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Consolidated Edison Company of New York, Inc.

Interim Site Management Plan – Annual Indoor Air Monitoring Report

Former East 11th Street Works
Manhattan, New York

July 2013

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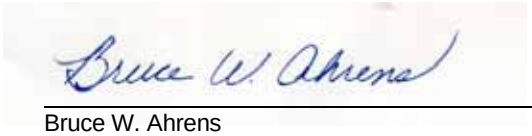

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Interim Site Management Plan – Annual Indoor Air Monitoring Report

Former East 11th Street Works Site, Manhattan, New York

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1. Introduction

This report presents a summary of the results from the 2013 annual indoor air monitoring conducted by ARCADIS of New York, Inc. (ARCADIS) on behalf of Consolidated Edison Company of New York, Inc. (Con Edison). Indoor air monitoring was conducted in accordance with the procedures and protocols presented in the *Interim Site Management Plan for Indoor Air Monitoring* (ARCADIS 2009) (ISMP). The ISMP is a component of a comprehensive monitoring plan that is being developed to ensure that the public and the environment are protected until a final remedy for the site is implemented.

Indoor air monitoring was conducted at one property within the Former East 11th Street Works site (the site). The property included in the 2013 monitoring event was the Jacob Riis Housing Development. Access was not obtained to conduct air monitoring at the Haven Plaza North Co-Op Apartments or Saint Emeric's (Escuela Hispania Montessori Head Start School [formerly Saint Emeric's Roman Catholic School] or the Church of Saint Emeric's).

A summary of the activities performed associated with the 2013 annual indoor air monitoring is included below. Tabulated laboratory results from the indoor air monitoring, a figure showing the sampling locations, photographic logs, sampling forms, and a compact disk (CD) containing copies of the Data Usability Summary Reports (DUSRs) are included as attachments. Deviations from the scope of work presented in the ISMP are also presented.

2. Indoor Air Monitoring

Prior to initiating field work, the site Health and Safety Plan (HASP) was reviewed to ensure that task specific monitoring activities were consistent with Con Edison's Corporate Health and Safety Procedure A32.00 (Rules We Live By). A copy of the HASP was maintained on site during all work activities; all site personnel were required to review the HASP and sign an acknowledgement form stating that they understood the contents of the HASP and agree to abide by its requirements. Tailgate meetings were conducted each morning to discuss the day's activities, critical work procedures, and safety requirements. No accidents or near misses occurred during the indoor air sampling events.

The dates that the annual indoor air sampling events were conducted are presented in Table 1.

Table 1
Sample Collection Dates

Location	Sample Collection Date(s)
Jacob Riis Housing Development 170 Avenue D, 178 Avenue D, 1115 FDR Drive 1141 FDR Drive, 1223 FDR Drive	March 26 through 28, 2013

Pre-monitoring walk through visual inspections and chemical inventories were conducted concurrent with indoor air monitoring activities at each of the sampling locations. The objectives of the walk-through inspections and chemical inventories were to visually identify conditions that may affect or interfere with the indoor air monitoring, document the physical condition of the indoor air monitoring areas, and to confirm the sampling locations. Conditions identified during the visual inspections were generally consistent with conditions identified during visual inspections conducted in 2010 and 2011. Evidence of flooding (e.g., water marks on the exterior foundation walls surrounding the sample collection areas) was evident as a result of Hurricane Sandy, which severely impacted the lower east side of Manhattan in October 2012 (approximately 5 months prior to this ISMP sampling event).During the walk-through inspections, floor construction details for each building were documented and New York State Department of Health (NYSDOH) Indoor Air Quality Questionnaires and Building Inventory Forms were completed (**Attachment 1**). Photographs of the areas where samples were collected to document general background conditions and the chemical products present that potentially contain volatile chemicals during the walk-through inspections are included on a compact disk (CD) provided in **Attachment 2**.

The locations selected for indoor monitoring are presented on **Figure 1**. For consistency, the selected locations for each property were consistent with the locations sampled during the 2007, 2010, and 2011 indoor air monitoring events.

As identified in the photographic logs, small quantities of containers containing paints, solvents, cleaning supplies, and/or maintenance-related chemical products were present in each of the buildings during the walk-through inspections. These conditions are also similar to the conditions identified during the walk-through inspections associated with the previous sampling events. Removal of these potential interferences prior to collection of indoor air samples was not feasible. A portable organic vapor monitor (ppbRAE) was used to measure volatile organic compounds (VOCs) liberated from these contemporary chemicals. The measured concentrations of VOCs in each area monitored in each building are summarized in **Table 2**. The highest background VOC concentrations obtained from indoor air at each of the buildings was recorded at the following location:

- 178 FDR Drive: 352 parts per billion [ppb] was detected in the ambient air of the "compactor room".

Photographic logs documenting the conditions/stored products at these locations are included on a CD as **Attachment 5**.

Air samples for laboratory testing were collected using batch-certified clean, 6-liter SUMMA canisters equipped with laboratory pre-set flow regulators for 8-hour sample collection. Indoor air samples were collected from within the ground levels of each building within the breathing zone (approximately 4 feet above the floor). The date, times (start and end times), sample identification, and other required information were recorded on sample collection logs as described in the ISMP. The sample collection logs are included on a CD included as **Attachment 3**. Outdoor, ambient air monitoring was conducted from upwind locations each day indoor air samples were collected. Ambient air sampling locations are also presented on **Figure 1**.

Air samples were sent to TestAmerica Laboratories (TestAmerica) located in Knoxville, Tennessee via overnight courier for analysis of the project compound list analytes by United States Environmental Protection Agency (USEPA) Method TO-15. The project compound list included standard TO-15 VOCs, along with n-alkanes, and branched alkanes and other "indicator" compounds reported as tentatively identified compounds (TICs). The laboratory provided ASP Category B-equivalent data packages for quality review. Laboratory data packages and associated quality control information were

reviewed by qualified ARCADIS personnel to verify they met the project-specific criteria for data quality. Data Usability Summary Reports (DUSRs) were prepared that present the results from the data review for each sample data group; DUSRs are included on a CD included as **Attachment 4**. The DUSRs indicate that the laboratory results for each site met the data quality objectives and the data were considered usable.

The laboratory results for the Jacob Riis Housing Development are summarized in **Table 3**. Consistent with ISMP requirements, for comparison purposes, the indoor air results are compared to the NYSDOH Upper Fence (F) Criterion for indoor air background data for fuel oil heated homes and the USEPA's BASE guidance values for the 90th percentile background air levels to provide typical concentrations of VOCs in indoor air.

3. Results and Conclusions

The results from the annual indoor air monitoring event are presented below.

3.1 Jacob Riis Housing Development

Eighteen (18) indoor air samples (labeled based on building address), 3 ambient samples (AA-032613, AA-032713, and AA-032813), and 2 duplicate samples for quality control purposes (DUP-032613 and DUP-032813) were collected for laboratory analysis. The sample collection logs are included on a CD as **Attachment 3**; photographs documenting the sample locations and equipment set-up are included on a CD as **Attachment 5**. The laboratory results are presented in **Table 3**.

The ISMP included the collection of five air samples from elevator shafts within the Jacob Riis buildings (one sample from an elevator shaft within each building sampled); however, based upon inspection with Con Edison prior to the 2010 monitoring event, the elevator shafts were unable to be accessed safely for visual inspection and sample collection without terminating elevator operation. Terminating elevator operation was not feasible; therefore, consistent with the pervious monitoring events, elevator shaft samples could not be collected.

As indicated in **Table 3**, a total of 42 analytes included in the project-specific analyte list (including TO-15 VOCs, n-alkanes, branched alkanes, and other TICs) were detected in the 18 indoor air samples collected throughout the Jacob Riis Housing Development. A summary of the detected analytes include:

- Of the 26 TO-15 VOC analytes detected in indoor air, 18 were also detected in ambient (i.e., outdoor) air (the 8 analytes detected in indoor air that were not detected in outdoor ambient air included 5 chlorinated compounds [multiple samples], styrene [5 samples], bromomethane [3 samples], and naphthalene [1 sample]).

- When compared to the concentrations detected in the ambient air samples, 15 of the 18 TO-15 VOCs were detected in indoor samples at concentrations greater than the outdoor concentrations. The TO-15 VOCs detected at higher concentrations indoors included 10 chlorinated compounds, benzene, ethylbenzene, m- & p-xylene, o-xylene, and toluene.

- Six of the TO-15 VOC analytes detected indoor were above the NYSDOH Upper F criterion (1,1,2,2-tetrachloroethane, chloroform, cis-1,2-dichloroehtene, tetrachloroethene, trichloroethene, and xylenes); three of those analytes were also present above the USEPA indoor air background level (chloroform [15 samples], cis-1,2-dichloroethene [1 sample], and tetrachloroethene [1 sample]).

- Commonly identified "gasoline indicators" (e.g., n-butane, n-pentane, n-heptane, isooctane, isopentane and 2-methylpentane) that were included in the n-alkanes and branched alkanes analyte lists were identified in all outdoor ambient air samples and indoor air samples. Each of these analytes was detected in multiple indoor air samples at concentrations higher than detected in the ambient air samples.

- Indene and thiopene were not detected in any of the samples collected; these compounds are commonly used as "Manufactured Gas Plant (MGP) indicators". 3-Methylthiopene, an associated compound with thiopene, was detected in one indoor air sample collected from the trash compactor room in building 178 Avenue D; however, 3-methylthiopene is not an exclusive indicator of coal tar, it has also been detected in gasoline.

Based on the types of analytes detected, as well as the solvents, cleaning supplies, petroleum, oils, and maintenance-related chemical products stored within the ground-level areas/basements, and coupled with the absence of MGP indicator compounds, the data suggests that MGP-related impacts do not exist in the areas monitored at Jacob Riis Housing Development.

4. Work Plan Deviations

The following deviations from the scope of work presented in the ISMP occurred during the field activities:

- Consistent with previous ISMP sampling events, due to the limitations of site access, the pre-monitoring walk through inspections and chemical inventories at each building were conducted concurrent with indoor air monitoring activities.

- Consistent with the previous ISMP sampling events, the elevator shafts were unable to be accessed for walk-through inspections and monitoring due to the inability to safely access the shafts without terminating elevator operation. Terminating elevator operation was not feasible; therefore the samples could not be collected.

- Haven Plaza North Co-Op Apartments and Saint Emeric's (including the Escuela Hispania Montessori Head Start School and the Church of Saint Emeric's) were not inspected and sampled due to lack of an access agreement.

No additional deviations from the scope of work presented in the ISMP were noted.

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Tables

Table 2
Indoor Air Monitoring Summary

ISMP Annual Indoor Air Monitoring Report
Consolidated Edison Company of New York, Inc.

Sample ID	Date	Location	Background PID Reading (ppb)
JR-170-IA-1	3/26/2013	170 Avenue D - Cabinet room	0
JR-170-IA-2	3/26/2013	170 Avenue D - Storage room	0
JR-170-IA-3	3/26/2013	170 Avenue D - Near tank room	0
JR-170-IA-4	3/26/2013	170 Avenue D - Compactor room	0
JR-178-IA-1	3/26/2013	178 Avenue D - Crawl space beneath building	0
JR-178-IA-2	3/26/2013	178 Avenue D - Meter room	0
JR-178-IA-3	3/27/2013	178 Avenue D - Compactor room	352
AA-032613	3/26/2013	Along fence between 178 Avenue D and Avenue D	0
JR-1115-IA-1	3/28/2013	1115 FDR Drive - Cabinet Room	0
JR-1115-IA-2	3/28/2013	1115 FDR Drive - Storage room outside of plaster room	0
JR-1115-IA-3	3/28/2013	1115 FDR Drive - Tank room	0
JR-1115-IA-4	3/28/2013	1115 FDR Drive - Plaster room	0
JR-1141-IA-1	3/28/2013	1141 FDR Drive - Crawl space	0
JR-1141-IA-2	3/28/2013	1141 FDR Drive - Tank room	0
JR-1141-IA-3	3/28/2013	1141 FDR Drive - Crawl space	0
AA-032813	3/28/2013	Along fence between 1141 FDR Drive and FDR Drive	0
JR-1223-IA-1	3/27/2013	1223 FDR Drive - Storage room (Southeast area of building)	0
JR-1223-IA-2	3/27/2013	1223 FDR Drive - Storage room (Near center of building)	0
JR-1223-IA-3	3/27/2013	1223 FDR Drive - Storage room (Near center corridor of building)	0
JR-1223-IA-4	3/27/2013	1223 FDR Drive - Tank room	0
AA-032713	3/27/2013	Along fence between 1223 FDR Drive and FDR Drive	0

Note:

1. Background PID readings were obtained using a portable organic vapor monitor (ppbRAE) and are reported in parts per billion (ppb).

