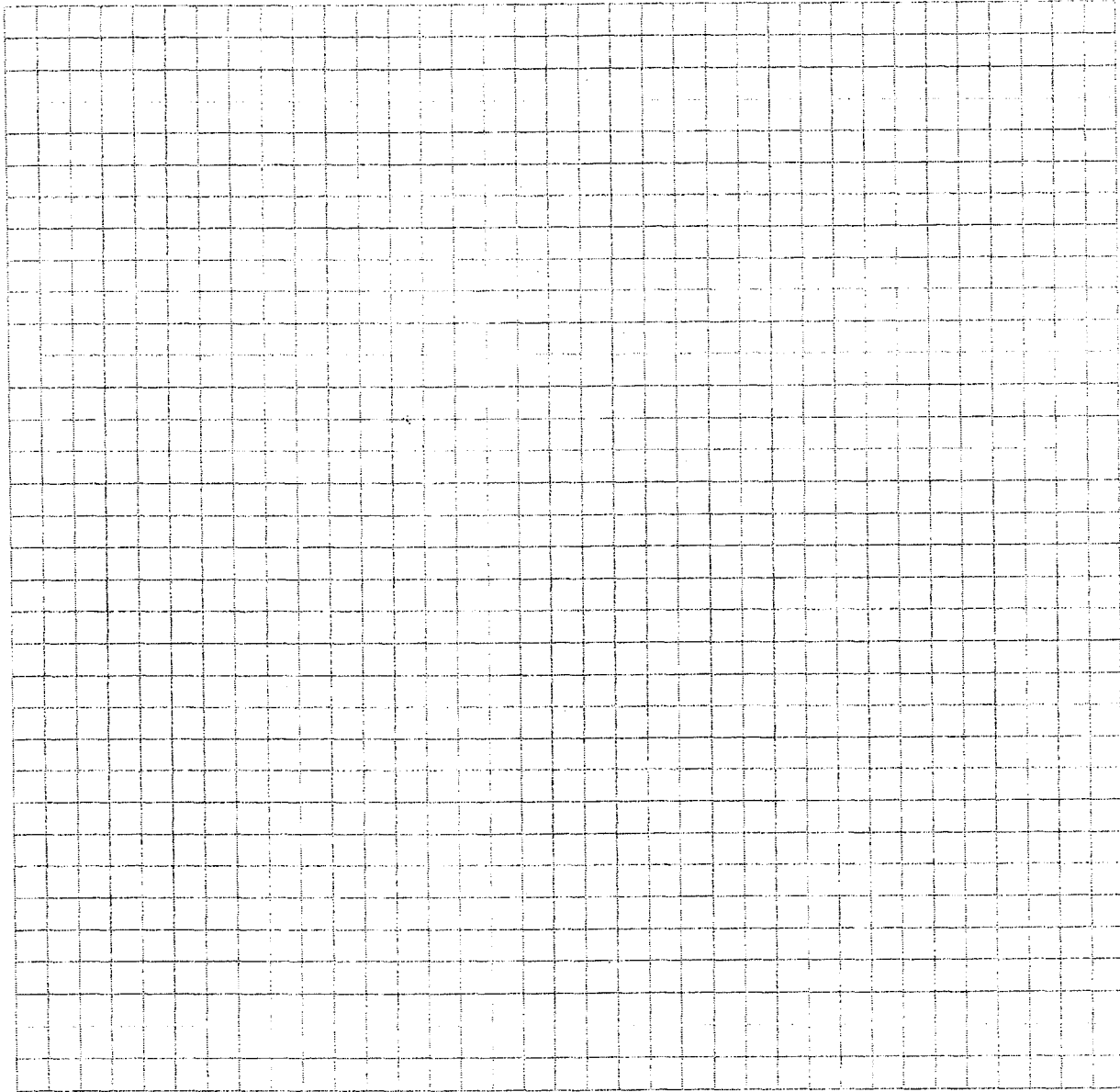
First Floor: Refer to Figure 1



12. OUTDOOR PLOT *Refer to SVI Work Plan*

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.



Product Inventory Form: City of Geneva Public Safety Building, 255 Exchange Street, Geneva, New York

Make & Model of Field Instrument Used: RAE Systems – ppbRAE, Background PID reading = 40 ppb

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

Location	Product Description	Size (units)	Condition*	Manufacturer	Field Instrument Reading (ppb)	Product Ingredients	CAS #	Photo** (Y/N)
Maintenance Closet	Minwax Wood Finish	0.5 gallon	U	Minwax Company 10 Mountainview Road Upper Saddle River, NJ 07458 Phone: 800-523-9299	40	Aliphatic Hydrocarbons		N
Maintenance Closet	Woodpride Polyurethane Varnish	0.5 gallon	U		40		136-52-7 112926-00-8 8052-41-3 68333-62-0 66070-62-0 68188-21-6 64741-65-7 71-43-2 64742-47-8	N
Maintenance Closet	Benjamin Moore Paint	1 gallon	U	Benjamin Moore & Co. 101 Paragon Drive Montvale, NJ 07645 Phone: 800-344-0400	40		8052-41-3 66070-60-8 14807-96-6 1314-13-2 7779-90-0 13463-67-7 1332-37-2 7784-30-7 7732-18-5 471-34-1 13463-67-7 25067-61-0 14808-60-7	N
Maintenance Closet	Simoniz Pink Handsoap	2 gallon	U	Simoniz USA, Inc 201 Boston Tnpk Bolton, CT 06043 Phone: 800-227-5536	60		7732-18-5 68439-57-6 68603-42-9 120-40-1	N

Notes:

- * - 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.

Product Inventory Form: City of Geneva Public Safety Building, 255 Exchange Street, Geneva, New York

Make & Model of Field Instrument Used: RAE Systems – ppbRAE, Background PID reading = 40 ppb

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

Location	Product Description	Size (units)	Condition*	Manufacturer	Field Instrument Reading (ppb)	Product Ingredients	CAS #	Photo** (Y/N)
Maintenance Closet	Qwik Shine Polish	3 cans	U		50	Brazil palm wax Coal oil Silicone oil		N
Maintenance Closet	Johnson Dust Cleaner	1 can	U		55		64741-44-2 64742-48-9 75-28-5 74-98-6 7732-18-5	N
Maintenance Closet	Johnson Stainless Steel Cleaner	1 can	U		75		64741-44-2 64742-48-9 75-28-5 74-98-6 7732-18-5	N
Maintenance Closet	Husky Disinfectant	1 qt	U		45	n-Alkyl dimethyl benzyl ammonium chlorides n-Alkyl dimethyle ethyl benzyl ammonium chlorides		N
Maintenance Closet	DG Toilet Cleaner	13 bottles	UO		40	Hydrogen Chloride		N
Maintenance Closet	Spartan Heavy Duty Cleaner	3 bottles	UO	Spartan Chemical Company, Inc. 1110 Spartan Drive Maumee, OH 43537-0110 Phone: 800-537-8990	65		7732-18-5 111-76-2 68991-48-0	N
Maintenance Closet	Windex	2 bottles	O	SC Johnson 1525 Howe Street Racine, Wisconsin 53403 Phone: 800-494-4855	55			N

Notes:

1. * - Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**.

2. ** - 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.

Product Inventory Form: City of Geneva Public Safety Building, 255 Exchange Street, Geneva, New York

Make & Model of Field Instrument Used: RAE Systems – ppbRAE, Background PID reading = 40 ppb

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

Location	Product Description	Size (units)	Condition*	Manufacturer	Field Instrument Reading (ppb)	Product Ingredients	CAS #	Photo** (Y/N)
Maintenance Closet	Pine All-purpose Cleaner (concentrate)	3 bottles	UO	Dolgencorp. Inc. 100 Mission Ridge Goodlettsville , TN 37072 Phone: 615-855-4000	60		111-76-2 1643-20-5 6834-92-0 61725-89-1 64-02-8 8002-09-3 6359-98-4	N
Maintenance Closet	Dulux Latex Paint	20 gal	U		40		107-21-1 25067-01-0 1332-58-7 7732-18-5 13463-67-7 27136-15-8	N
Maintenance Closet	Dust Mops	NA	U	NA	300	NA	NA	N

Notes:

1. * - Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**.
2. ** - 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.

Attachment B

Photographs of Sampling In
Progress

ATTACHMENT B
MARCH 21, 2007 – PUBIC SAFETY BUILDING SAMPLING
NEW YORK STATE ELECTRIC & GAS CORPORATION
FORMER MANUFACTURED GAS PLANT – WADSWORTH STREET
GENEVA, NEW YORK



Photo 1
Sampling Location SS-1 (and DUP-1)
Men's Cell Area

ATTACHMENT B
MARCH 21, 2007 – PUBIC SAFETY BUILDING SAMPLING
NEW YORK STATE ELECTRIC & GAS CORPORATION
FORMER MANUFACTURED GAS PLANT – WADSWORTH STREET
GENEVA, NEW YORK



Photo 2
Sampling Location IA-1
Men's Cell Area

ATTACHMENT B
MARCH 21, 2007 – PUBIC SAFETY BUILDING SAMPLING
NEW YORK STATE ELECTRIC & GAS CORPORATION
FORMER MANUFACTURED GAS PLANT – WADSWORTH STREET
GENEVA, NEW YORK



Photo 3
Sampling Location SS-2
Women's Cell Area

ATTACHMENT B
MARCH 21, 2007 – PUBIC SAFETY BUILDING SAMPLING
NEW YORK STATE ELECTRIC & GAS CORPORATION
FORMER MANUFACTURED GAS PLANT – WADSWORTH STREET
GENEVA, NEW YORK



Photo 4
Sampling Location IA-2
Women's Cell Area

ATTACHMENT B
MARCH 21, 2007 – PUBIC SAFETY BUILDING SAMPLING
NEW YORK STATE ELECTRIC & GAS CORPORATION
FORMER MANUFACTURED GAS PLANT – WADSWORTH STREET
GENEVA, NEW YORK



Photo 5
Sampling Location SS-3
Custodial/Maintenance Closet

ATTACHMENT B
MARCH 21, 2007 – PUBIC SAFETY BUILDING SAMPLING
NEW YORK STATE ELECTRIC & GAS CORPORATION
FORMER MANUFACTURED GAS PLANT – WADSWORTH STREET
GENEVA, NEW YORK