Table 3
Indoor Air Analytical Results - Jacob Riis

ISMP Annual Indoor Air Monitoring
Consolidated Edison Company of New York, Inc.

Location ID: / Date Collected:	NYSDOH Fuel Oil Heat - Indoor Air Upper Fence (bold)	USEPA BASE Guidance Values 90th Percentile (shade)	Units	AA-032613 03/26/13	AA-032713 03/27/13	AA-032813 03/28/13	JR-1115-IA-1 03/28/13	JR-1115-IA-2 03/28/13	JR-1115-IA-3 03/28/13	JR-1115-IA-4 03/28/13	JR-1141-IA-1 03/28/13	JR-1141-IA-2 03/28/13	JR-1141-IA-3 03/28/13	JR-1223-IA-1 03/27/13	JR-1223-IA-2 03/27/13	JR-1223-IA-3 03/27/13	JR-1223-IA-4 03/27/13	JR-170-IA-1 03/26/13	JR-170-IA-2 03/26/13	JR-170-IA-3 03/26/13	JR-170-IA-4 03/26/13	JR-178-IA-1 03/26/13	JR-178-IA-2 03/26/13	JR-178-IA-3 03/27/13
Volatile Organic Compounds																								
1,1,1-Trichloroethane	2.5	20.6	ug/m3	0.44 U	0.44 U	0.44 U	0.44 U [0.44 U]	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U [0.44 U]	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
1,1,2,2-Tetrachloroethane	0.38	- -	ug/m3	0.55 U	0.55 U	0.55 U	0.55 U [0.55 U]	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U [0.55 U]	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	**0.67**
1,1,2-Trichloroethane	0.38	1.5	ug/m3	0.44 U	0.44 U	0.44 U	0.44 U [0.44 U]	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U [0.44 U]	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
1,1,2-Trichlorotrifluoroethane	2.5	- -	ug/m3	0.49 J	0.48 J	0.50 J	0.48 J [0.49 J]	0.50 J	0.46 J	0.50 J	0.48 J	0.45 J	0.51 J	0.49 J	0.48 J	0.49 J	0.49 J	0.49 J [0.53 J]	0.49 J	0.48 J	0.49 J	0.50 J	0.52 J	0.47 J
1,1-Dichloroethane	0.38	0.7	ug/m3	0.32 U	0.32 U	0.32 U	0.32 U [0.32 U]	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U [0.32 U]	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
1,1-Dichloroethene	0.4	1.4	ug/m3	0.32 U	0.32 U	0.32 U	0.32 U [0.32 U]	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U [0.32 U]	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
1,2,4-Trichlorobenzene	0.47	6.8	ug/m3	0.59 UJ	0.59 UJ	0.59 UJ	0.59 UJ [0.59 UJ]	0.59 UJ	0.59 UJ	0.59 UJ	0.59 UJ	0.59 UJ	0.59 UJ	0.59 UJ	0.59 UJ	0.59 UJ	0.59 UJ	0.59 UJ [0.59 UJ]	0.59 UJ	0.59 UJ	0.59 UJ	0.59 UJ	0.59 UJ	0.59 U
1,2,4-Trimethylbenzene	9.8	9.5	ug/m3	0.39 U	0.18 J	0.16 J	0.17 J [0.21 J]	2.4	0.39 U	0.56	0.17 J	0.39 U	0.39 U	0.23 J	0.47	0.47	0.26 J	0.33 J [0.44]	0.24 J	0.38 J	0.35 J	0.71	0.37 J	0.39 U
1,2-Dibromoethane	0.38	1.5	ug/m3	0.61 U	0.61 U	0.61 U	0.61 U [0.61 U]	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U [0.61 U]	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.42	- -	ug/m3	0.12 J	0.12 J	0.12 J	0.11 J [0.12 J]	0.11 J	0.11 J	0.13 J	0.56 U	0.12 J	0.093 J	0.12 J	0.11 J	0.11 J	0.11 J	0.12 J [0.12 J]	0.11 J	0.11 J	0.11 J	0.11 J	0.11 J	0.13 J
1,2-Dichlorobenzene	0.48	1.2	ug/m3	0.48 U	0.48 U	0.48 U	0.48 U [0.48 U]	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U [0.48 U]	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,2-Dichloroethane	0.37	0.9	ug/m3	0.32 U	0.32 U	0.10 J	0.081 J [0.081 J]	0.32 U	0.11 J	0.32 U	0.14 J	0.12 J	0.11 J	0.32 U	0.088 J	0.32 U	0.32 U	0.088 J [0.091 J]	0.088 J	0.097 J	0.32 U	0.093 J	0.10 J	0.086 J
1,2-Dichloropropane	0.39	1.6	ug/m3	0.37 U	0.37 U	0.37 U	0.37 U [0.37 U]	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U [0.37 U]	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
1,3,5-Trimethylbenzene	3.9	3.7	ug/m3	0.39 U	0.39 U	0.39 U	0.39 U [0.22 J]	0.97	0.39 U	0.19 J	0.39 U	0.39 U	0.39 U	0.39 U	0.13 J	0.17 J	0.39 U	0.39 U [0.16 J]	0.39 U	0.17 J	0.39 U	0.28 J	0.13 J	0.39 U
1,3-Dichlorobenzene	0.46	2.4	ug/m3	0.48 U	0.48 U	0.48 U	0.48 U [0.48 U]	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U [0.48 U]	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
1,4-Dichlorobenzene	1.2	5.5	ug/m3	0.48 U	0.48 U	0.48 U	0.48 U [0.48 U]	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.18 J	0.48 U	0.18 J	0.48 U	0.48 U [0.48 U]	0.48 U	0.48 U	0.48 U	0.17 J	0.24 J	0.17 J	0.48 U
Benzene	13	9.4	ug/m3	0.67	0.75	0.64	0.59 [0.61]	0.59	0.57	0.60	0.61	0.46	0.69	0.60	0.75	0.77	0.68	1.3 [1.4]	0.72	1.3	0.98	1.7	1.1	0.62
Bromomethane	0.48	1.7	ug/m3	0.31 U	0.31 U	0.31 U	0.31 U [0.31 U]	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.068 J	0.31 U	0.31 U	0.31 U	0.058 J	0.31 U [0.31 U]	0.31 U	0.31 U	0.31 U	0.31 U	0.31 U	0.055 J
Carbon Tetrachloride	1.3	1.3	ug/m3	0.51	0.48	0.51	0.52 [0.54]	0.50	0.52	0.51	0.57	0.49	0.56	0.51	0.50	0.46	0.51	0.50 [0.58]	0.43	0.52	0.53	0.56	0.53	0.51
Chlorobenzene	0.41	0.9	ug/m3	0.37 U	0.37 U	0.37 U	0.37 U [0.37 U]	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U [0.37 U]	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
Chloroethane	0.39	1.1	ug/m3	0.21 U	0.21 U	0.067 J	0.21 U [0.21 U]	0.21 U	0.21 U	0.21 U	0.34	0.14 J	0.063 J	0.21 U	0.21 U	0.21 U	0.077 J	0.069 J [0.070 J]	0.21 U	0.067 J	0.086 J	0.089 J	0.085 J	0.12 J
Chloroform	1.2	1.1	ug/m3	0.11 J	0.29 J	0.28 J	**3.5 [3.7]**	**1.4**	**3.4**	0.98	**6.3**	**8.5**	**14**	1.0	**5.1**	**6.0**	**7.6**	**14 [14]**	0.39 J	**23**	**1.9**	**20**	**7.4**	**14**
Chloromethane	4.2	3.7	ug/m3	1.0	1.0	1.0	1.1 [1.2]	1.0	1.3	0.92	3.5	1.6	1.5	1.0	1.0	1.0	1.0	1.2 [1.2]	1.2	1.2	1.3	1.5	1.2	1.4
cis-1,2-Dichloroethene	0.41	1.9	ug/m3	0.32 U	0.32 U	0.32 U	0.32 U [0.32 U]	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U [0.32 U]	0.32 U	0.32 U	0.32 U	**3.1**	**1.5**	**0.66**
cis-1,3-Dichloropropene	0.38	2.3	ug/m3	0.36 U	0.36 U	0.36 U	0.36 U [0.36 U]	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U [0.36 U]	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Dichlorodifluoromethane	10	16.5	ug/m3	2.5	2.5	2.5	2.5 [2.5]	2.5	2.5	2.5	0.86	1.0	1.1	2.5	2.4	2.4	2.5	2.6 [2.7]	2.6	2.5	2.5	2.5	2.6	2.7
Ethylbenzene	6.4	5.7	ug/m3	0.16 J	0.21 J	0.17 J	0.16 J [0.16 J]	5.5	0.19 J	0.70	0.15 J	0.12 J	0.35 U	0.19 J	0.30 J	0.29 J	0.24 J	0.33 J [0.42]	0.31 J	0.43	0.36	0.58	0.44	1.4
Hexachlorobutadiene	0.49	6.8	ug/m3	0.85 U	0.85 U	0.85 U	0.85 U [0.85 U]	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U [0.85 U]	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U
Methylene Chloride	16	10	ug/m3	1.6	1.0	1.7	0.83 [1.1]	0.70	0.99	0.71	1.1	1.4	1.1	0.73	0.96	0.76	2.6	1.9 [1.1]	0.76	1.1	1.3	1.8	3.4	1.2
m-Xylene & p-Xylene	11	22.2	ug/m3	0.39	0.62	0.56	0.49 [0.52]	**15**	0.55	2.6	0.47	0.29 J	0.21 J	0.62	0.93	0.91	0.64	1.1 [1.4]	0.99	1.3	1.2	2.4	1.5	2.8
Naphthalene	- -	5.1	ug/m3	1.0 U	1.0 U	1.0 U	3.2 [4.2]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U [1.0 U]	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o-Xylene	7.1	7.9	ug/m3	0.16 J	0.24 J	0.23 J	0.19 J [0.20 J]	4.1	0.21 J	0.83	0.18 J	0.35 U	0.35 U	0.24 J	0.37	0.36	0.23 J	0.42 [0.50]	0.33 J	0.48	0.39	0.88	0.58	0.59
Styrene	1.4	1.9	ug/m3	0.34 U	0.34 U	0.34 U	0.14 J [0.15 J]	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U	0.10 J	0.34 U	0.34 U [0.34 U]	0.34 U	0.34 U	0.14 J	0.15 J	0.16 J	0.34 U
Tetrachloroethene	2.5	15.9	ug/m3	0.58	0.81	0.51 J	**3.8 J [0.51 J]**	1.1	0.66	0.44 J	0.44 J	0.16 J	0.37 J	0.74	0.88	0.77	0.64	0.62 [0.84]	0.55	0.84	0.74	**20**	**12**	**6.4**
Toluene	57	43	ug/m3	1.1	1.1	1.0	1.1 [1.2]	1.2	1.0	1.4	0.86	0.39	0.63	0.94	1.3	1.3	0.99	2.1 [1.9]	1.4	3.4	1.7	3.6	2.8	3.0
trans-1,3-Dichloropropene	0.4	1.3	ug/m3	0.36 U	0.36 U	0.36 U	0.36 U [0.36 U]	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U [0.36 U]	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Trichloroethene	0.46	4.2	ug/m3	0.21 U	0.21 U	0.15 J	**1.6 [0.21 U]**	0.084 J	0.21 U	0.21 U	0.082 J	0.21 U	0.16 J	0.21 U	0.21 U	0.21 U	0.21 U	0.081 J [0.087 J]	0.21 U	0.13 J	0.21 U	**2.5**	**1.0**	**3.1**
Trichlorofluoromethane	12	18.1	ug/m3	1.4	1.3	1.3	1.3 [1.3]	1.3	1.3	1.4	1.1	1.2	1.2	1.3	1.4	1.3	1.5	1.4 [1.5]	1.4	1.4	1.4	1.4	1.5	1.3
Vinyl Chloride	0.37	1.9	ug/m3	0.20 U	0.20 U	0.20 U	0.20 U [0.20 U]	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U [0.20 U]	0.20 U	0.20 U	0.20 U	0.31	0.19 J	0.099 J
Total BTEX	- -	- -	ug/m3	1.9 J	2.1 J	1.8 J	1.9 J [2.0 J]	7.3	1.8 J	2.7	1.6 J	0.97 J	1.3	1.7 J	2.4 J	2.4 J	1.9 J	3.7 J [3.7]	2.4 J	5.1	3.0	5.9	4.3	5.0
Total VOCs	- -	- -	ug/m3	10 J	10 J	11 J	18 J [14 J]	24 J	13 J	12 J	17 J	16 J	22 J	11 J	16 J	17 J	19 J	27 J [28 J]	11 J	37 J	14 J	63 J	38 J	38 J
n-Alkanes																								
n-Butane	- -	- -	ug/m3	1.7	2.1	2.0	6.4 [6.5]	44 D	5.1	120 D	20	14	14	1.7	3.4	3.6	4.4	6.1 [6.0]	2.0	5.2	3.7	5.1	3.5	6.0
n-Decane	15	17.5	ug/m3	2.3 U	0.28 J	0.29 J	0.71 J [1.5 J]	7.7	0.15 J	1.6 J	0.38 J	0.17 J	0.14 J	0.38 J	0.96 J	0.90 J	0.55 J	0.49 J [0.59 J]	0.62 J	0.49 J	1.5 J	7.1	1.4 J	2.3 U
n-Dodecane	9.2	- -	ug/m3	0.23 J	2.8 U	2.8 U	0.41 J [0.43 J]	1.1 J	2.8 U	2.0 J	2.8 U	2.8 U	2.8 U	0.31 J	0.40 J	0.43 J	2.8 U	0.69 J [2.8 U]	2.8 U	0.34 J	0.35 J	0.23 J	2.8 U	2.8 U
n-Heptane	18	- -	ug/m3	0.22 J	0.36 J	0.37 J	0.22 J [0.19 J]	0.49 J	0.26 J	0.61 J	0.24 J	0.17 J	0.20 J	0.18 J	0.31 J	0.28 J	0.28 J	0.48 J [0.50 J]	0.21 J	0.56 J	0.29 J	0.73 J	0.43 J	2.4
n-Hexane	14	10.2	ug/m3	0.45 J	0.56 J	0.62 J	0.32 J [0.37 J]	0.44 J	0.38 J	0.52 J	0.41 J	0.31 J	0.51 J	0.37 J	0.52 J	0.52 J	0.59 J	1.4 [0.96]	0.36 J	1.0	0.51 J	2.0	0.94	0.78
n-Octane	5.2	- -	ug/m3	0.11 J	0.25 J	0.26 J	0.19 J [0.16 J]	0.65 J	0.16 J	0.68 J	0.17 J	0.75 U	0.071 J	0.14 J	0.27 J	0.22 J	0.19 J	0.29 J [0.33 J]	0.16 J	0.27 J	0.40 J	0.41 J	0.31 J	0.74
Nonane	7.9	7.8	ug/m3	1.0 U	0.23 J	0.22 J	0.21 J [0.24 J]	6.0	0.15 J	0.44 J	0.35 J	1.0 U	0.12 J	0.16 J	0.38 J	0.35 J	0.31 J	0.28 J [0.34 J]	0.25 J	0.26 J	0.64 J	0.34 J	0.22 J	1.0 U
n-Undecane	12	22.6	ug/m3	0.16 J	2.6 U	2.6 U	0.38 J [0.50 J]	3.6	2.6 U	2.7	2.6 U	2.6 U	2.6 U	0.31 J	0.55 J	0.66 J	0.24 J	0.49 J [0.28 J]	0.26 J	0.35 J	0.70 J	0.47 J	0.22 J	2.6 U
Pentane	- -	- -	ug/m3	0.59 J	0.86 J	0.86 J	0.57 J [0.58 J]	2.1	0.66 J	3.2	0.68 J	1.0 J	0.94 J	0.60 J	1.2	1.2	1.5	1.4 [1.5]	0.77 J	1.6	2.1	4.7	1.9	1.8
Branched Alkanes (Reported as TICs)																								
2,3-Dimethylpentane	5.2	- -	ug/m3	0.33 U	0.33 U	0.33 U	0.33 U [0.33 U]	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U [0.33 U]	0.33 U	0.33 U	0.33 U	0.38	0.33 U	0.40
Isopentane	- -	- -	ug/m3	1.0	1.5	1.1	0.94 [0.93]	1.2	0.92	1.2	1.2	1.6	1.4	1.0	2.1	2.1	2.5	2.9 [2.9]	1.5	4.2	5.5	6.9	3.2	2.0
2-methylpentane	- -	- -	ug/m3	0.31	0.45	0.38	0.28 U [0.29]	0.30	0.28 U	0.31	0.37	0.30	0.44	0.34	0.49	0.52	0.51	0.92 [0.94]	0.33	1.0	0.40	2.4	0.84	0.57
Other (Reported as TICs)																								
1,2,3-Trimethylbenzene	- -	- -	ug/m3	0.39 U	0.39 U	0.39 U	0.39 U [0.39 U]	1.2	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U [0.39 U]	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
2-Ethylthiophene	- -	- -	ug/m3	0.37 U	0.37 U	0.37 U	0.37 U [0.37 U]	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U [0.37 U]	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
2-Methylthiophene	- -	- -	ug/m3	0.32 U	0.32 U	0.32 U	0.32 U [0.32 U]	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U [0.32 U]	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
3-Methylthiophene	- -	- -	ug/m3	0.32 U	0.32 U	0.32 U	0.32 U [0.32 U]	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U [0.32 U]	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.88
Indane	- -	- -	ug/m3	0.39 U	0.39 U	0.39 U	0.39 U [0.39 U]	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U [0.39 U]	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U
Indene	- -	- -	ug/m3	0.76 U	0.76 U	0.76 U	0.76 U [0.76 U]	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U [0.76 U]	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U
Isoctane	- -	- -	ug/m3	0.17 J	0.24 J	0.20 J	0.15 J [0.15 J]	0.20 J	0.15 J	0.22 J	0.17 J	0.41 J	0.16 J	0.18 J	0.25 J	0.27 J	0.31 J	0.83 J [0.89 J]	0.20 J	0.94	0.29 J	1.0	0.43 J	9.5
Isopropylbenzene	0.82	- -	ug/m3	0.79 U	0.79 U	0.79 U	0.79 U [0.79 U]	0.40 J	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U	0.79 U [0.79 U]	0.79 U	0.79 U	0.79 U	0.13 J	0.79 U	0.79 U
Thiopene	- -	- -	ug/m3	0.28 U	0.28 U	0.28 U	0.28 U [0.28 U]	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U [0.28 U]	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U

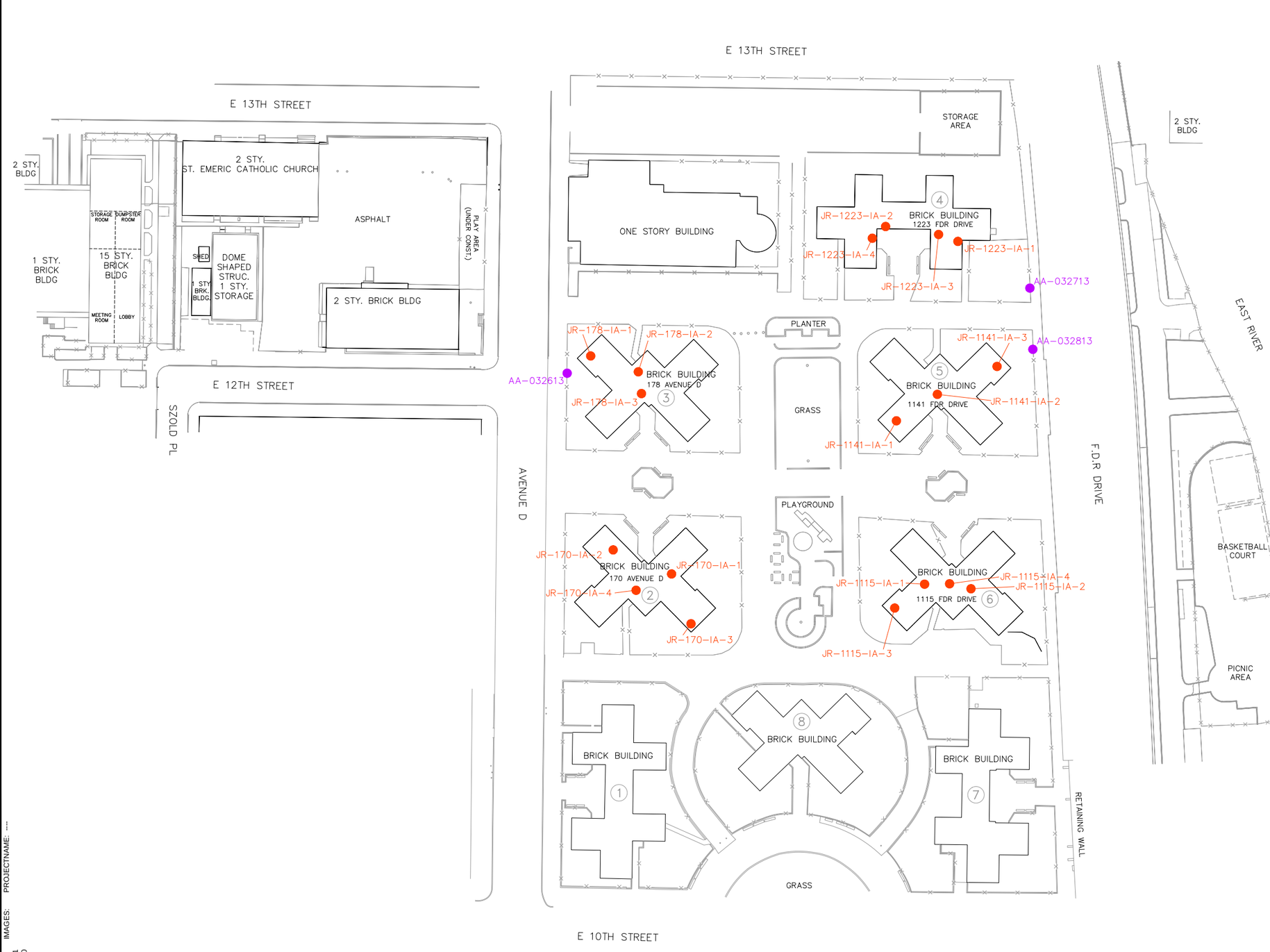
Table 3
Indoor Air Analytical Results - Jacob Riis

ISMP Annual Indoor Air Monitoring
Consolidated Edison Company of New York, Inc.

Lab Qualifier	Definition
D	Sample required dilution prior to analysis.
J	Indicates an estimated value.
U	Indicates the constituent was not detected at the PQL. The value preceding the U indicates the PQL.
[ ]	Identifies duplicate sample collected for quality control purposes.
bold font	Indicates analyte exceeded its NYSDOH Upper Fence Criterion.
shaded	indicates analyte exceeded the USEPA's BASE Guidance Value (90th Percentile).

ARCADIS

Figures



LEGEND:

- INDOOR AIR SAMPLE LOCATION (IA)
- AMBIENT AIR SAMPLE LOCATION (AA)
- (4) JACOB RIIS BUILDING NUMBER

NOTES:

1. BASE MAP AND SURVEY CONTROL WAS TAKEN FROM ORIGINAL SURVEY DATED 9/3/2004; SUBMITTED BY B.B.L. ON 8/25/2006.
2. ALL PLANIMETRIC FEATURES SHOWN ARE IN NAD 83 NY STATE PLANE COORDINATE SYSTEM.
3. THE ORIGINAL SURVEY WAS CONVERTED INTO NEW COORDINATE AND VERTICAL SYSTEM BASED ON 7 TRAVERSE POINTS, RECOVERED IN THE FIELD (#2,3,4,6,7,12, AND 18).
4. ALL LOCATIONS ARE APPROXIMATE.