Photo 6
Sampling Location IA-3
Custodial/Maintenance Closet

ATTACHMENT B
MARCH 21, 2007 – PUBIC SAFETY BUILDING SAMPLING
NEW YORK STATE ELECTRIC & GAS CORPORATION
FORMER MANUFACTURED GAS PLANT – WADSWORTH STREET
GENEVA, NEW YORK



Photo 7
Sampling Location AA-1
Ambient Air Location – South of the Public Safety Building

Attachment C

Field Sampling Logs

Sub Slab Sample Collection Log

 Sample ID: SS-1

Client:	NYSEG	Date/Day:	03/21/07 WEDNESDAY
Project:	WADSWORTH	Boring Equipment:	HAMMER DRILL
Location:	255 EXCHANGE ST GENOA	Sealant:	BEES WAX
Project #:	13057	Tubing Information:	1/4" ID TEFLON LINED
Time of Collection:	Start: 1037 Finish: 1237	Miscellaneous Equipment:	
Samplers:	SPS / CSA	Moisture Content of Sampling Zone (circle one):	(Dry) / Moist
Sample Point Location:	NORTH WALL OF MENS CELL	Approximate Purge Volume & Method:	SYRINGE - 120 cc
Sampling Depth:	6"	Subcontractor:	
Probe (circle one):	Permanent / (Temporary)		

Canister Pressure (inches Hg):		
Reported By Laboratory	Measured Prior to Sample Collection	Measured Following Sample Collection
-30.0	-29.0	-6.0

Tracer Gas Concentration (if applicable):		
Measured in Purge Effluent	Measured in 'Concentrated' Area Prior to Sample Collection	Measured in 'Concentrated' Area Following Sample Collection
0 ppm	3.6%	4.3%

SUMMA Canister Information

1124 -18.0

Size (circle one): 1 L (6 L)

 Canister ID: 963

 Flow Controller ID: 111

General Observations/Notes:

Approximating One-Well Volume (for purging):

When using a 5/8-inch drill bit, each vertical inch of open space will have a volume of approximately 5 mL (e.g., a 2-inch sampling interval has a volume of approximately 10 mL). Each foot of 1/4-inch tubing will have a volume of approximately 10 mL.

Indoor/Ambient Air Sample Collection Log

 Sample ID: IA-1

Client:	NYSEG	Date/Day:	03/21/07 WEDNESDAY
Project:	WADSWORTH	Sample Intake Height:	3.45'
Location:	255 EXCHANGE ST, GENEVA	Subcontractor:	
Project #:	13057	Miscellaneous Equipment:	
Samplers:	SPS/CSA		
Coordinates:		Time Start:	1037
Outdoor/Indoor:	INDOOR	Time Stop:	

Instrument Readings:

Time	Canister Pressure (inches Hg)	Temperature (F or C)	Relative Humidity (%)	Air Speed (ft/min)	Barometric Pressure	PID (ppm or ppb)
1037	-28.0	70.2 F	22%		30.59	
1124	-18.0					
1237	-6.0					

SUMMA Canister Information

 Size (circle one): 1 L (6 L)

 Canister ID: 04325

 Flow Controller ID: 006

General Observations/Notes:

Sub Slab Sample Collection Log

 Sample ID: SS-2

Client:	NYSEG	Date/Day:	03/21/07 WEDNESDAY
Project:	WADSWORTH	Boring Equipment:	HAMMER DRILL
Location:	255 EXCHANGE ST GENOA, NY	Sealant:	BEE WAX
Project #:	13057	Tubing Information:	1/4" ID TEFロン LINED
Time of Collection:	Start: 1039 Finish:	Miscellaneous Equipment:	
Samplers:	SPS / CSA	Moisture Content of Sampling Zone (circle one):	(Dry) / Moist
Sample Point Location:	WEST WALL OF WOMAN'S CELL	Approximate Purge Volume & Method:	SYRINGE 120 cc
Sampling Depth:	7"	Subcontractor:	
Probe (circle one):	Permanent / (Temporary)		

Canister Pressure (inches Hg):		
Reported By Laboratory	Measured Prior to Sample Collection	Measured Following Sample Collection
-30.0	> -30.0	-7.0

Tracer Gas Concentration (if applicable):		
Measured in Purge Effluent	Measured in 'Concentrated' Area Prior to Sample Collection	Measured in 'Concentrated' Area Following Sample Collection
0 ppm	4.8%	

SUMMA Canister Information

1127 -19.5

Size (circle one): 1 L (6 L)

Canister ID: GL0009

Flow Controller ID: 016

General Observations/Notes:

Approximating One-Well Volume (for purging):

When using a 5/8-inch drill bit, each vertical inch of open space will have a volume of approximately 5 mL (e.g., a 2-inch sampling interval has a volume of approximately 10 mL). Each foot of 1/4-inch tubing will have a volume of approximately 10 mL.

Indoor/Ambient Air Sample Collection Log

Sample ID: IA-2

Client:	NYSEG	Date/Day:	03/21/07 WEDNESDAY
Project:	WADSWORTH	Sample Intake Height:	4.53'
Location:	ZES EXCHANGE ST GARDEN, NY	Subcontractor:	
Project #:	13057	Miscellaneous Equipment:	
Samplers:	SPS/BA		
Coordinates:		Time Start:	1039
Outdoor/Indoor:	INDOOR	Time Stop:	

Instrument Readings:

Time	Canister Pressure (inches Hg)	Temperature (F or C)	Relative Humidity (%)	Air Speed (ft/min)	Barometric Pressure	PID (ppm or ppb)
1039	-26.0					
1128	-9.0					
1150	-6.0					
1239	-2.0					

SUMMA Canister Information

Size (circle one): 1 L (6 L)

Canister ID: 0447

Flow Controller ID: 033

General Observations/Notes:

Sub Slab Sample Collection Log

 Sample ID: **SS-3**

Client:	NYSEG	Date/Day:	03/21/07 WEDNESDAY
Project:	WADSWORTH	Boring Equipment:	HAMMER DRILL
Location:	255 EXCHANGE ST. GENOA, NY	Sealant:	BEES WAX
Project #:	13057	Tubing Information:	1/4" ID TEFON LINED
Time of Collection:	Start: 1040 12:58 Finish: 2:58	Miscellaneous Equipment:	
Samplers:	SPS / CSA	Moisture Content of Sampling Zone (circle one):	(Dry) / Moist
Sample Point Location:	NORTHEAST CORNER OF JANITOR'S CLOSET	Approximate Purge Volume & Method:	SYRINGE - 120 CC
Sampling Depth:	6"	Subcontractor:	
Probe (circle one):	Permanent / (Temporary)		

Canister Pressure (inches Hg):		
Reported By Laboratory	Measured Prior to Sample Collection	Measured Following Sample Collection
-30.0	> -30.0 -28.0	-6.0

Tracer Gas Concentration (if applicable):		
Measured in Purge Effluent	Measured in 'Concentrated' Area Prior to Sample Collection	Measured in 'Concentrated' Area Following Sample Collection
0	8.1% 8.0%	8.1% 2.2%

SUMMA Canister Information

Size (circle one): 1 L (6 L)

Canister ID: A-239

Flow Controller ID: 106

General Observations/Notes:

1130 > -30.0

0060 CANISTER #2
 026 START: 1135 -29.0 CONC. HELIUM
 START: 1258 -28.0 PRIOR 8.0%
 FINISH 258 -6.0 POST 2.2%

Approximating One-Well Volume (for purging):

When using a 5/8-inch drill bit, each vertical inch of open space will have a volume of approximately 5 mL (e.g., a 2-inch sampling interval has a volume of approximately 10 mL). Each foot of 1/4-inch tubing will have a volume of approximately 10 mL.



ARCADIS BBL
Infrastructure, environment, facilities

Indoor/Ambient Air Sample Collection Log

Sample ID: IA-3

Client:	NYSEG	Date/Day:	03/21/07 WEDNESDAY
Project:	WADSWORTH	Sample Intake Height:	3.22'
Location:	255 EXCHANGE ST. GENOA, NY	Subcontractor:	
Project #:	13057	Miscellaneous Equipment:	
Samplers:	SPS/CSA		
Coordinates:		Time Start:	1040
Outdoor/Indoor:	INDOOR	Time Stop:	

Instrument Readings:

Time	Canister Pressure (inches Hg)	Temperature (F or C)	Relative Humidity (%)	Air Speed (ft/min)	Barometric Pressure	PID (ppm or ppb)
1040	730.0					
1131	-20.5					
1240	-9.0					

SUMMA Canister Information

Size (circle one): 1 L 6 L

Canister ID: A-278

Flow Controller ID: 027

General Observations/Notes:

Indoor/Ambient Air Sample Collection Log

Sample ID: AA - 1

Client:	NSEG	Date/Day:	03/21/07 WEDNESDAY
Project:	WADSWORTH	Sample Intake Height:	5.3'
Location:	255 EXCHANGE ST. GENEVA	Subcontractor:	
Project #:	13057	Miscellaneous Equipment:	
Samplers:	SPS/CSA	Time Start:	1043
Coordinates:		Time Stop:	
Outdoor/Indoor:	OUTDOOR - SE CORNER OF BLDG		

Instrument Readings:

Time	Canister Pressure (inches Hg)	Temperature (F or C)	Relative Humidity (%)	Air Speed (ft/min)	Barometric Pressure	PID (ppm or ppb)
1031043	-28.0					
1138	-14.5					
1243	-5.0					

SUMMA Canister Information

Size (circle one): 1 L (6 L)

Canister ID: 063231

Flow Controller ID: 015

General Observations/Notes:

Sub Slab Sample Collection Log

 Sample ID: DUP-1

Client:	NYSEG	Date/Day:	03/21/07 WEDNESDAY
Project:	WADSWORTH	Boring Equipment:	HAMMER DRILL
Location:	255 EXCHANGE ST GENEVA, NY	Sealant:	BEES WAX
Project #:	13057	Tubing Information:	1/4" ID TEFLON UNED
Time of Collection:	Start: 1037 Finish: 1237	Miscellaneous Equipment:	
Samplers:	SPS/CSA	Moisture Content of Sampling Zone (circle one):	(Dry) / Moist
Sample Point Location:	NORTH WALL OF MENS CELL	Approximate Purge Volume & Method:	SYRINGE - 120 CC
Sampling Depth:	6"	Subcontractor:	
Probe (circle one):	Permanent / <u>Temporary</u>		

Canister Pressure (inches Hg):		
Reported By Laboratory	Measured Prior to Sample Collection	Measured Following Sample Collection
-30.0	-28.0	-7.5

Tracer Gas Concentration (if applicable):		
Measured in Purge Effluent	Measured in 'Concentrated' Area Prior to Sample Collection	Measured in 'Concentrated' Area Following Sample Collection
0 ppm	3.6%	4.3%

SUMMA Canister Information

1124 -18.5

Size (circle one): 1 L (6 L)

Canister ID: 93234

Flow Controller ID: 082

General Observations/Notes:

PARENT LOCATION → SS-1

Approximating One-Well Volume (for purging):

When using a 5/8-inch drill bit, each vertical inch of open space will have a volume of approximately 5 mL (e.g., a 2-inch sampling interval has a volume of approximately 10 mL). Each foot of 1/4-inch tubing will have a volume of approximately 10 mL.

Attachment D

Analytical Data Validation Report

DATA USABILITY SUMMARY REPORT

NYSEG

WADSWORTH ST. GENEVA

SDG #H7C230285

AIR VOLATILE AND HELIUM ANALYSIS

Analyses performed by:

Severn Trent Laboratories
Knoxville, Tennessee

Review performed by:



Syracuse, New York
Report #6827

Summary

The following is an assessment of the data package for sample delivery group (SDG) #H7C230285 for sampling from the NYSEG Wadsworth Street Geneva Site. Included with this assessment are the data review check sheets used in the review of the package and corrected sample results. Analyses were performed on the following samples:

[illegible]

Notes:

1. Sample location DUP-1 is the field duplicate for parent sample location SS-1.
2. Miscellaneous parameters include helium.

AIR VOLATILE ORGANIC COMPOUND (VOC) ANALYSES

Introduction

Analyses were performed according to (United States Environmental Protection Agency) USEPA Method TO-15. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999, USEPA Region II SOP HW-18- Validating Canisters of Volatile Organics in Ambient Air of August 1994, and New York State ASP 2005- R9 TO-15 QC.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

- U The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
- J The compound was positively identified; however, the associated numerical value is an estimated concentration only.
- B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
- N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
- JN The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
- E The compound was quantitated above the calibration range.
- D Concentration is based on a diluted sample analysis.
- UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
- R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Data Assessment

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
Method TO-15	Air	14 days from collection to analysis	Ambient temperature

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance blanks (i.e., method, trip, and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure contamination of samples during shipment. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL, with the exception of the compounds listed in the following table. Sample results associated with the following sample locations were qualified.

Sample Locations	Compounds	Sample Result	Qualification
IA-1 IA-2 IA-3	Naphthalene	Detected sample results <RL and <BAL	U at the RL
SS-3		Detected sample results <RL and >BAL	Remove B
SS-1 SS-2		Detected sample results >RL and >BAL	
SS-3	n-Butane		
SS-1 IA-1 SS-2 IA-2 SS-3 IA-3 AA-1 DUP-1	Methylene Chloride	Detected sample results <RL and <BAL	U at the RL

RL = reporting limit

3. Mass Spectrometer Tuning

Mass spectrometer performance was acceptable. System performance and column resolution were acceptable. The mass spectrometer tune was performed within method specifications.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (30%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits, with the exception of the compounds presented in the following table.

Sample Locations	Initial/Continuing	Compound	Criteria
SS-3	CCV %D	1,2,4-Trichlorobenzene	-36.5%

The criteria used to evaluate the initial and continuing calibration are presented in the following table. In the case of a calibration deviation, the sample results are qualified.

Initial/Continuing	Criteria	Sample Result	Qualification
Initial and Continuing Calibration	RRF <0.05	Non-detect	R
		Detect	J
	RRF <0.01 ¹	Non-detect	R
		Detect	J
	RRF >0.05 or RRF >0.01 ¹	Non-detect	No Action
		Detect	

Initial/Continuing	Criteria	Sample Result	Qualification
Initial Calibration	%RSD > 30%	Non-detect	UJ
		Detect	J
Continuing Calibration	%D >30% (increase in sensitivity)	Non-detect	No Action
		Detect	J
	%D >30% (decrease in sensitivity)	Non-detect	UJ
		Detect	J

1. RRF of 0.01 only applies to compounds which are typically poor responding compounds (i.e. ketones, 1,4-Dioxane, etc.)

5. Surrogates/System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

All surrogate recoveries were within control limits.

6. Internal Standard Performance

Internal standard performance criteria insure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria requires the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+40%) or less than one-half (-40%) of the area counts of the associated continuing calibration standard.

All internal standard areas and retention times were within established limits.

7. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

SMS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

A MS/MSD was not performed on a sample location associated with this SDG.

8. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

Sample locations associated with LCS analysis exhibiting recoveries outside of the control limits presented in the following table.

Sample Locations	Compound	Recovery
SS-3	1,2,4-Trichlorobenzene	<LL but >10%

The criteria used to evaluate the LCS recoveries are presented in the following table. In the case of an LCS deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> the upper control limit (UL)	Non-detect	No Action
	Detect	J
< the lower control limit (LL) but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J

9. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 100% for air matrices is applied to the RPD between the parent sample and the field duplicate.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
SS-1/DUP-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.61 J	0.58 J	AC
	1,2,4-Trichlorobenzene	0.76 J	2.0 J	AC
	1,2,4-Trimethylbenzene	7.3	5.1	35.4 %
	1,2-Dichlorobenzene	ND(1.2)	0.58 J	AC
	1,3,5-Trimethylbenzene	2.6	1.9	AC
	1,4-Dichlorobenzene	ND(1.2)	0.43 J	AC
	Benzene	0.71	0.44 J	AC

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
SS-1/DUP-1	Carbon tetrachloride	0.62 J	0.4 J	AC
	Chloromethane	0.39 J	ND(1.0)	AC
	Cumene	2.7	1.7 J	AC
	Dichlorodifluoromethane	2.5	2.2	AC
	Ethylbenzene	16	10	46.1 %
	Methylene chloride	0.4 J	0.52 J	AC
	m-Xylene & p-Xylene	89	53	50.7 %
	Naphthalene	3.6	1.7 J	AC
	n-Butane	2.6	1.8	AC
	n-Decane	4.5 J	3.0 J	AC
	n-Dodecane	20	16	AC
	n-Heptane	2.0 J	1.3 J	AC
	n-Hexane	2.8	2.1	AC
	n-Octane	2.2	1.2 J	AC
	Nonane	3.2	1.9 J	AC
	n-Undecane	13	9.9	AC
	o-Xylene	33	20	49.0 %
	Pentane	1.5 J	1.3 J	AC
	Styrene	0.25 J	ND(0.85)	AC
	Tetrachloroethene	0.77 J	1.9	AC
	Toluene	5.3	3.2	NC
	Trichlorofluoromethane	1.2	1.3	AC

ND = Not detected.

AC = The field duplicate is acceptable when the difference between parent sample and field duplicate sample is less than two times the RL and where the parent sample and/or duplicate concentration is less than five times the RL.

NC = Non-complaint

The compound toluene associated with samples SS-1 and DUP-1 exhibited a field duplicate difference greater than the control limit. The associated sample results from sample locations for the listed analyte were qualified as estimated.

10. Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

All identified compounds met the specified criteria.

11. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

Data Validation Checklist

Volatile Organics Data Validation Checklist

	YES	NO	NA
<u>Data Completeness and Deliverables</u>			
Have any missing deliverables been received and added to the data package?	<u> </u>	<u> X </u>	<u> </u>
Is there a narrative or cover letter present?	<u> X </u>	<u> </u>	<u> </u>
Are the sample numbers included in the narrative?	<u> X </u>	<u> </u>	<u> </u>
Are the sample chain-of-custodies present?	<u> X </u>	<u> </u>	<u> </u>
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?	<u> </u>	<u> X </u>	<u> </u>
<u>Holding Times</u>			
Have any holding times been exceeded?	<u> </u>	<u> X </u>	<u> </u>
<u>Surrogate Recovery</u>			
Are surrogate recovery forms present?	<u> X </u>	<u> </u>	<u> </u>
Are all samples listed on the surrogate recovery form?	<u> X </u>	<u> </u>	<u> </u>
Was one or more surrogate recovery outside control limits for any sample or blank?	<u> </u>	<u> X </u>	<u> </u>
If yes, were the samples reanalyzed?	<u> </u>	<u> </u>	<u> X </u>
Are there any transcription/calculation errors between the raw data and the summary form?	<u> </u>	<u> X </u>	<u> </u>
<u>Matrix Spikes</u>			
Is there a MS recovery form present?	<u> </u>	<u> X </u>	<u> </u>
Were matrix spikes analyzed at the required frequency?	<u> </u>	<u> X </u>	<u> </u>
How many spike recoveries were outside of QC limits?			
<u> NA </u> out of <u> NA </u>			
How many RPDs for MS/MSD were outside of QC limits?			
<u> NA </u> out of <u> NA </u>			
<u>Blanks</u>			
Is a method blank summary form present?	<u> X </u>	<u> </u>	<u> </u>
Has a method blank been analyzed for each day or for each 20 samples, whichever is more frequent?	<u> X </u>	<u> </u>	<u> </u>
Has a blank been analyzed at least once every 12 hours for each system used?	<u> </u>	<u> X </u>	<u> </u>
Do any method/instrument blanks have positive results?	<u> X </u>	<u> </u>	<u> </u>
Are trip/field/rinse blanks associated with every sample?	<u> </u>	<u> </u>	<u> X </u>