0 100' 200'

GRAPHIC SCALE

CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
FORMER EAST 11TH STREET WORKS
ISMP ANNUAL INDOOR AIR MONITORING REPORT

SITE PLAN WITH AIR MONITORING LOCATIONS

ARCADIS

FIGURE 1

CITY: SYRACUSE, NY DIV/GROUP: ENVCAD DB: A. SCHILLING R. ALLEN L. FORAKER LD: PIC: M. CARRILLO-SHERIDAN PM: B. AHRENS TM: B. AHRENS LYR: ON=*; OFF=*REF*
G:\ENVCAD\SYRACUSE\ACTIVE\B004301300030002\DWG\AIR\43013B01.dwg LAYOUT: 1 SAVED: 4/25/2013 11:40 AM ACADVER: 18.1S (LMS TECH) PAGESETUP: C-LD2B-PDF PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 4/25/2013 11:40 AM BY: FORAKER, LYDIA
XREFS: IMAGES: PROJECTNAME: ---
43013X01
43013X00

ARCADIS

Attachment 1

NYSDOH Indoor Air Quality Questionnaires and Building Inventory Forms (on compact disk)

170 AVENUE D

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 AARON FALLARANO Date/Time Prepared 3/25/13 10:00 AM

Preparer's Affiliation ARCADIS Phone No. 585-880-1456

Purpose of Investigation INDOOR AIR SAMPLING

1. OCCUPANT:

Interviewed: Y / (N)

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

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

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

SUPERVISOR

Interviewed: (Y) / N

Last Name: CARTER First Name: ANTHONY

Address: 454 EAST 10TH STREET

County: MANHATTAN

Home Phone: _____ Office Phone: 212-228-2400

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

(Residential)	School	Commercial/Multi-use
Industrial	Church	Other: _____

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

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

If multiple units, how many? 117

If the property is commercial, type?

Business Type(s) NO BUSINESS - ALL RESIDENTIAL

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

Other characteristics:

Number of floors 13 Building age 265 YRS

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
NONE - NO VERTICAL AIR MOVEMENT UNLESS THROUGH GAPS IN PIPING, COMPACTOR, OR ELEVATOR SHAFT.

Airflow near source
AIR VENTS / FANS PRESENT WITH LARGE FAN IN TANK ROOM CREATING AIR EXCHANGE, POTENTIAL AIRFLOW IN COMPACTOR CHUTE.

Outdoor air infiltration
LARGE FAN IN TANK ROOM CREATING AIR EXCHANGE.

Infiltration into air ducts
NO AIR DUCTS PRESENT IN GROUND LEVEL.

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

a. Above grade construction: wood frame (concrete) stone (brick)

b. Basement type: full (crawlspace) slab other _____

c. Basement floor: (concrete) (dirt) stone other _____

d. Basement floor: (uncovered) covered covered with _____

e. Concrete floor: (unsealed) sealed sealed with _____

f. Foundation walls: (poured) (block) stone other _____

g. Foundation walls: unsealed (sealed) sealed with _____

h. The basement is: wet (damp) dry moldy

i. The basement is: finished (unfinished) partially finished

j. Sump present? (Y) N TANK Room

k. Water in sump? (Y) N / not applicable

Basement/Lowest level depth below grade: ~20 (feet) (Sump Roughly 20' Deep)

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)
Concrete floors free of large cracks, earthen floor, Sump, Floor drains potential soil vapor entry locations

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

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

Hot air circulation Heat pump Hot water baseboard
Space Heaters (Steam radiation) Radiant floor
Electric baseboard Wood stove Outdoor wood boiler Other _____

The primary type of fuel used is:

Natural Gas Fuel Oil Kerosene
(Electric) Propane Solar
Wood Coal

Domestic hot water tank fueled by: Steam

Boiler/furnace located in: Basement Outdoors Main Floor Other Steam Piped In

Air conditioning: Central Air (Window units) Open Windows None

Are there air distribution ducts present? Y (N)

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

NO DUCT WORK, SMALL VENTILATION VENTS NEAR TOPS OF WALLS IN GROUND LEVEL

7. OCCUPANCY

Is basement/lowest level occupied? Full-time (Occasionally) Seldom Almost Never — ONLY BUILDING MAINTENANCE

Level	General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)
Basement	COMPACTOR RM, TANK RM, STORAGE, TANK RM
1st Floor	RESIDENCES
2nd Floor	RESIDENCES
3rd Floor	RESIDENCES
4th Floor - 13	RESIDENCES

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage? Y / (N)

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

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

d. Has the building ever had a fire? Y / (N) When? N/A

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

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

g. Is there smoking in the building? Y / (N) How frequently? BUT STILL HAPPENS

h. Have cleaning products been used recently? (Y) / N When & Type? DAILY

i. Have cosmetic products been used recently? Y / (N) When & Type? NOT GROUND LEVEL

* HURRICANE SANDY IMPACTED AREA OCT 2012 — 3-4' WATER ACROSS SITE.

j. Has painting/staining been done in the last 6 months? (Y) / N Where & When? Touch Up

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

l. Have air fresheners been used recently? (Y) / N When & Type? DAILY

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

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

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

p. Has there been a pesticide application? Y / (N) When & Type? N/A

Are there odors in the building? (Y) / N
If yes, please describe: TRASH - IN COMPACTOR ROOM

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? HOUSEHOLD SOLVENTS

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

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

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

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

9. WATER AND SEWAGE

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

10. RELOCATION INFORMATION (for oil spill residential emergency)

a. Provide reasons why relocation is recommended: _____

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

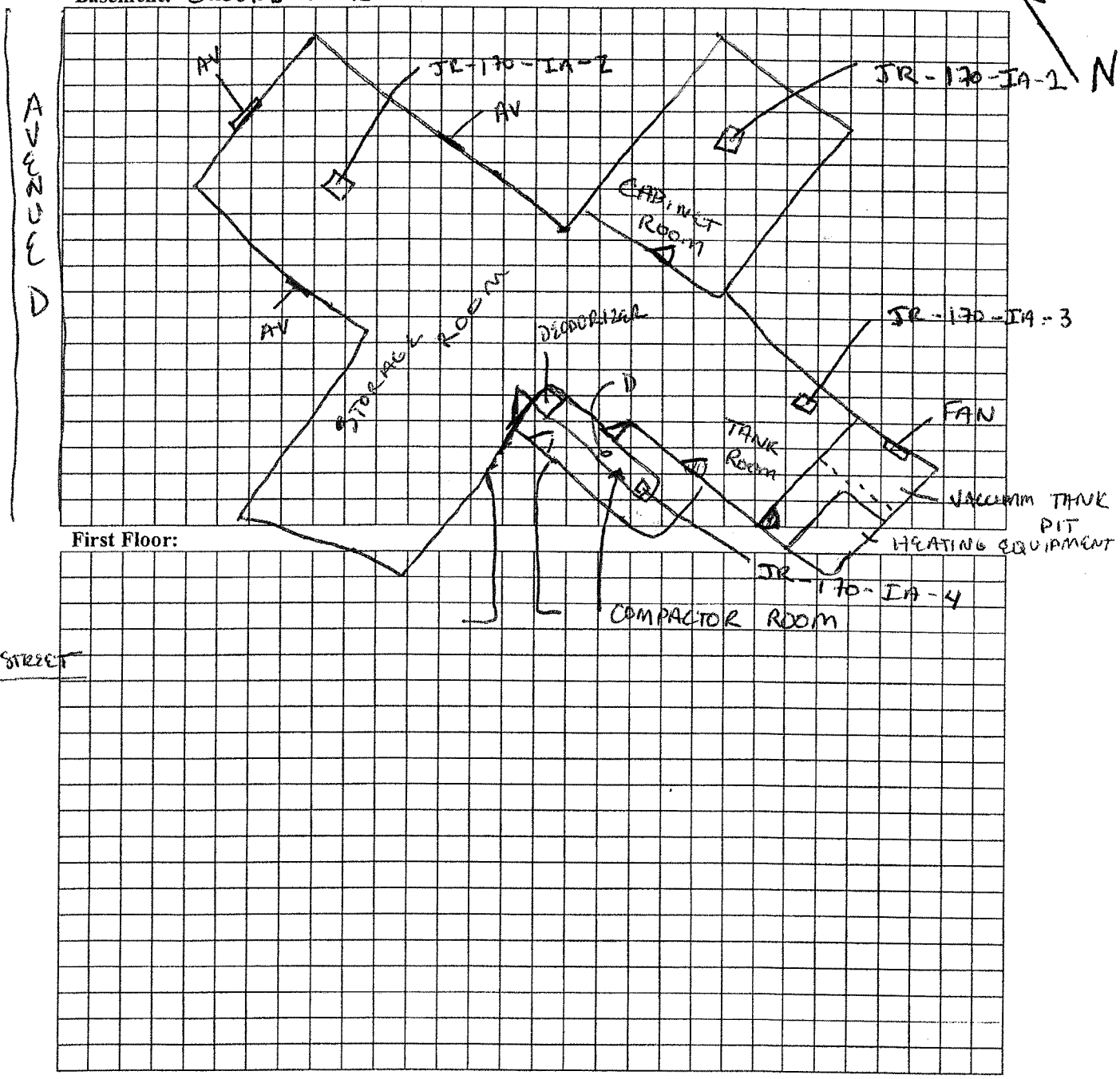
c. Responsibility for costs associated with reimbursement explained? Y / N

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

11. FLOOR PLANS

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

~~Basement~~: GROUND FLOOR

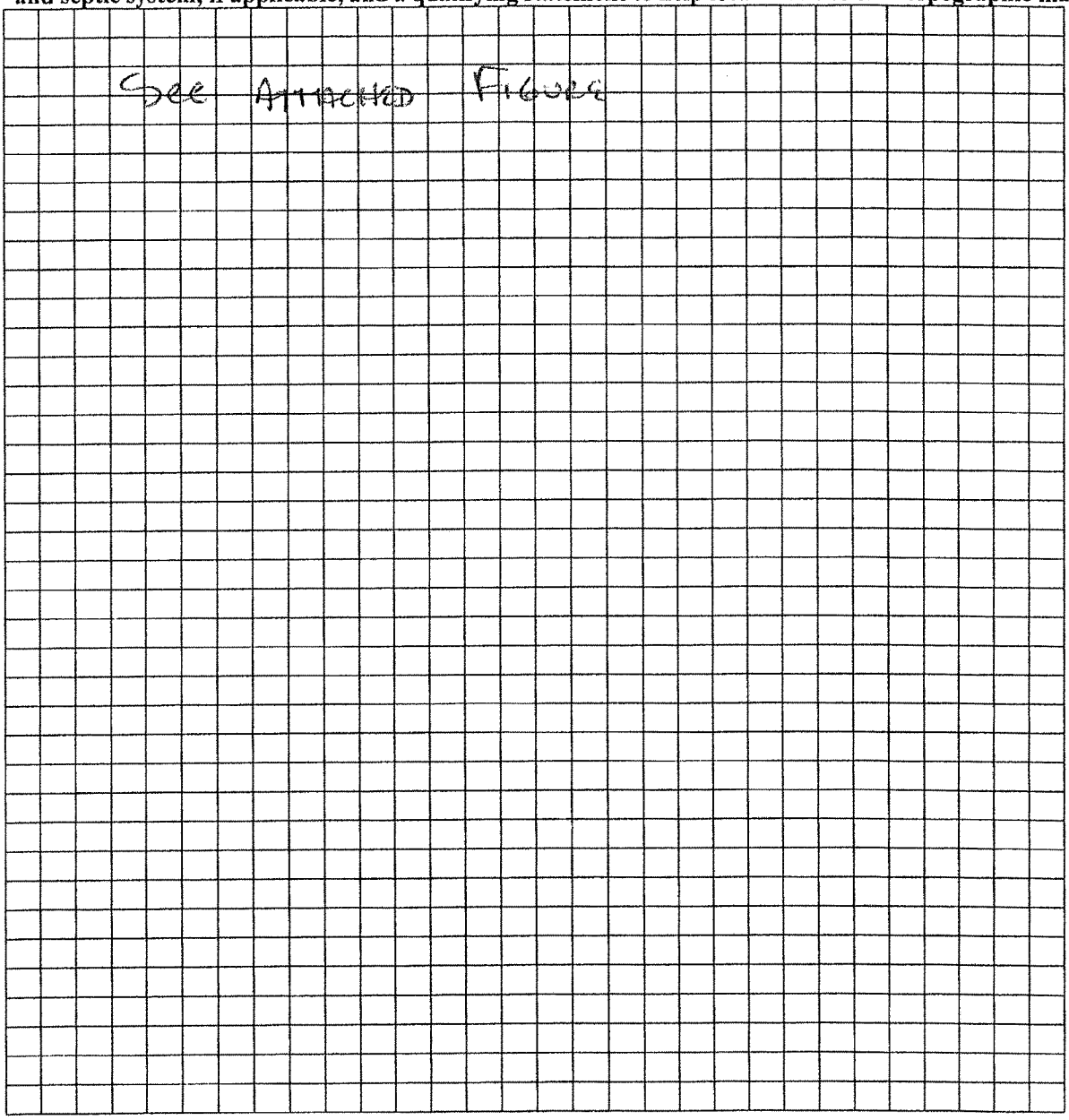


First Floor:

12. OUTDOOR PLOT

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

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



13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: PPB RAE

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

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo** Y/N
	No CHEMICALS IDENTIFIED					

* 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.