	YES	NO	NA
Do any trip/field/rinse blanks have positive results?	_____	_____	X
<u>Tuning and Mass Calibration</u>			
Are the GC/MS tuning forms present for BFB?	X	_____	_____
Are the bar graph spectrum and mass/charge listing provided for each BFB?	X	_____	_____
Has a BFB been analyzed for each 12 hours of analysis per instrument?	_____	X	_____
Have the ion abundance criteria been met for each instrument used?	X	_____	_____
<u>Target Analytes</u>			
Is an organics analysis data sheet present for each of the following:			
Samples	X	_____	_____
Matrix spikes	_____	_____	X
Blanks	X	_____	_____
Are the reconstructed ion chromatograms present for each of the following:			
Samples	X	_____	_____
Matrix spikes	_____	_____	X
Blanks	X	_____	_____
Is the chromatographic performance acceptable?	X	_____	_____
Are the mass spectra of the identified compounds present?	X	_____	_____
Are all ions present in the standard mass spectrum at a relative intensity of 10% or greater also present in the sample spectrum?	X	_____	_____
Do the samples and standard relative ion intensities agree within 20%?	X	_____	_____
<u>Tentatively Identified Compounds</u>			
Are all the TIC summary forms present?	X	_____	_____
Are the mass spectra for the tentatively identified compounds and their associated "best match" spectra present?	X	_____	_____
Are any target compounds listed as TICs?	_____	X	_____
Are all ions present in the reference mass spectrum with a relative intensity greater than 10% also present in the sample mass spectrum?	X	_____	_____
Do the TIC and "best match" spectrum agree within 20%?	X	_____	_____
<u>Quantitation and Detection Limits</u>			
Are there any transcription/calculation errors in the Form 1 results?	_____	X	_____
Are the reporting limits adjusted to reflect sample dilutions and, for soils, sample moisture?	X	_____	_____
<u>Standard Data</u>			

	YES	NO	NA
Are the quantitation reports and reconstructed ion chromatograms present for the initial and continuing calibration standards?	<u> X </u>	<u> </u>	<u> </u>
<u>Initial Calibration</u>			
Are the initial calibration forms present for each instrument used?	<u> X </u>	<u> </u>	<u> </u>
Are the response factor RSDs within acceptable limits?	<u> X </u>	<u> </u>	<u> </u>
Are the average RRFs minimum requirements met?	<u> X </u>	<u> </u>	<u> </u>
Are there any transcription/calculation errors in reporting the RRFs or RSDs?	<u> </u>	<u> X </u>	<u> </u>
<u>Continuing Calibration</u>			
Are the continuing calibration forms present for each day and each instrument?	<u> X </u>	<u> </u>	<u> </u>
Has a continuing calibration standard been analyzed for each 12 hours of analysis per instrument?	<u> X </u>	<u> </u>	<u> </u>
All %D within acceptable limits?	<u> </u>	<u> X </u>	<u> </u>
Are all RF minimum requirements met?	<u> X </u>	<u> </u>	<u> </u>
Are there any transcription/calculation errors in reporting of RF or %D?	<u> </u>	<u> X </u>	<u> </u>
<u>Internal Standards</u>			
Are internal standard areas of every sample within the upper and lower limits for each continuing calibration?	<u> X </u>	<u> </u>	<u> </u>
Are the retention times of the internal standards within 30 seconds of the associated calibration standard?	<u> X </u>	<u> </u>	<u> </u>
<u>Field Duplicates</u>			
Were field duplicates submitted with the samples?	<u> X </u>	<u> </u>	<u> </u>

HELIUM ANALYSES

Introduction

Analyses were performed according to the following methods:

Helium ASTM D1946

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and that it was already subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with the USEPA National Functional Guidelines:

- Concentration (C) Qualifiers

U The analyte was analyzed for but not detected. The associated value is the analyte instrument detection limit.

B The reported value was obtained from a reading less than the contract-required detection limit (CRDL), but greater than or equal to the instrument detection limit (IDL).

- Quantitation (Q) Qualifiers

E The reported value is estimated due to the presence of interference.

N Spiked sample recovery is not within control limits.

* Duplicate analysis is not within control limits.

- Validation Qualifiers

J The analyte was positively identified; however, the associated numerical value is an estimated concentration only.

UJ The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.

R The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant QC problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Data Assessment

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
Helium by ASTM D1946	Air	14 days from collection to analysis	Ambient Temperature

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance blanks (i.e., method, trip, and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure contamination of samples during shipment. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL.

3. System Performance

System performance and column resolution were acceptable.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

4.1 Initial Calibration

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%).

4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less than the control limit (30%).

All calibration criteria were within the control limits.

5. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations where the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

A MS/MSD was not performed on a sample location associated with this SDG.

6. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the established acceptance limits.

The LCS analysis exhibited recoveries within the control limits.

7. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method. A control limit of 20% for air matrices is applied to the RPD between the parent sample and the field duplicate.

Results for duplicate samples are summarized in the following table.

Sample ID/Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
SS-1/DUP-1	Helium	ND(0.34)	ND(0.24)	AC

ND = Not detected.

AC = The field duplicate is acceptable when the difference between parent sample and field duplicate sample is less than two times the RL and where the parent sample and/or duplicate concentration is less than five times the RL.

8. Compound Identification

Compounds are identified on the GC by using the analytes relative retention time.

No target compounds were identified in the samples.

9. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

Data Validation Checklist

Data Validation Checklist

	YES	NO	NA
<u>Data Completeness and Deliverables</u>			
Have any missing deliverables been received and added to the data package?	<u> </u>	<u> X </u>	<u> </u>
Is there a narrative or cover letter present?	<u> X </u>	<u> </u>	<u> </u>
Are the sample numbers included in the narrative?	<u> X </u>	<u> </u>	<u> </u>
Are the sample chain-of-custodies present?	<u> X </u>	<u> </u>	<u> </u>
Do the chain-of-custodies indicate any problems with sample receipt or sample condition?	<u> </u>	<u> X </u>	<u> </u>
<u>Holding Times</u>			
Have any holding times been exceeded?	<u> </u>	<u> X </u>	<u> </u>
<u>Surrogate Recovery</u>			
Are the surrogate recovery forms present?	<u> </u>	<u> </u>	<u> X </u>
Are all the samples listed on the appropriate surrogate recovery form?	<u> </u>	<u> </u>	<u> X </u>
Were recoveries of any surrogate outside of specified limits for any sample or blank?	<u> </u>	<u> </u>	<u> X </u>
If yes, were the samples reanalyzed?	<u> </u>	<u> </u>	<u> X </u>
Are there any transcription/calculation errors between the raw data and the summary form?	<u> </u>	<u> </u>	<u> X </u>
<u>Matrix Spikes</u>			
Is there a matrix spike recovery form present?	<u> </u>	<u> </u>	<u> X </u>
Were matrix spikes analyzed at the required frequency?	<u> </u>	<u> </u>	<u> X </u>
How many spike recoveries were outside of QC limits?			
<u>NA</u> out of <u>NA</u>			
How many RPDs for matrix spike and matrix spike duplicate were outside of QC limits?			
<u>NA</u> out of <u>NA</u>			
<u>Blanks</u>			
Is a method blank summary form present?	<u> X </u>	<u> </u>	<u> </u>
Has a method blank been analyzed for each set of samples or for each 20 samples, whichever is more frequent?	<u> X </u>	<u> </u>	<u> </u>
Do any method/reagent/instrument blanks have positive results?	<u> </u>	<u> X </u>	<u> </u>
Do any field/rinse/equipment blanks have positive results?	<u> </u>	<u> </u>	<u> X </u>
	<u> </u>	<u> </u>	<u> </u>

	YES	NO	NA
Are there field/rinse/equipment blanks associated with every sample?	_____	_____	<u>X</u>
<u>Calibration and GC Performance</u>			
Are the following chromatograms and integration reports present?			
Is a calibration summary form present and complete for each analytical sequence?	<u>X</u>	_____	_____
Are there any transcription/calculation errors between the raw data and the forms?	_____	<u>X</u>	_____
Are the %RSD for the initial calibration within specified limits for all analytes?	<u>X</u>	_____	_____
Have all samples been injected within a 12 hour period beginning with the injection of a calibration standard?	<u>X</u>	_____	_____
Is a continuing calibration summary form present and complete for each continuing standard analyzed?	<u>X</u>	_____	_____
Are there any transcription/calculation errors between the raw data and the form?	_____	<u>X</u>	_____
Are all the percent difference (%D) values for all continuing calibration standards within specified limits?	<u>X</u>	_____	_____
<u>Analytical Sequence</u>			
Is Form VIII present and complete for each column and each period of analyses?	<u>X</u>	_____	_____
Was the proper analytical sequence followed?	<u>X</u>	_____	_____
<u>Cleanup Efficiency Verification</u>			
Are percent recoveries of the compounds used to check the efficiency of the cleanup procedure within QC limits?	_____	_____	<u>X</u>
<u>Identification</u>			
Are RT of sample compounds within the established RT windows?	<u>X</u>	_____	_____
Were all positively identified compounds confirmed on a second column?	_____	_____	<u>X</u>
Was GC/MS confirmation provided when required?	_____	_____	<u>X</u>
Were there any false negatives?	_____	<u>X</u>	_____
<u>Compound Quantitation and Reported Detection Limits</u>			
Are there any transcription/calculation errors in the Form 1 results?	_____	<u>X</u>	_____
Are the reporting limits adjusted to reflect sample dilutions and, for soils, sample moisture?	<u>X</u>	_____	_____

	YES	NO	NA
<u>Chromatogram Quality</u>			
Were the baselines stable?	<u>X</u>	<u> </u>	<u> </u>
Were any electronegative displacement (negative peaks) or unusual peaks detected?	<u> </u>	<u>X</u>	<u> </u>
<u>Field Duplicates</u>			
Were field duplicates submitted with the samples?	<u>X</u>	<u> </u>	<u> </u>