178 AVENUE D

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

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Preparer's Affiliation ARCADIS Phone No. 585 - 880 - 1456

Purpose of Investigation INDOOR AIR SAMPLING

1. OCCUPANT:

Interviewed: Y / (N)

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

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

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

Interviewed: (Y) / N SUPERVISOR

Last Name: CARTER First Name: ANTHONY

Address: 454 EAST 10TH STREET

County: MANHATTAN

Home Phone: _____ Office Phone: 212 - 228 - 2400

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

(Residential)	School	Commercial/Multi-use
Industrial	Church	Other: _____

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

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

If multiple units, how many? 126 UNITS

If the property is commercial, type?

Business Type(s) N/A

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

Other characteristics:

Number of floors 13 Building age ~65 YRS

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
NONE, NO VERTICAL AIR MOVEMENT UNLESS THROUGH GAPS IN PIPES IN FLOOR, COMPACTOR CHUTE, OR ELEVATOR SHAFT.

Airflow near source
AIR VENTS / FANS PRESENT. TANK ROOM CONTAINS FAN CREATING AIR EXCHANGE. COMPACTOR TRASH CHUTE CREATES AIRFLOW.

Outdoor air infiltration
FAN CREATES AIR EXCHANGE IN TANK ROOM OPEN DOORS CREATE EXCHANGE WITH AMBIENT AIR

Infiltration into air ducts
NO AIR DUCTS PRESENT.

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

a. Above grade construction: wood frame (concrete) stone (brick)

b. Basement type: full (crawlspace) slab other _____

c. Basement floor: (concrete) dirt stone other _____

d. Basement floor: (uncovered) covered covered with _____

e. Concrete floor: (unsealed) sealed sealed with _____

f. Foundation walls: (poured block) stone other _____

g. Foundation walls: unsealed (sealed) sealed with PAINT

h. The basement is: wet (damp) dry moldy

i. The basement is: finished (unfinished) partially finished

j. Sump present? (Y)/N SUMP IN TANK ROOM

k. Water in sump? (Y) / N / not applicable

Basement/Lowest level depth below grade: 20 (feet) SUMP IN TANK ROOM

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)
CONCRETE FLOORS SEEM TO BE FREE OF LARGE CRACKS. EARTHEN FLOOR IN CRAWL SPACE, DRAINS POTENTIAL ENTRY POINT.

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

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

Hot air circulation Heat pump Hot water baseboard
Space Heaters (Steam radiation) Radiant floor
Electric baseboard Wood stove Outdoor wood boiler Other _____

The primary type of fuel used is:

Natural Gas Fuel Oil Kerosene
(Electric) Propane Solar
Wood Coal

Domestic hot water tank fueled by: STEAM

Boiler/furnace located in: Basement Outdoors Main Floor Other STEAM PIPED IN

Air conditioning: Central Air (Window units) Open Windows None

Are there air distribution ducts present? Y (N)

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

NO DUCT WORK PRESENT / SMALL VENTS AND FANS CREATE AIR EXCHANGE

7. OCCUPANCY

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

Level	General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)
Basement	MCTER Rm, COMPACTOR Rm, TANK Rm.
1st Floor	RESIDENCES
2nd Floor	RESIDENCES
3rd Floor	RESIDENCES
4th Floor	RESIDENCES

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 N/A

d. Has the building ever had a fire? Y / (N) When? N/A

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

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

g. Is there smoking in the building? Y / (N) How frequently? PEOPLE STILL DO

h. Have cleaning products been used recently? (Y) / N When & Type? DAILY

i. Have cosmetic products been used recently? Y / (N) When & Type? N/A

* HURRICANE SANDY OCT 2012 3-4' WATER ACROSS THE SITE

j. Has painting/staining been done in the last 6 months? (Y) / N Where & When? TOUCH UPS

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

l. Have air fresheners been used recently? (Y) / N When & Type? DAILY

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

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

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

p. Has there been a pesticide application? Y / (N) When & Type? N/A

Are there odors in the building? (Y) / N
If yes, please describe: TRASH SMELL IN COMPACTOR ROOM

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? HOUSEHOLD CLEANERS

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

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

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

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

9. WATER AND SEWAGE

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

10. RELOCATION INFORMATION (for oil spill residential emergency)

a. Provide reasons why relocation is recommended: _____

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

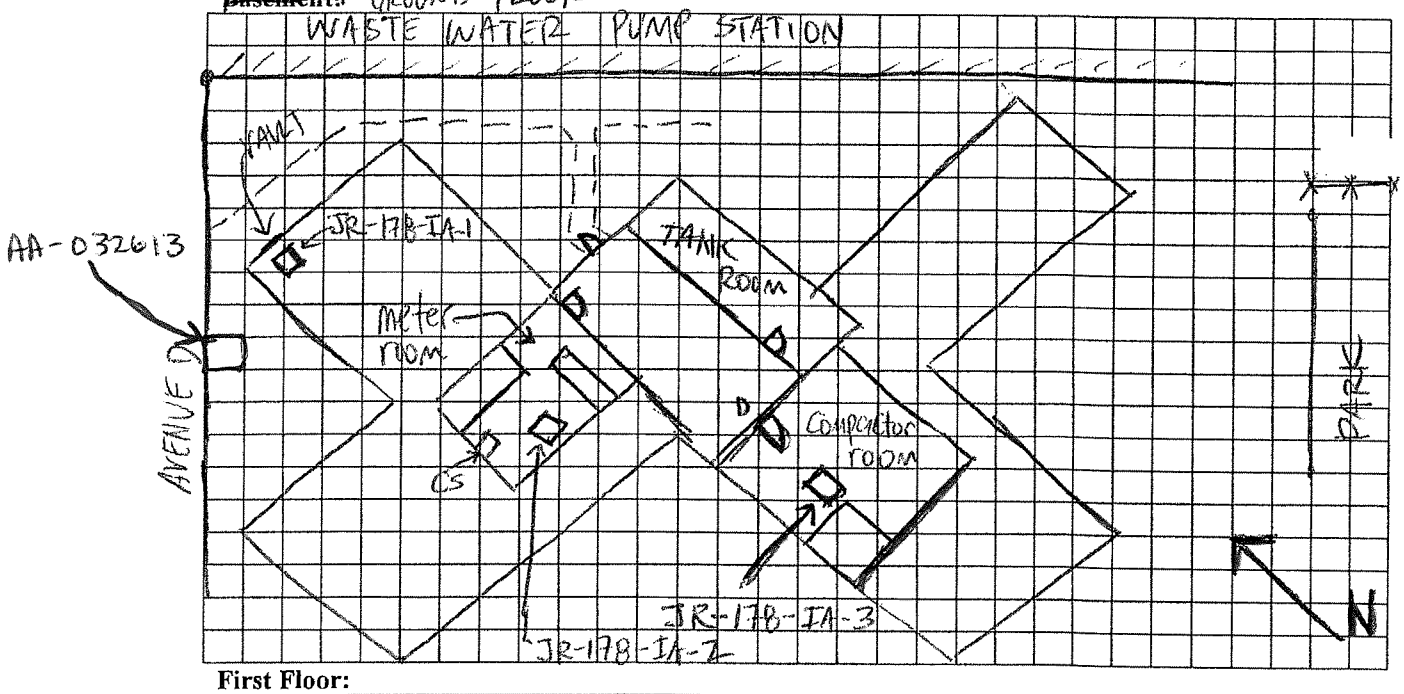
c. Responsibility for costs associated with reimbursement explained? Y / N

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

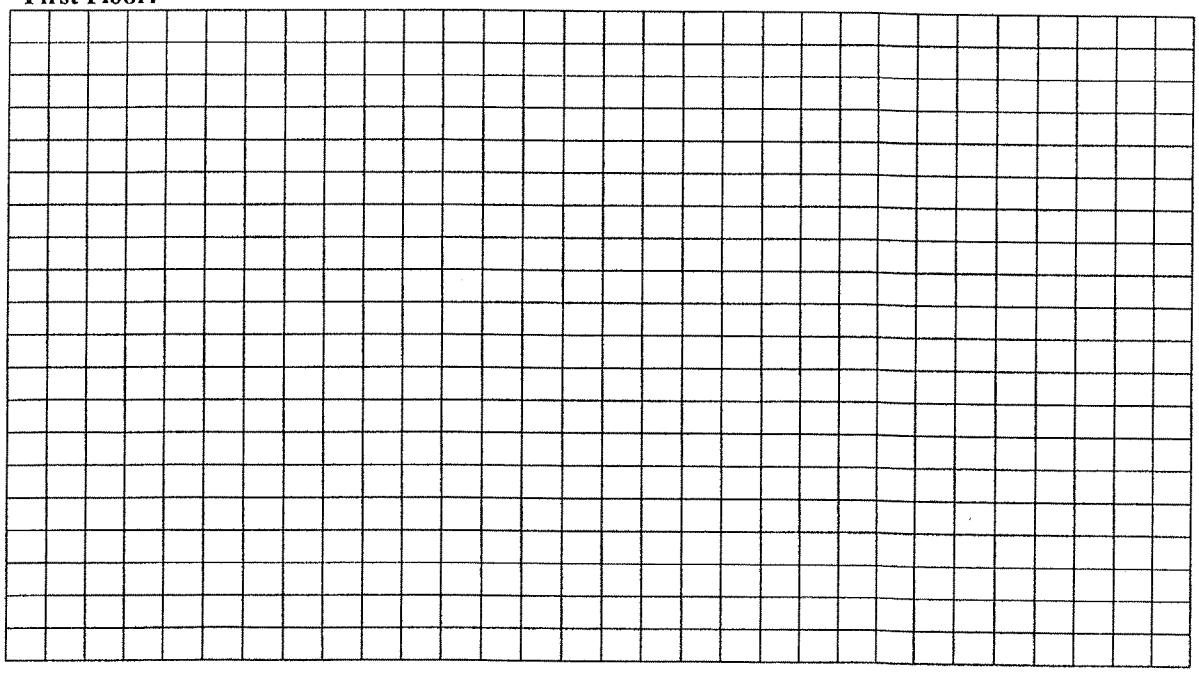
11. FLOOR PLANS

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

~~**Basement:**~~ GROUND FLOOR



First Floor:



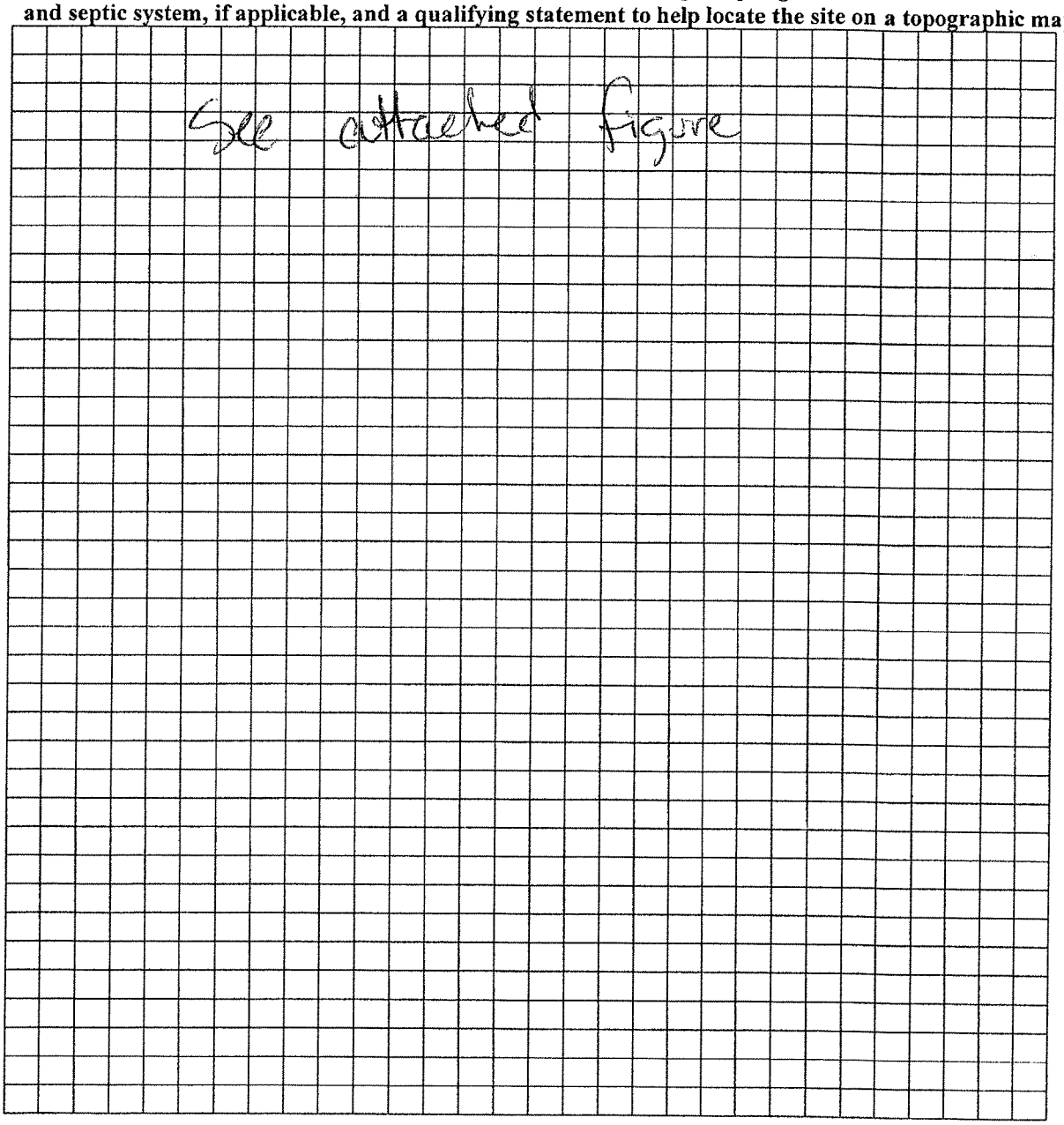
CS= confined space

D= Drain

12. OUTDOOR PLOT

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

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



13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: _____

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

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo** Y/N
NO CHEMICALS			IDENTIFIED			

* 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.

1115 FDR DRIVE

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 AARON FALZARANO Date/Time Prepared 3/25/13 10:00 AM

Preparer's Affiliation ARCADIS Phone No. 585-880-1456

Purpose of Investigation _____

1. OCCUPANT:

Interviewed: Y (N)

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

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

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

Interviewed: (Y) N

Last Name: CARTER First Name: ANTHONY

Address: 454 EAST 10TH STREET

County: MANHATTAN

Home Phone: _____ Office Phone: 212-228-2400

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

(Residential)	School	Commercial/Multi-use
Industrial	Church	Other: _____

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

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

If multiple units, how many? 126 UNITS

If the property is commercial, type?

Business Type(s) N/A

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

Other characteristics:

Number of floors 13 Building age ~65 YRS

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
NONE - NO VERTICAL AIR MOVEMENT UNLESS THROUGH GAPS IN PIPE IN FLOOR, COMPACTOR CHUTE, OR ELEVATOR SHAFT.

Airflow near source
SOME AIR VENTS/FANS. FANS IN TANK ROOM CREATE AIR EXCHANGE.

Outdoor air infiltration
FAN CREATES AMBIENT AIR EXCHANGE IN TANK ROOM. OPEN DOORS ALSO CREATE AIR EXCHANGE.

Infiltration into air ducts
NO AIR DUCTS IDENTIFIED ON FIRST FLOOR (GROUND LEVEL)

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

a. Above grade construction: wood frame (concrete) stone (brick)

b. Basement type: full (crawlspace) slab other _____

c. Basement floor: (concrete) (dirt) stone other _____

d. Basement floor: (uncovered) covered covered with _____

e. Concrete floor: (unsealed) sealed sealed with _____

f. Foundation walls: (poured) block stone other _____

g. Foundation walls: unsealed (sealed) sealed with 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: 20 (feet) IN SUMP

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)
CONCRETE FLOORS APPEAR FREE OF CRACKS. EARTHEN FLOORS AND DRAINS POTENTIAL SOIL VAPOR ENTRY POINT

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

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

Hot air circulation	Heat pump	Hot water baseboard	
Space Heaters	(Steam radiation)	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other _____

The primary type of fuel used is:

Natural Gas	Fuel Oil	Kerosene	
(Electric)	Propane	Solar	
Wood	Coal		

Domestic hot water tank fueled by: STEAM

Boiler/furnace located in: Basement Outdoors Main Floor Other STEAM PIPED IN

Air conditioning: Central Air (Window units) Open Windows None

Are there air distribution ducts present? Y / (N)

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

NO DUCT WORK PRESENT, VENTS AND FANS LOCATED IN TANK ROOM

7. OCCUPANCY

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

Level	General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)
Basement	TANK ROOM, PLASTER ROOM, COMPACTOR RM STORAGE RM
1st Floor ~13	RESIDENCES
~~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 N/A

d. Has the building ever had a fire? Y / (N) When? N/A

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

f. Is there a workshop or hobby/craft area? (Y) N Where & Type? PLASTER AREA

g. Is there smoking in the building? Y / (N) How frequently? STILL DO

h. Have cleaning products been used recently? (Y) / N When & Type? DAILY GENERAL CLEANING

i. Have cosmetic products been used recently? Y / (N) When & Type? UNKNOWN IF RESIDENTS DO

* HURRICANE SANDY 3-4' OF WATER ACROSS AREA

j. Has painting/staining been done in the last 6 months? (Y) / N Where & When? Touch Ups

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

l. Have air fresheners been used recently? (Y) / N When & Type? DAILY

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

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

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

p. Has there been a pesticide application? Y / (N) When & Type? N/A

Are there odors in the building? (Y) / N
If yes, please describe: TRASH SMELL IN COMPACTOR ROOM

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? HOUSEHOLD CLEANERS

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: N/A
Is the system active or passive? Active/Passive N/A

9. WATER AND SEWAGE

Water Supply: ~~Public Water~~ Drilled Well Driven Well Dug Well Other: _____
Sewage Disposal: (Public Sewer) Septic Tank Leach Field Dry Well Other: _____

10. RELOCATION INFORMATION (for oil spill residential emergency)

a. Provide reasons why relocation is recommended: _____

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

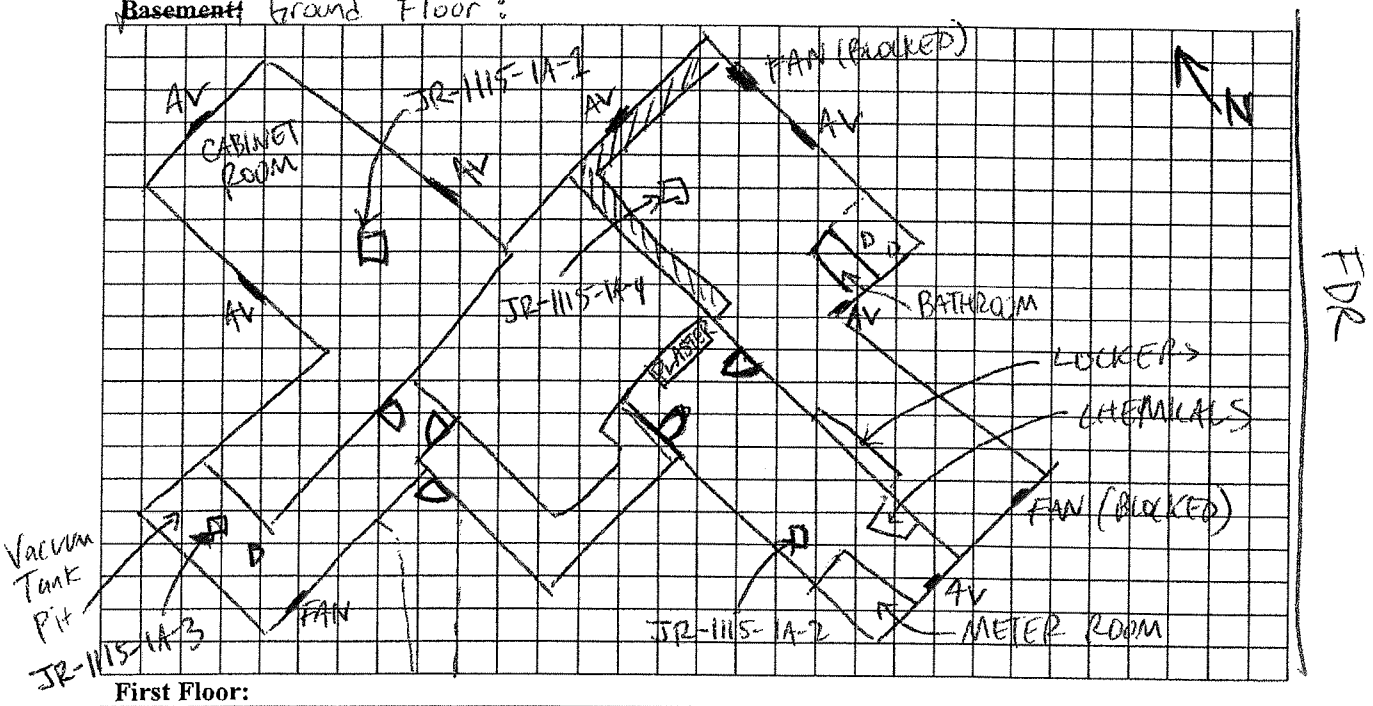
c. Responsibility for costs associated with reimbursement explained? Y / N

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

11. FLOOR PLANS

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

~~**Basement:**~~ Ground Floor:



First Floor:

D= Drain
CS= confined space
AV= air vent

12. OUTDOOR PLOT

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

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

See attached figure

13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: PPB RAE

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

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

* 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.

1141 FDR DRIVE

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 AARON FALZARANO Date/Time Prepared 3/25/13 10:00 AM

Preparer's Affiliation ARCADIS Phone No. _____

Purpose of Investigation INDOOR AIR SAMPLING

1. OCCUPANT:

Interviewed: Y / (N)

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

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

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

Interviewed: (Y) / N SUPERVISOR

Last Name: CARTER First Name: ANTHONY

Address: 454 EAST 10TH STREET

County: MANHATTAN

Home Phone: _____ Office Phone: 212-228-2400

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

(Residential)	School	Commercial/Multi-use
~~Industrial~~	Church	Other: _____

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

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

If multiple units, how many? 117 UNITS

If the property is commercial, type?

Business Type(s) N/A

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

Other characteristics:

Number of floors 13 Building age ~65 yrs

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
NONE, NO VERTICAL AIR FLOW UNLESS THROUGH GAPS IN PIPING, COMPACTOR ROOM TRASH CHUTE, OR ELEVATOR SHAFT.