CORRECTED SAMPLE ANALYSIS DATA SHEETS

STL Buffalo

Client Sample ID: SS-1

GC/MS Volatiles

Lot-Sample # H7C230285 - 001

Work Order # JRM371AA

Matrix.....: AIR

Date Sampled...: 3/21/07

Date Received...: 3/22/07

Prep Date.....: 3/26/07

Analysis Date..: 3/27/07

Prep Batch #.....: 7087207

Dilution Factor.: 1

Method.....: TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Methyl tert-butyl ether	ND	1.0	ND	3.6
Dichlorodifluoromethane	0.51	0.20	2.5	0.99
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ND	1.4
Chloromethane	0.19	0.50	0.39 J	1.0
Vinyl chloride	ND	0.20	ND	0.51
n-Butane	1.1	0.40	2.6	0.95
Bromomethane	ND	0.20	ND	0.78
Chloroethane	ND	0.20	ND	0.53
Trichlorofluoromethane	0.22	0.20	1.2	1.1
Pentane	0.49	1.0	1.5 J	3.0
1,1-Dichloroethene	ND	0.20	ND	0.79
1,1,2-Trichloro-1,2,2-trifluoroethane	0.080	0.20	0.61 J	1.5
Methylene chloride	0.5 0.11 U	0.50	1.7 0.40 U J-B	1.7
n-Hexane	0.80	0.50	2.8	1.8
1,1-Dichloroethane	ND	0.20	ND	0.81
cis-1,2-Dichloroethene	ND	0.20	ND	0.79
Chloroform	ND	0.20	ND	0.98
1,1,1-Trichloroethane	ND	0.20	ND	1.1
Carbon tetrachloride	0.098	0.20	0.62 J	1.3
Benzene	0.22	0.20	0.71	0.64
1,2-Dichloroethane	ND	0.20	ND	0.81
n-Heptane	0.48	0.50	2.0 J	2.0
Trichloroethene	ND	0.20	ND	1.1
1,2-Dichloropropane	ND	0.20	ND	0.92
cis-1,3-Dichloropropene	ND	0.20	ND	0.91
Toluene	1.4 J	0.20	5.3 J	0.75
n-Octane	0.48	0.40	2.2	1.9
trans-1,3-Dichloropropene	ND	0.20	ND	0.91
1,1,2-Trichloroethane	ND	0.20	ND	1.1
Tetrachloroethene	0.11	0.20	0.77 J	1.4
1,2-Dibromoethane (EDB)	ND	0.20	ND	1.5
Chlorobenzene	ND	0.20	ND	0.92
Ethylbenzene	3.8	0.20	16	0.87
m-Xylene & p-Xylene	20	0.20	89	0.87
Nonane	0.61	0.50	3.2	2.6
o-Xylene	7.6	0.20	33	0.87
Styrene	0.060	0.20	0.25 J	0.85
Cumene	0.54	0.40	2.7	2.0
1,1,2,2-Tetrachloroethane	ND	0.20	ND	1.4

STL Buffalo

Client Sample ID: SS-1

GC/MS Volatiles

Lot-Sample # H7C230285 - 001

Work Order # JRM371AA

Matrix.....: AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,3,5-Trimethylbenzene	0.54	0.20	2.6	0.98
n-Decane	0.78	1.0	4.5 J	5.8
1,2,4-Trimethylbenzene	1.5	0.20	7.3	0.98
1,3-Dichlorobenzene	ND	0.20	ND	1.2
1,4-Dichlorobenzene	ND	0.20	ND	1.2
1,2-Dichlorobenzene	ND	0.20	ND	1.2
n-Undecane	2.1	1.0	13	6.4
n-Dodecane	2.8	1.0	20	7.0
1,2,4-Trichlorobenzene	0.10	1.0	0.76 J	7.4
Hexachlorobutadiene	ND	1.0	ND	11
Naphthalene	0.69	0.50	3.6 B	2.6

TENTATIVELY IDENTIFIED COMPOUND	RESULT	UNITS
butylcyclohexane	ND	ppb(v/v)
indane	ND	ppb(v/v)
indene	ND	ppb(v/v)
isopentane	ND	ppb(v/v)
thiophene	ND	ppb(v/v)
1-methylnaphthalene	ND	ppb(v/v)
1,2,3-trimethylbenzene	ND	ppb(v/v)
2-methylnaphthalene	ND	ppb(v/v)
2,2,4-trimethylpentane	ND	ppb(v/v)
2,3-dimethylheptane	ND	ppb(v/v)
2,3-dimethylpentane	ND	ppb(v/v)

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
1,2-Dichloroethane-d4	120	70 - 130
Toluene-d8	94	70 - 130
4-Bromofluorobenzene	95	70 - 130

Qualifiers

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.
 J Estimated result. Result is less than RL.

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

STL Buffalo

Client Sample ID: IA-1

GC/MS Volatiles

Lot-Sample # H7C230285 - 002

Work Order # JRM4E1AA

Matrix.....: AIR

Date Sampled...: 3/21/07

Date Received...: 3/22/07

Prep Date.....: 3/26/07

Analysis Date..: 3/27/07

Prep Batch #.....: 7087207

Dilution Factor.: 1

Method.....: TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Methyl tert-butyl ether	ND	1.0	ND	3.6
Dichlorodifluoromethane	0.59	0.20	2.9	0.99
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ND	1.4
Chloromethane	0.74	0.50	1.5	1.0
Vinyl chloride	ND	0.20	ND	0.51
n-Butane	1.1	0.40	2.6	0.95
Bromomethane	ND	0.20	ND	0.78
Chloroethane	ND	0.20	ND	0.53
Trichlorofluoromethane	0.26	0.20	1.4	1.1
Pentane	0.44	1.0	1.3 J	3.0
1,1-Dichloroethene	ND	0.20	ND	0.79
1,1,2-Trichloro-1,2,2-trifluoroethane	0.094	0.20	0.72 J	1.5
Methylene chloride	0.5 0.19 U	0.50	(.7 0.66 U J-B)	1.7
n-Hexane	0.12	0.50	0.42 J	1.8
1,1-Dichloroethane	ND	0.20	ND	0.81
cis-1,2-Dichloroethene	ND	0.20	ND	0.79
Chloroform	ND	0.20	ND	0.98
1,1,1-Trichloroethane	ND	0.20	ND	1.1
Carbon tetrachloride	0.11	0.20	0.67 J	1.3
Benzene	0.33	0.20	1.0	0.64
1,2-Dichloroethane	ND	0.20	ND	0.81
n-Heptane	0.098	0.50	0.40 J	2.0
Trichloroethene	ND	0.20	ND	1.1
1,2-Dichloropropane	ND	0.20	ND	0.92
cis-1,3-Dichloropropene	ND	0.20	ND	0.91
Toluene	0.63	0.20	2.4	0.75
n-Octane	ND	0.40	ND	1.9
trans-1,3-Dichloropropene	ND	0.20	ND	0.91
1,1,2-Trichloroethane	ND	0.20	ND	1.1
Tetrachloroethene	ND	0.20	ND	1.4
1,2-Dibromoethane (EDB)	ND	0.20	ND	1.5
Chlorobenzene	ND	0.20	ND	0.92
Ethylbenzene	0.15	0.20	0.66 J	0.87
m-Xylene & p-Xylene	0.47	0.20	2.0	0.87
Nonane	ND	0.50	ND	2.6
o-Xylene	0.16	0.20	0.69 J	0.87
Styrene	0.15	0.20	0.63 J	0.85
Cumene	ND	0.40	ND	2.0
1,1,2,2-Tetrachloroethane	ND	0.20	ND	1.4

STL Buffalo
Client Sample ID: IA-1
GC/MS Volatiles

Lot-Sample # H7C230285 - 002

Work Order # JRM4E1AA

Matrix.....: AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,3,5-Trimethylbenzene	ND	0.20	ND	0.98
n-Decane	0.060	1.0	0.35 J	5.8
1,2,4-Trimethylbenzene	0.11	0.20	0.55 J	0.98
1,3-Dichlorobenzene	ND	0.20	ND	1.2
1,4-Dichlorobenzene	ND	0.20	ND	1.2
1,2-Dichlorobenzene	ND	0.20	ND	1.2
n-Undecane	0.060	1.0	0.38 J	6.4
n-Dodecane	0.12	1.0	0.87 J	7.0
1,2,4-Trichlorobenzene	0.39	1.0	2.9 J	7.4
Hexachlorobutadiene	ND	1.0	ND	11
Naphthalene	0.5 0.15 U	0.50	2.6 0.79 U 1.8	2.6

TENTATIVELY IDENTIFIED COMPOUND	RESULT	UNITS
butylcyclohexane	ND	ppb(v/v)
indane	ND	ppb(v/v)
indene	ND	ppb(v/v)
isopentane	ND	ppb(v/v)
thiophene	ND	ppb(v/v)
1-methylnaphthalene	ND	ppb(v/v)
1,2,3-trimethylbenzene	ND	ppb(v/v)
2-methylnaphthalene	ND	ppb(v/v)
2,2,4-trimethylpentane	ND	ppb(v/v)
2,3-dimethylheptane	ND	ppb(v/v)
2,3-dimethylpentane	ND	ppb(v/v)

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
1,2-Dichloroethane-d4	112	70 - 130
Toluene-d8	104	70 - 130
4-Bromofluorobenzene	99	70 - 130

Qualifiers

- B Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J Estimated result. Result is less than RL.