Airflow near source
SOME VENTS, FANS. TANK ROOM FANS CREATE AIR EXCHANGE.

Outdoor air infiltration
FANS GENERATE AMBIENT AIR EXCHANGE AND OPEN DOORS LET IN AMBIENT AIR.

Infiltration into air ducts
NO AIR DUCTS IDENTIFIED ON GROUND LEVEL.

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

a. Above grade construction: wood frame (concrete) stone ~~brick~~

b. Basement type: full (~~crawlspace~~) slab other _____

c. Basement floor: ~~concrete~~ (dirt) stone other _____

d. Basement floor: uncovered covered covered with _____

e. Concrete floor: (~~unsealed~~) sealed sealed with _____

f. Foundation walls: (~~poured block~~) stone other _____

g. Foundation walls: unsealed (sealed) sealed with 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: 29' (feet) TANK Room SUMP

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)
CONCRETE FLOORS APPEAR FREE OF LARGE CRACKS.
EARTHEN FLOOR AND DRAINS POTENTIAL SOIL VAPOR POINTS.

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

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

Hot air circulation	Heat pump	Hot water baseboard	
Space Heaters	(~~Steam radiation~~)	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other _____

The primary type of fuel used is:

Natural Gas	Fuel Oil	Kerosene	
(~~Electric~~)	Propane	Solar	
Wood	Coal		

Domestic hot water tank fueled by: STEAM

Boiler/furnace located in: Basement Outdoors Main Floor Other STEAM PIPED IN

Air conditioning: Central Air (~~Window units~~) Open Windows None

Are there air distribution ducts present? Y / (N)

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

NO DUCT WORK, VENTILATION VENTS AND FANS LOCATED IN TANK ROOM.

7. OCCUPANCY

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

Level	**General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)**
Basement	METER ROOM, COMPACTOR ROOM, TANK ROOM
1st Floor - 13	RESIDENCES
~~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 N/A

d. Has the building ever had a fire? Y / (N) When? N/A

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

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

g. Is there smoking in the building? Y / (N) How frequently? STILL HAPPENS

h. Have cleaning products been used recently? (Y) / N When & Type? DAILY

i. Have cosmetic products been used recently? Y / (N) When & Type? _____

* HURRICANE SANDY Oct 2012
3-4' WATER ACROSS SITE

j. Has painting/staining been done in the last 6 months? (Y) N Where & When? TOUCH UPS

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

l. Have air fresheners been used recently? (Y) / N When & Type? DAILY

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

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

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

p. Has there been a pesticide application? Y (N) When & Type? N/A

Are there odors in the building? (Y) / N
If yes, please describe: TRASH SMELL FROM COMPACTOR

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? HOUSEHOLD CLEANERS

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

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

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

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

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

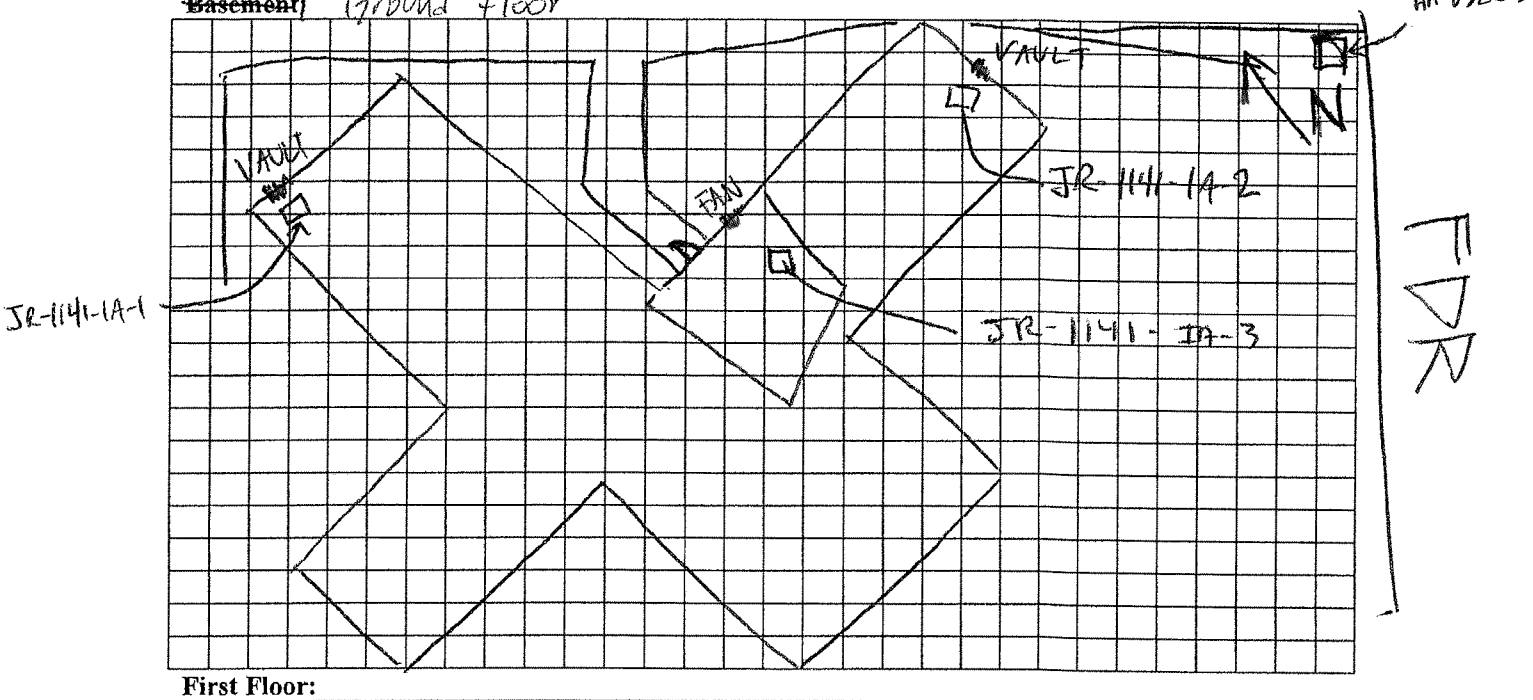
d. Relocation package provided and explained to residents? Y / N

Bldg 1141

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~~ Ground Floor



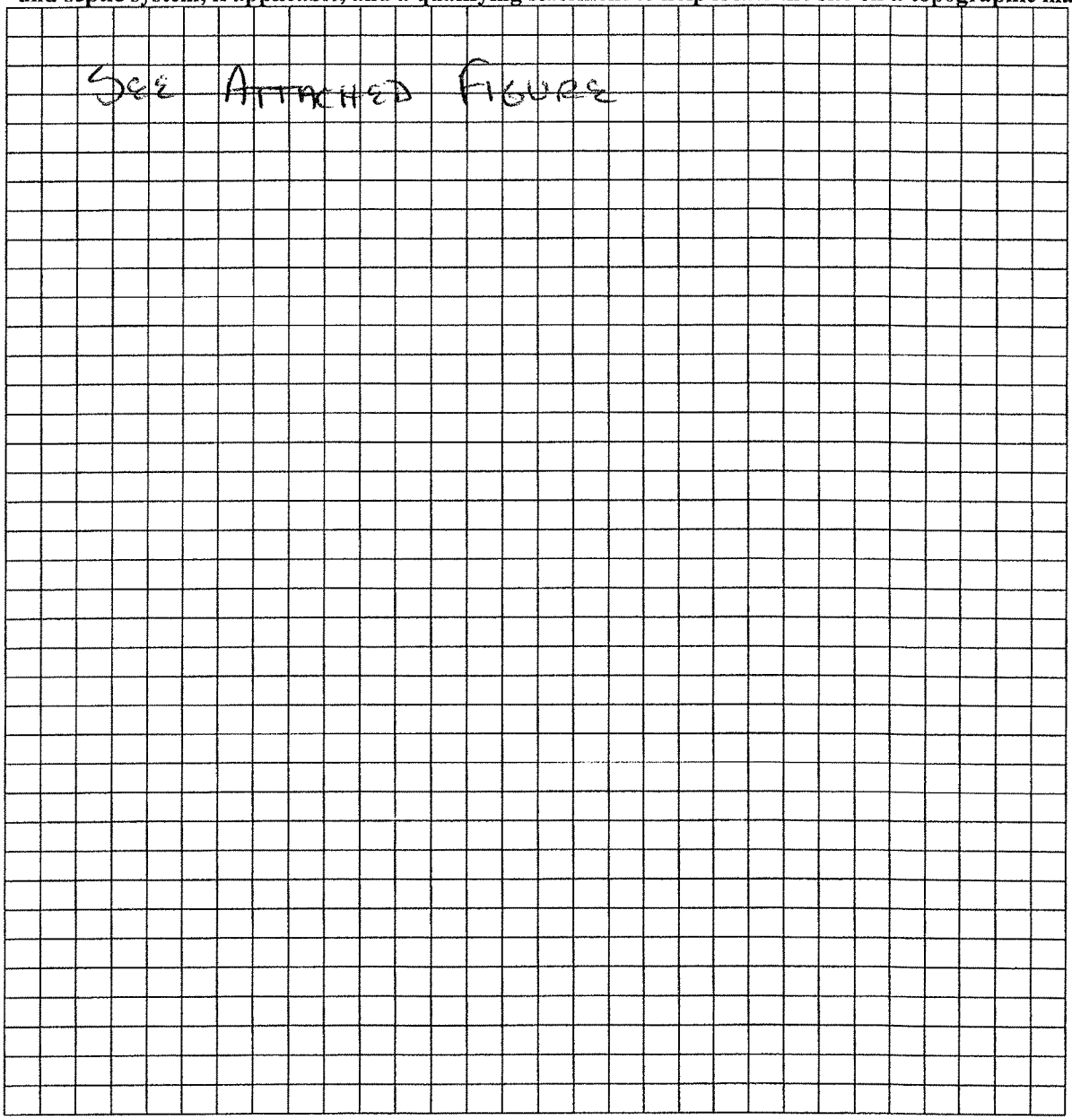
First Floor:

AV = air vent
D = drain
CS = confined space

12. OUTDOOR PLOT

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

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



13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: PpB RAE

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

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo** Y/N
NO CHEMICALS IDENTIFIED						

* 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.

1223 FDR DRIVE

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 AARON FALZARANO Date/Time Prepared 3/25/13 10:00AM

Preparer's Affiliation ARCADIS Phone No. 585-880-1456

Purpose of Investigation INDOOR AIR SAMPLING

1. OCCUPANT:

Interviewed: Y / (N)

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

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

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

Interviewed: Y / N SUPERVISOR

Last Name: CARTER First Name: ANTHONY

Address: 454 EAST 10TH STREET

County: MANHATTAN

Home Phone: _____ Office Phone: 212-228-2400

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

(Residential)	School	Commercial/Multi-use
Industrial	Church	Other: _____

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

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

If multiple units, how many? 36

If the property is commercial, type?

Business Type(s) N/A

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

Other characteristics:

Number of floors 6 Building age ~65 YRS

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
NONE, VERTICAL AIR MOVEMENT UNLESS THROUGH GAPS IN PIPING, COMPACTOR CHUTE, OR ELEVATOR SHAFT.

Airflow near source
SOME AIR VENTS, FAN IN TANK ROOM EXCHANGES AIR.

Outdoor air infiltration
FAN IN TANK ROOM CREATES AMBIENT AIR EXCHANGE. OPEN DOORS ALSO ALLOW FOR AIR EXCHANGE.