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

STL Buffalo

Client Sample ID: SS-2

GC/MS Volatiles

Lot-Sample # H7C230285 - 003

Work Order # JRM4K1AA

Matrix..... AIR

Date Sampled...: 3/21/07

Date Received...: 3/22/07

Prep Date.....: 3/26/07

Analysis Date..: 3/27/07

Prep Batch #.....: 7087207

Dilution Factor.: 1

Method..... TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)		REPORTING LIMIT (ug/m3)
Methyl tert-butyl ether	0.13	1.0	0.47	J	3.6
Dichlorodifluoromethane	0.54	0.20	2.7		0.99
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ND		1.4
Chloromethane	0.46	0.50	0.95	J	1.0
Vinyl chloride	ND	0.20	ND		0.51
n-Butane	14	0.40	33		0.95
Bromomethane	ND	0.20	ND		0.78
Chloroethane	ND	0.20	ND		0.53
Trichlorofluoromethane	0.22	0.20	1.2		1.1
Pentane	6.4	1.0	19		3.0
1,1-Dichloroethene	ND	0.20	ND		0.79
1,1,2-Trichloro-1,2,2-trifluoroethane	0.087	0.20	0.67	J	1.5
Methylene chloride	0.5 0.084 U	0.50	1.7 0.29 U	J B	1.7
n-Hexane	5.5	0.50	19		1.8
1,1-Dichloroethane	ND	0.20	ND		0.81
cis-1,2-Dichloroethene	ND	0.20	ND		0.79
Chloroform	ND	0.20	ND		0.98
1,1,1-Trichloroethane	2.0	0.20	11		1.1
Carbon tetrachloride	0.043	0.20	0.27	J	1.3
Benzene	1.2	0.20	4.0		0.64
1,2-Dichloroethane	ND	0.20	ND		0.81
n-Heptane	5.6	0.50	23		2.0
Trichloroethene	ND	0.20	ND		1.1
1,2-Dichloropropane	ND	0.20	ND		0.92
cis-1,3-Dichloropropene	ND	0.20	ND		0.91
Toluene	4.6	0.20	17		0.75
n-Octane	5.5	0.40	26		1.9
trans-1,3-Dichloropropene	ND	0.20	ND		0.91
1,1,2-Trichloroethane	ND	0.20	ND		1.1
Tetrachloroethene	2.0	0.20	14		1.4
1,2-Dibromoethane (EDB)	ND	0.20	ND		1.5
Chlorobenzene	ND	0.20	ND		0.92
Ethylbenzene	1.6	0.20	7.0		0.87
m-Xylene & p-Xylene	7.7	0.20	33		0.87
Nonane	5.1	0.50	27		2.6
o-Xylene	2.4	0.20	10		0.87
Styrene	0.11	0.20	0.46	J	0.85
Cumene	0.12	0.40	0.57	J	2.0
1,1,2,2-Tetrachloroethane	ND	0.20	ND		1.4

STL Buffalo

Client Sample ID: SS-2

GC/MS Volatiles

Lot-Sample # H7C230285 - 003

Work Order # JRM4K1AA

Matrix.....: AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,3,5-Trimethylbenzene	0.71	0.20	3.5	0.98
n-Decane	3.6	1.0	21	5.8
1,2,4-Trimethylbenzene	1.6	0.20	8.1	0.98
1,3-Dichlorobenzene	ND	0.20	ND	1.2
1,4-Dichlorobenzene	0.27	0.20	1.6	1.2
1,2-Dichlorobenzene	ND	0.20	ND	1.2
n-Undecane	3.3	1.0	21	6.4
n-Dodecane	2.7	1.0	19	7.0
1,2,4-Trichlorobenzene	0.22	1.0	1.6 J	7.4
Hexachlorobutadiene	ND	1.0	ND	11
Naphthalene	4.3	0.50	23 B	2.6

TENTATIVELY IDENTIFIED COMPOUND	RESULT	UNITS
butylcyclohexane	ND	ppb(v/v)
indane	ND	ppb(v/v)
indene	ND	ppb(v/v)
isopentane	19	ppb(v/v)
thiophene	ND	ppb(v/v)
1-methylnaphthalene	4.8	ppb(v/v)
1,2,3-trimethylbenzene	ND	ppb(v/v)
2-methylnaphthalene	2.5	ppb(v/v)
2,2,4-trimethylpentane	8.4	ppb(v/v)
2,3-dimethylheptane	ND	ppb(v/v)
2,3-dimethylpentane	ND	ppb(v/v)

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
1,2-Dichloroethane-d4	115	70 - 130
Toluene-d8	99	70 - 130
4-Bromofluorobenzene	93	70 - 130

Qualifiers

- B Method blank contamination. The associated method blank contains the target analyte at a reportable level.
 J Estimated result. Result is less than RL.

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

STL Buffalo
Client Sample ID: IA-2
GC/MS Volatiles

Lot-Sample # H7C230285 - 004

Work Order # JRM4M1AA

Matrix.....: AIR

Date Sampled...: 3/21/07
Prep Date.....: 3/26/07
Prep Batch #.....: 7087207
Dilution Factor.: 1

Date Received...: 3/22/07
Analysis Date..: 3/27/07
Method.....: TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Methyl tert-butyl ether	ND	1.0	ND	3.6
Dichlorodifluoromethane	0.49	0.20	2.4	0.99
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ND	1.4
Chloromethane	0.82	0.50	1.7	1.0
Vinyl chloride	ND	0.20	ND	0.51
n-Butane	0.99	0.40	2.3	0.95
Bromomethane	ND	0.20	ND	0.78
Chloroethane	ND	0.20	ND	0.53
Trichlorofluoromethane	0.22	0.20	1.2	1.1
Pentane	0.32	1.0	0.95	J 3.0
1,1-Dichloroethene	ND	0.20	ND	0.79
1,1,2-Trichloro-1,2,2-trifluoroethane	0.082	0.20	0.63	J 1.5
Methylene chloride	0.5 0.14 U	0.50	1.7 0.50 U	J-B 1.7
n-Hexane	0.11	0.50	0.37	J 1.8
1,1-Dichloroethane	ND	0.20	ND	0.81
cis-1,2-Dichloroethene	ND	0.20	ND	0.79
Chloroform	ND	0.20	ND	0.98
1,1,1-Trichloroethane	ND	0.20	ND	1.1
Carbon tetrachloride	0.13	0.20	0.79	J 1.3
Benzene	0.39	0.20	1.2	0.64
1,2-Dichloroethane	ND	0.20	ND	0.81
n-Heptane	0.10	0.50	0.43	J 2.0
Trichloroethene	ND	0.20	ND	1.1
1,2-Dichloropropane	ND	0.20	ND	0.92
cis-1,3-Dichloropropene	ND	0.20	ND	0.91
Toluene	0.65	0.20	2.5	0.75
n-Octane	ND	0.40	ND	1.9
trans-1,3-Dichloropropene	ND	0.20	ND	0.91
1,1,2-Trichloroethane	ND	0.20	ND	1.1
Tetrachloroethene	0.046	0.20	0.31	J 1.4
1,2-Dibromoethane (EDB)	ND	0.20	ND	1.5
Chlorobenzene	ND	0.20	ND	0.92
Ethylbenzene	0.14	0.20	0.59	J 0.87
m-Xylene & p-Xylene	0.45	0.20	1.9	0.87
Nonane	ND	0.50	ND	2.6
o-Xylene	0.17	0.20	0.72	J 0.87
Styrene	0.043	0.20	0.18	J 0.85
Cumene	ND	0.40	ND	2.0
1,1,2,2-Tetrachloroethane	ND	0.20	ND	1.4

STL Buffalo

Client Sample ID: IA-2

GC/MS Volatiles

Lot-Sample # H7C230285 - 004

Work Order # JRM4M1AA

Matrix.....: AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,3,5-Trimethylbenzene	0.067	0.20	0.33 J	0.98
n-Decane	ND	1.0	ND	5.8
1,2,4-Trimethylbenzene	0.11	0.20	0.53 J	0.98
1,3-Dichlorobenzene	ND	0.20	ND	1.2
1,4-Dichlorobenzene	ND	0.20	ND	1.2
1,2-Dichlorobenzene	ND	0.20	ND	1.2
n-Undecane	ND	1.0	ND	6.4
n-Dodecane	ND	1.0	ND	7.0
1,2,4-Trichlorobenzene	0.10	1.0	0.76 J	7.4
Hexachlorobutadiene	ND	1.0	ND	11
Naphthalene	0.5 0.067 U	0.50	2.6 0.33 U J-B	2.6

TENTATIVELY IDENTIFIED COMPOUND	RESULT	UNITS
butylcyclohexane	ND	ppb(v/v)
indane	ND	ppb(v/v)
indene	ND	ppb(v/v)
isopentane	ND	ppb(v/v)
thiophene	ND	ppb(v/v)
1-methylnaphthalene	ND	ppb(v/v)
1,2,3-trimethylbenzene	ND	ppb(v/v)
2-methylnaphthalene	ND	ppb(v/v)
2,2,4-trimethylpentane	ND	ppb(v/v)
2,3-dimethylheptane	ND	ppb(v/v)
2,3-dimethylpentane	ND	ppb(v/v)

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
1,2-Dichloroethane-d4	117	70 - 130
Toluene-d8	100	70 - 130
4-Bromofluorobenzene	96	70 - 130

Qualifiers

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.
 J Estimated result. Result is less than RL.

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

STL Buffalo

Client Sample ID: SS-3

GC/MS Volatiles

Lot-Sample # H7C230285 - 005

Work Order # JRM4Q3AA

Matrix.....: AIR

Date Sampled...: 3/21/07

Date Received...: 3/22/07

Prep Date.....: 4/3/07

Analysis Date..: 4/3/07

Prep Batch #.....: 7094100

Dilution Factor.: 1

Method.....: TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Methyl tert-butyl ether	0.34	1.0	1.2 J	3.6
Dichlorodifluoromethane	0.70	0.20	3.4	0.99
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ND	1.4
Chloromethane	ND	0.50	ND	1.0
Vinyl chloride	ND	0.20	ND	0.51
n-Butane	26	0.40	61 B	0.95
Bromomethane	ND	0.20	ND	0.78
Chloroethane	ND	0.20	ND	0.53
Trichlorofluoromethane	0.26	0.20	1.5	1.1
Pentane	13	1.0	38	3.0
1,1-Dichloroethene	ND	0.20	ND	0.79
1,1,2-Trichloro-1,2,2-trifluoroethane	0.092	0.20	0.70 J	1.5
Methylene chloride	0.5 0.21 U	0.50	1.7 0.72 U J-B	1.7
n-Hexane	12	0.50	42	1.8
1,1-Dichloroethane	ND	0.20	ND	0.81
cis-1,2-Dichloroethene	ND	0.20	ND	0.79
Chloroform	0.065	0.20	0.32 J	0.98
1,1,1-Trichloroethane	4.3	0.20	23	1.1
Carbon tetrachloride	ND	0.20	ND	1.3
Benzene	3.4	0.20	11	0.64
1,2-Dichloroethane	ND	0.20	ND	0.81
n-Heptane	10	0.50	42	2.0
Trichloroethene	0.037	0.20	0.20 J	1.1
1,2-Dichloropropane	ND	0.20	ND	0.92
cis-1,3-Dichloropropene	ND	0.20	ND	0.91
Toluene	18	0.20	68	0.75
n-Octane	19	0.40	88	1.9
trans-1,3-Dichloropropene	ND	0.20	ND	0.91
1,1,2-Trichloroethane	ND	0.20	ND	1.1
Tetrachloroethene	1.3	0.20	9.1	1.4
1,2-Dibromoethane (EDB)	ND	0.20	ND	1.5
Chlorobenzene	ND	0.20	ND	0.92
Ethylbenzene	14	0.20	61	0.87
m-Xylene & p-Xylene	59	0.20	260	0.87
Nonane	11	0.50	59	2.6
o-Xylene	21	0.20	92	0.87
Styrene	0.27	0.20	1.1	0.85
Cumene	1.9	0.40	9.5	2.0
1,1,2,2-Tetrachloroethane	ND	0.20	ND	1.4

STL Buffalo
Client Sample ID: SS-3
GC/MS Volatiles

Lot-Sample # H7C230285 - 005

Work Order # JRM4Q3AA

Matrix.....: AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,3,5-Trimethylbenzene	1.4	0.20	7.1	0.98
n-Decane	15	1.0	88	5.8
1,2,4-Trimethylbenzene	2.7	0.20	13	0.98
1,3-Dichlorobenzene	ND	0.20	ND	1.2
1,4-Dichlorobenzene	0.66	0.20	3.9	1.2
1,2-Dichlorobenzene	ND	0.20	ND	1.2
n-Undecane	5.3	1.0	34	6.4
n-Dodecane	4.1	1.0	28	7.0
1,2,4-Trichlorobenzene	ND \overline{J}	1.0	ND \overline{J}	7.4
Hexachlorobutadiene	ND	1.0	ND	11
Naphthalene	0.45	0.50	2.4 \overline{J}	2.6

TENTATIVELY IDENTIFIED COMPOUND	RESULT	UNITS
Butylcyclohexane	ND	ppb(v/v)
Indane	ND	ppb(v/v)
Indene	ND	ppb(v/v)
Isopentane	18	ppb(v/v)
Thiopene	ND	ppb(v/v)
1-methylnaphthalene	ND	ppb(v/v)
1,2,3-Trimethylbenzene	ND	ppb(v/v)
2-Methylnaphthalene	ND	ppb(v/v)
2,2,4-Trimethylpentane	ND	ppb(v/v)
2,3-Dimethylheptane	ND	ppb(v/v)
2,3-Dimethylpentane	ND	ppb(v/v)

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
1,2-Dichloroethane-d4	99	70 - 130
Toluene-d8	104	70 - 130
4-Bromofluorobenzene	97	70 - 130

Qualifiers

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J Estimated result. Result is less than RL.

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

STL Buffalo

Client Sample ID: IA-3

GC/MS Volatiles

Lot-Sample # H7C230285 - 006

Work Order # JRM4T1AA

Matrix.....: AIR

Date Sampled...: 3/21/07

Date Received...: 3/22/07

Prep Date.....: 3/26/07

Analysis Date..: 3/27/07

Prep Batch #.....: 7087207

Dilution Factor.: 1

Method.....: TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Methyl tert-butyl ether	ND	1.0	ND	3.6
Dichlorodifluoromethane	0.70	0.20	3.4	0.99
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ND	1.4
Chloromethane	0.74	0.50	1.5	1.0
Vinyl chloride	ND	0.20	ND	0.51
n-Butane	1.4	0.40	3.4	0.95
Bromomethane	ND	0.20	ND	0.78
Chloroethane	ND	0.20	ND	0.53
Trichlorofluoromethane	0.30	0.20	1.7	1.1
Pentane	0.33	1.0	0.97 J	3.0
1,1-Dichloroethene	ND	0.20	ND	0.79
1,1,2-Trichloro-1,2,2-trifluoroethane	0.11	0.20	0.81 J	1.5
Methylene chloride	0.5 0.25 U	0.50	1.7 0.88 U J-B	1.7
n-Hexane	0.13	0.50	0.47 J	1.8
1,1-Dichloroethane	ND	0.20	ND	0.81
cis-1,2-Dichloroethene	ND	0.20	ND	0.79
Chloroform	ND	0.20	ND	0.98
1,1,1-Trichloroethane	ND	0.20	ND	1.1
Carbon tetrachloride	0.097	0.20	0.61 J	1.3
Benzene	0.30	0.20	0.97	0.64
1,2-Dichloroethane	ND	0.20	ND	0.81
n-Heptane	0.15	0.50	0.61 J	2.0
Trichloroethene	0.13	0.20	0.72 J	1.1
1,2-Dichloropropane	ND	0.20	ND	0.92
cis-1,3-Dichloropropene	ND	0.20	ND	0.91
Toluene	7.0	0.20	26	0.75
n-Octane	0.081	0.40	0.38 J	1.9
trans-1,3-Dichloropropene	ND	0.20	ND	0.91
1,1,2-Trichloroethane	ND	0.20	ND	1.1
Tetrachloroethene	0.036	0.20	0.24 J	1.4
1,2-Dibromoethane (EDB)	ND	0.20	ND	1.5
Chlorobenzene	ND	0.20	ND	0.92
Ethylbenzene	0.28	0.20	1.2	0.87
m-Xylene & p-Xylene	0.93	0.20	4.1	0.87
Nonane	0.059	0.50	0.31 J	2.6
o-Xylene	0.29	0.20	1.3	0.87
Styrene	0.061	0.20	0.26 J	0.85
Cumene	ND	0.40	ND	2.0
1,1,2,2-Tetrachloroethane	ND	0.20	ND	1.4

STL Buffalo

Client Sample ID: IA-3

GC/MS Volatiles

Lot-Sample # H7C230285 - 006

Work Order # JRM4T1AA

Matrix.....: AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,3,5-Trimethylbenzene	ND	0.20	ND	0.98
n-Decane	0.39	1.0	2.2 J	5.8
1,2,4-Trimethylbenzene	0.095	0.20	0.47 J	0.98
1,3-Dichlorobenzene	ND	0.20	ND	1.2
1,4-Dichlorobenzene	ND	0.20	ND	1.2
1,2-Dichlorobenzene	ND	0.20	ND	1.2
n-Undecane	0.12	1.0	0.76 J	6.4
n-Dodecane	0.18	1.0	1.2 J	7.0
1,2,4-Trichlorobenzene	0.10	1.0	0.75 J	7.4
Hexachlorobutadiene	ND	1.0	ND	11
Naphthalene	0.5 0.21 U	0.50	2.6 1.1 U JB	2.6

TENTATIVELY IDENTIFIED COMPOUND	RESULT	UNITS
butylcyclohexane	ND	ppb(v/v)
indane	ND	ppb(v/v)
indene	ND	ppb(v/v)
isopentane	ND	ppb(v/v)
thiophene	ND	ppb(v/v)
1-methylnaphthalene	ND	ppb(v/v)
1,2,3-trimethylbenzene	ND	ppb(v/v)
2-methylnaphthalene	ND	ppb(v/v)
2,2,4-trimethylpentane	ND	ppb(v/v)
2,3-dimethylheptane	ND	ppb(v/v)
2,3-dimethylpentane	ND	ppb(v/v)

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
1,2-Dichloroethane-d4	108	70 - 130
Toluene-d8	103	70 - 130
4-Bromofluorobenzene	101	70 - 130

Qualifiers

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.
 J Estimated result. Result is less than RL.

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

STL Buffalo

Client Sample ID: AA-1

GC/MS Volatiles

Lot-Sample # H7C230285 - 007

Work Order # JRM4W1AA

Matrix.....: AIR

Date Sampled...: 3/21/07
 Prep Date.....: 3/26/07
 Prep Batch #....: 7087140
 Dilution Factor.: 1

Date Received..: 3/22/07
 Analysis Date..: 3/27/07
 Method.....: TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Methyl tert-butyl ether	ND	1.0	ND	3.6
Dichlorodifluoromethane	0.42	0.20	2.1	0.99
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ND	1.4
Chloromethane	0.52	0.50	1.1	1.0
Vinyl chloride	ND	0.20	ND	0.51
n-Butane	0.44	0.40	1.0	0.95
Bromomethane	ND	0.20	ND	0.78
Chloroethane	ND	0.20	ND	0.53
Trichlorofluoromethane	0.20	0.20	1.1	1.1
Pentane	0.21	1.0	0.62	3.0
1,1-Dichloroethene	ND	0.20	ND	0.79
1,1,2-Trichloro-1,2,2-trifluoroethane	0.064	0.20	0.49	1.5
Methylene chloride	0.5 0.12 U	0.50	1.7 0.40 U	1.7
n-Hexane	0.057	0.50	0.20	1.8
1,1-Dichloroethane	ND	0.20	ND	0.81
cis-1,2-Dichloroethene	ND	0.20	ND	0.79
Chloroform	ND	0.20	ND	0.98
1,1,1-Trichloroethane	ND	0.20	ND	1.1
Carbon tetrachloride	0.068	0.20	0.42	1.3
Benzene	0.16	0.20	0.50	0.64
1,2-Dichloroethane	ND	0.20	ND	0.81
n-Heptane	ND	0.50	ND	2.0
Trichloroethene	ND	0.20	ND	1.1
1,2-Dichloropropane	ND	0.20	ND	0.92
cis-1,3-Dichloropropene	ND	0.20	ND	0.91
Toluene	0.20	0.20	0.74	0.75
n-Octane	ND	0.40	ND	1.9
trans-1,3-Dichloropropene	ND	0.20	ND	0.91
1,1,2-Trichloroethane	ND	0.20	ND	1.1
Tetrachloroethene	ND	0.20	ND	1.4
1,2-Dibromoethane (EDB)	ND	0.20	ND	1.5
Chlorobenzene	ND	0.20	ND	0.92
Ethylbenzene	0.062	0.20	0.27	0.87
m-Xylene & p-Xylene	0.21	0.20	0.93	0.87
Nonane	ND	0.50	ND	2.6
o-Xylene	0.069	0.20	0.30	0.87
Styrene	ND	0.20	ND	0.85
Cumene	ND	0.40	ND	2.0
1,1,2,2-Tetrachloroethane	ND	0.20	ND	1.4

STL Buffalo
Client Sample ID: AA-1
GC/MS Volatiles

Lot-Sample # H7C230285 - 007

Work Order # JRM4W1AA

Matrix.....: AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,3,5-Trimethylbenzene	ND	0.20	ND	0.98
n-Decane	ND	1.0	ND	5.8
1,2,4-Trimethylbenzene	0.11	0.20	0.55 J	0.98
1,3-Dichlorobenzene	ND	0.20	ND	1.2
1,4-Dichlorobenzene	ND	0.20	ND	1.2
1,2-Dichlorobenzene	ND	0.20	ND	1.2
n-Undecane	ND	1.0	ND	6.4
n-Dodecane	ND	1.0	ND	7.0
1,2,4-Trichlorobenzene	ND	1.0	ND	7.4
Hexachlorobutadiene	ND	1.0	ND	11
Naphthalene	0.095	0.50	0.50 J	2.6

TENTATIVELY IDENTIFIED COMPOUND	RESULT	UNITS
Butylcyclohexane	ND	ppb(v/v)
Indane	ND	ppb(v/v)
Indene	ND	ppb(v/v)
Isopentane	ND	ppb(v/v)
Thiopene	ND	ppb(v/v)
1-methylnaphthalene	ND	ppb(v/v)
1,2,3-Trimethylbenzene	ND	ppb(v/v)
2-Methylnaphthalene	ND	ppb(v/v)
2,2,4-Trimethylpentane	ND	ppb(v/v)
2,3-Dimethylheptane	ND	ppb(v/v)
2,3-Dimethylpentane	ND	ppb(v/v)

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
1,2-Dichloroethane-d4	100	70 - 130
Toluene-d8	104	70 - 130
4-Bromofluorobenzene	97	70 - 130

Qualifiers

- B Method blank contamination. The associated method blank contains the target analyte at a reportable level.
J Estimated result. Result is less than RL.

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

STL Buffalo
Client Sample ID: DUP-1
GC/MS Volatiles

Lot-Sample # H7C230285 - 008

Work Order # JRM411AA

Matrix.....: AIR

Date Sampled...: 3/21/07

Date Received...: 3/22/07

Prep Date.....: 3/26/07

Analysis Date..: 3/27/07

Prep Batch #.....: 7087140

Dilution Factor.: 1

Method.....: TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
Methyl tert-butyl ether	ND	1.0	ND	3.6
Dichlorodifluoromethane	0.44	0.20	2.2	0.99
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.20	ND	1.4
Chloromethane	ND	0.50	ND	1.0
Vinyl chloride	ND	0.20	ND	0.51
n-Butane	0.77	0.40	1.8	0.95
Bromomethane	ND	0.20	ND	0.78
Chloroethane	ND	0.20	ND	0.53
Trichlorofluoromethane	0.22	0.20	1.3	1.1
Pentane	0.45	1.0	1.3 J	3.0
1,1-Dichloroethene	ND	0.20	ND	0.79
1,1,2-Trichloro-1,2,2-trifluoroethane	0.075	0.20	0.58 J	1.5
Methylene chloride	0.5 0.15 U	0.50	1.7 0.52 U JB	1.7
n-Hexane	0.60	0.50	2.1	1.8
1,1-Dichloroethane	ND	0.20	ND	0.81
cis-1,2-Dichloroethene	ND	0.20	ND	0.79
Chloroform	ND	0.20	ND	0.98
1,1,1-Trichloroethane	ND	0.20	ND	1.1
Carbon tetrachloride	0.064	0.20	0.40 J	1.3
Benzene	0.14	0.20	0.44 J	0.64
1,2-Dichloroethane	ND	0.20	ND	0.81
n-Heptane	0.31	0.50	1.3 J	2.0
Trichloroethene	ND	0.20	ND	1.1
1,2-Dichloropropane	ND	0.20	ND	0.92
cis-1,3-Dichloropropene	ND	0.20	ND	0.91
Toluene	0.86 J	0.20	3.2 J	0.75
n-Octane	0.25	0.40	1.2 J	1.9
trans-1,3-Dichloropropene	ND	0.20	ND	0.91
1,1,2-Trichloroethane	ND	0.20	ND	1.1
Tetrachloroethene	0.28	0.20	1.9	1.4
1,2-Dibromoethane (EDB)	ND	0.20	ND	1.5
Chlorobenzene	ND	0.20	ND	0.92
Ethylbenzene	2.3	0.20	10	0.87
m-Xylene & p-Xylene	12	0.20	53	0.87
Nonane	0.36	0.50	1.9 J	2.6
o-Xylene	4.7	0.20	20	0.87
Styrene	ND	0.20	ND	0.85
Cumene	0.35	0.40	1.7 J	2.0
1,1,2,2-Tetrachloroethane	ND	0.20	ND	1.4

STL Buffalo

Client Sample ID: DUP-1

GC/MS Volatiles

Lot-Sample # H7C230285 - 008

Work Order # JRM411AA

Matrix.....: AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)
1,3,5-Trimethylbenzene	0.38	0.20	1.9	0.98
n-Decane	0.52	1.0	3.0 J	5.8
1,2,4-Trimethylbenzene	1.0	0.20	5.1	0.98
1,3-Dichlorobenzene	ND	0.20	ND	1.2
1,4-Dichlorobenzene	0.071	0.20	0.43 J	1.2
1,2-Dichlorobenzene	0.096	0.20	0.58 J	1.2
n-Undecane	1.5	1.0	9.9	6.4
n-Dodecane	2.3	1.0	16	7.0
1,2,4-Trichlorobenzene	0.28	1.0	2.0 J	7.4
Hexachlorobutadiene	ND	1.0	ND	11
Naphthalene	0.32	0.50	1.7 J	2.6

TENTATIVELY IDENTIFIED COMPOUND	RESULT	UNITS
Butylcyclohexane	ND	ppb(v/v)
Indane	ND	ppb(v/v)
Indene	ND	ppb(v/v)
Isopentane	ND	ppb(v/v)
Thiopene	ND	ppb(v/v)
1-methylnaphthalene	ND	ppb(v/v)
1,2,3-Trimethylbenzene	ND	ppb(v/v)
2-Methylnaphthalene	ND	ppb(v/v)
2,2,4-Trimethylpentane	ND	ppb(v/v)
2,3-Dimethylheptane	ND	ppb(v/v)
2,3-Dimethylpentane	ND	ppb(v/v)

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
1,2-Dichloroethane-d4	100	70 - 130
Toluene-d8	105	70 - 130
4-Bromofluorobenzene	101	70 - 130

Qualifiers

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.
 J Estimated result. Result is less than RL.

The 'Result' in ug/m3 is calculated using the following equation: Amount Found(before rounding)*(Molecular Weight/24.45)

The 'Reporting Limit' in ug/m3 is calculated using the following equation: (Reporting Limit(before rounding) * Dilution Factor) * (Molecular Weight/24.45)

STL Buffalo

Client Sample ID: SS-1

GC Volatiles

Lot-Sample #....: H7C230285-001 Work Order #....: JRM371AF Matrix.....: AG
Date Sampled....: 03/21/07 Date Received...: 03/22/07
Prep Date.....: 04/02/07 Analysis Date...: 04/02/07
Prep Batch #....: 7093302
Dilution Factor: 3.37 Method.....: ASTM D1946 MOD

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>
Helium	ND	0.34	%

STL Buffalo

Client Sample ID: SS-2

GC Volatiles

Lot-Sample #...: H7C230285-003 Work Order #...: JRM4K1AF Matrix.....: AG
Date Sampled...: 03/21/07 Date Received...: 03/22/07
Prep Date.....: 04/02/07 Analysis Date...: 04/02/07
Prep Batch #...: 7093302
Dilution Factor: 2.47 Method.....: ASTM D1946 MOD

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>
Helium	ND	0.25	%

STL Buffalo

Client Sample ID: SS-3

GC Volatiles

Lot-Sample #....: H7C230285-005 Work Order #....: JRM4Q1AF Matrix.....: AG
Date Sampled....: 03/21/07 Date Received...: 03/22/07
Prep Date.....: 04/02/07 Analysis Date...: 04/02/07
Prep Batch #....: 7093302
Dilution Factor: 2.71 Method.....: ASTM D1946 MOD

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>
Helium	ND	0.27	%

STL Buffalo

Client Sample ID: DUP-1

GC Volatiles

Lot-Sample #...: H7C230285-008 Work Order #...: JRM411AF Matrix.....: AG
Date Sampled...: 03/21/07 Date Received...: 03/22/07
Prep Date.....: 04/02/07 Analysis Date...: 04/02/07
Prep Batch #...: 7093302
Dilution Factor: 2.44 Method.....: ASTM D1946 MOD

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>
Helium	ND	0.24	%

SAMPLE COMPLIANCE REPORT

SAMPLE COMPLIANCE REPORT

Sample Delivery Group	Sampling Date	Protocol	Sample ID	Matrix	Compliance ¹					Noncompliance
					VOC	SVOC	PCB	MET	MISC	
H7C230285	3/21/2007	ASP 2005	SS-1	Air	No	--	--	--	Yes	Associated Blank; Field Duplicate RPD
H7C230285	3/21/2007	ASP 2005	IA-1	Air	No	--	--	--	Yes	Associated Blank
H7C230285	3/21/2007	ASP 2005	SS-2	Air	No	--	--	--	Yes	Associated Blank
H7C230285	3/21/2007	ASP 2005	IA-2	Air	No	--	--	--	Yes	Associated Blank
H7C230285	3/21/2007	ASP 2005	SS-3	Air	No	--	--	--	Yes	Associated Blank; CCV %D; LCS %Recovery
H7C230285	3/21/2007	ASP 2005	IA-3	Air	No	--	--	--	Yes	Associated Blank
H7C230285	3/21/2007	ASP 2005	AA-1	Air	No	--	--	--	Yes	Associated Blank
H7C230285	3/21/2007	ASP 2005	DUP-1	Air	No	--	--	--	Yes	Associated Blank; Field Duplicate RPD

- 1 Samples which are compliant with no added validation qualifiers are listed as "yes". Samples which are non-compliant or which have added qualifiers are listed as "no". A "no" designation does not necessarily indicate that the data have been rejected or are otherwise unusable.