Infiltration into air ducts
NO AIR DUCTS IDENTIFIED ON GROUND FLOOR

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

a. Above grade construction: wood frame (concrete) stone (brick)

b. Basement type: full (crawlspace) slab other _____

c. Basement floor: (concrete) (dirt) stone other _____

d. Basement floor: uncovered (covered) covered with _____

e. Concrete floor: (unsealed) sealed sealed with _____

f. Foundation walls: (poured block) stone other _____

g. Foundation walls: unsealed (sealed) sealed with 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: 20' (feet) IN SUMP

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)
CONCRETE FLOORS APEAR FREE OF LARGE CRACKS. EARTHEN FLOORS, DRAINS, AND COMPACTOR CHUTE POTENTIAL SOIL VAPOR ENTRY POINTS

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

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

Hot air circulation	Heat pump	Hot water baseboard	
Space Heaters	(Steam radiation)	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other _____

The primary type of fuel used is:

Natural Gas	Fuel Oil	Kerosene
(Electric)	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: STEAM

Boiler/furnace located in: Basement Outdoors Main Floor Other STEAM PIPED IN

Air conditioning: Central Air (Window units) Open Windows None

Are there air distribution ducts present? Y / (N)

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

NO DUCT WORK PRESENT, VENTS AND FANS LOCATED IN TANK ROOM

7. OCCUPANCY

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

Level	**General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)**
Basement	TANK ROOM, COMPACTOR AND STORAGE ROOMS
1st Floor – 6TH	RESIDENCES
~~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 N/A

d. Has the building ever had a fire? (Y) / N When? 2008

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

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

g. Is there smoking in the building? Y / (N) How frequently? STILL DO

h. Have cleaning products been used recently? (Y) / N When & Type? DAILY

i. Have cosmetic products been used recently? Y / (N) When & Type? N/A

* HURRICANE SANDY OCT 2012
3-4' OF WATER ACROSS SITE

j. Has painting/staining been done in the last 6 months? (Y) / N Where & When? TOUCH UP

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

l. Have air fresheners been used recently? (Y) / N When & Type? DAILY

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

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

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

p. Has there been a pesticide application? Y / (N) When & Type? N/A

Are there odors in the building? (Y) / N
If yes, please describe: TRASH SMELL IN COMPACTOR ROOM

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? HOUSEHOLD CLEANERS

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

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

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

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

9. WATER AND SEWAGE

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

10. RELOCATION INFORMATION (for oil spill residential emergency)

a. Provide reasons why relocation is recommended: _____

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

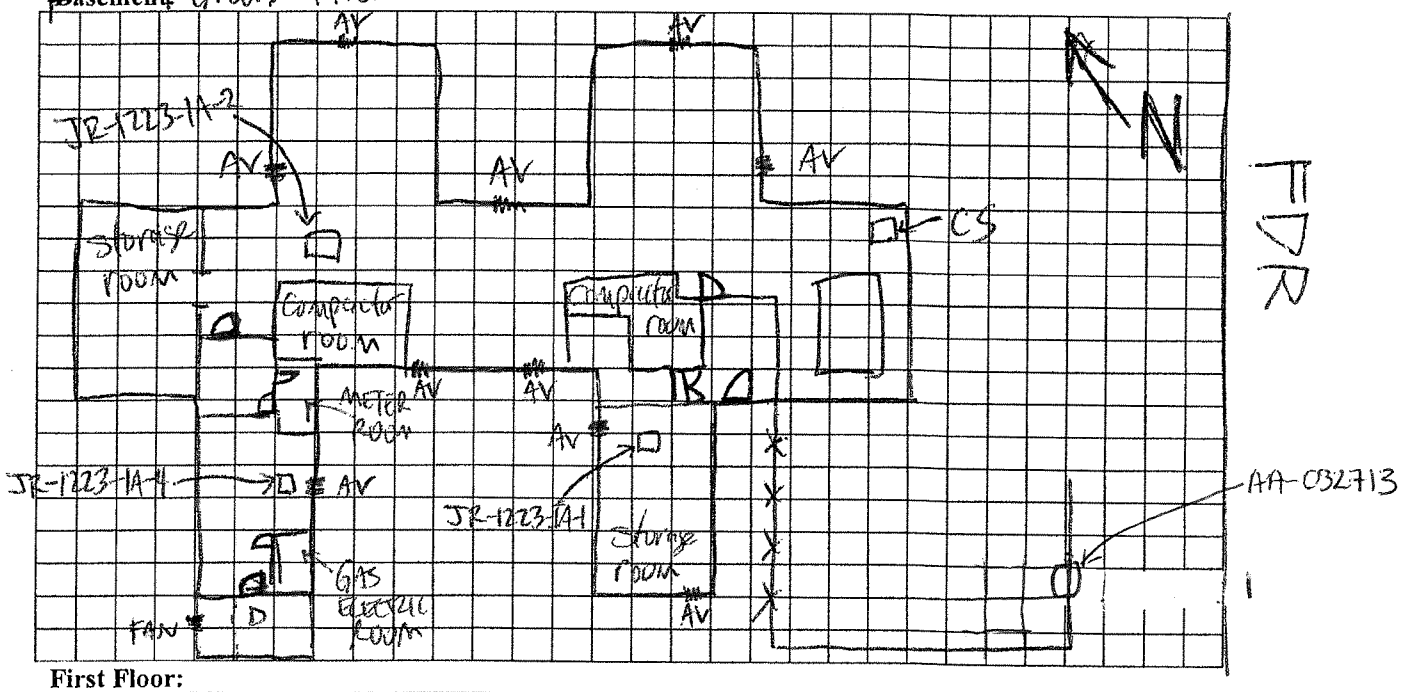
c. Responsibility for costs associated with reimbursement explained? Y / N

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

11. FLOOR PLANS

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

~~**Basement**~~ Ground Floor



First Floor:

CS= confined space

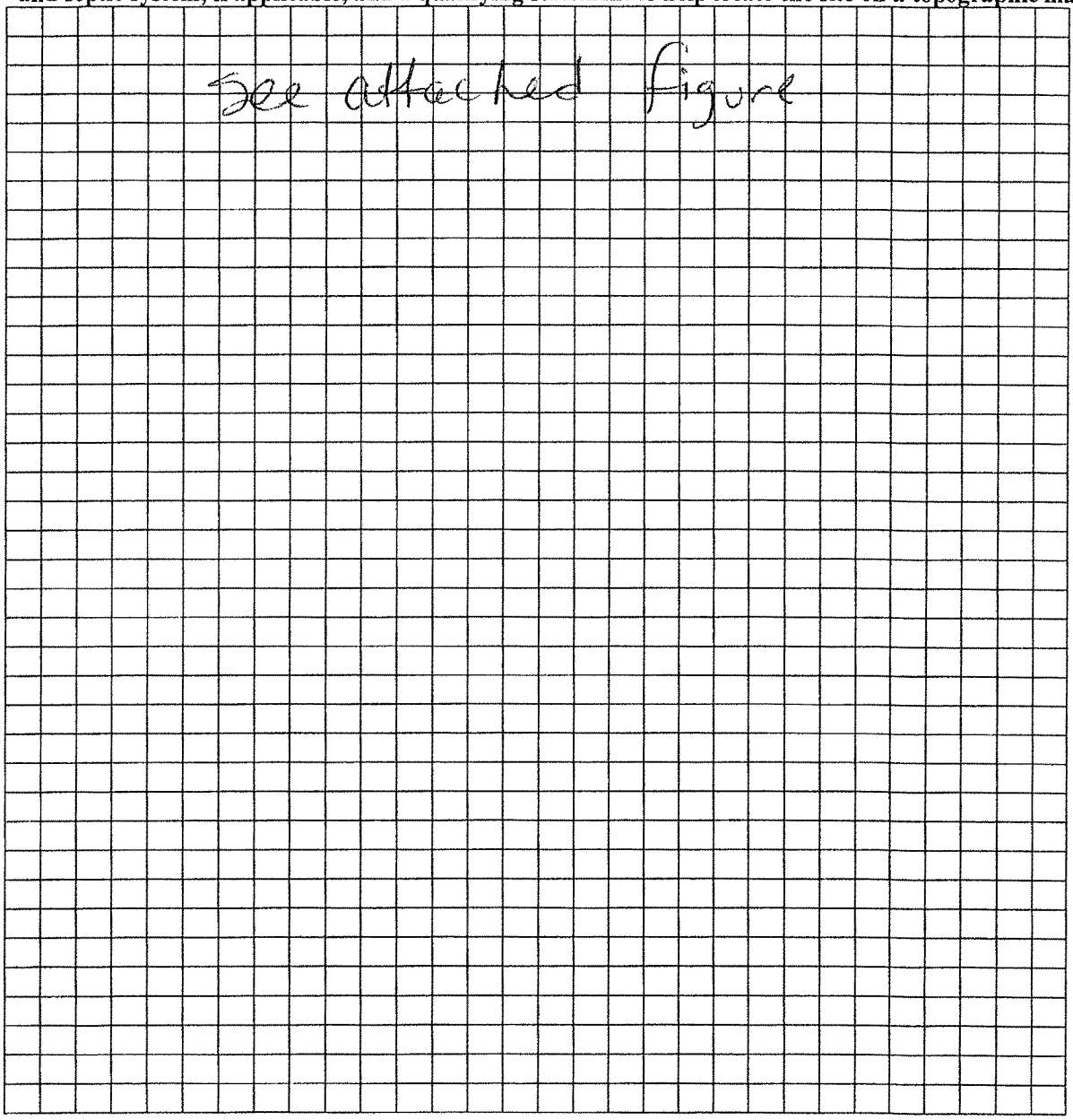
AV= air vent

D= drain

12. OUTDOOR PLOT

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

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



13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: PPB RAE

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

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo** Y/N
NO	CHEMICALS		IDENTIFIED			

* 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.

Attachment 2

Photographic Logs – Building Inventories (on compact disk)

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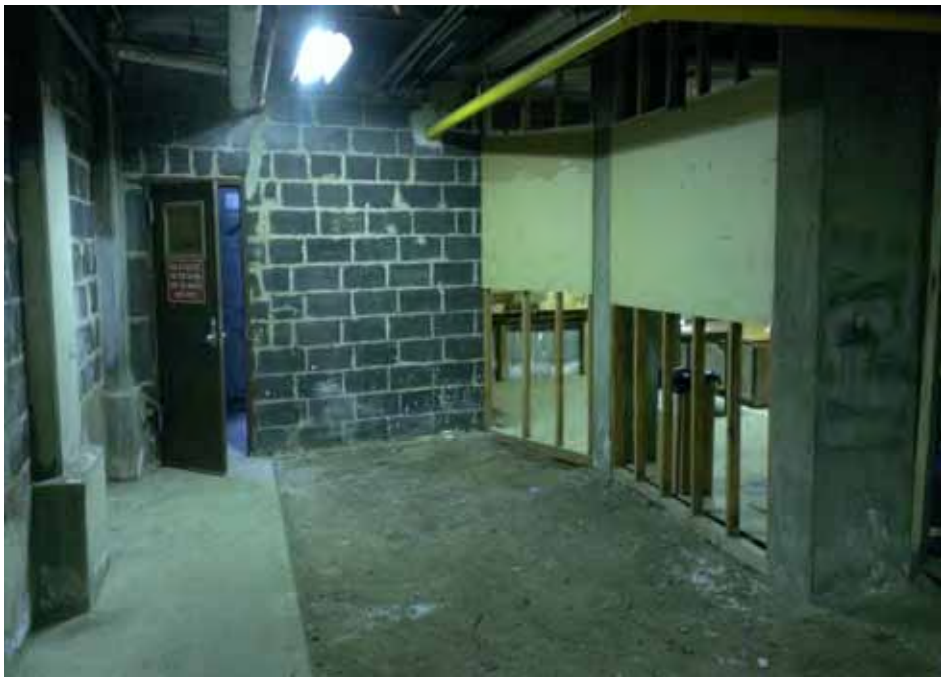
Photographic Log – Building Inventory

ISMP Annual Indoor Air Monitoring Report
Former East 11th Street Works
Manhattan, New York



Storage room inside 170 Avenue D containing miscellaneous building materials.

Compactor room located in 170 Avenue D containing Bio-Wash for trash compactor unit and oil-containing unit for compactor operation.

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Photographic Log – Building Inventory

ISMP Annual Indoor Air Monitoring Report
Former East 11th Street Works
Manhattan, New York

Entrance to tank room area (facing east) located in 170 Avenue D.

Entrance to storage room area (facing north) located in 170 Avenue D.

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Photographic Log – Building Inventory

ISMP Annual Indoor Air Monitoring Report
Former East 11th Street Works
Manhattan, New York

Miscellaneous storage near tank room facing east located within 170 Avenue D.

Piping units within tank room (facing east) located within 170 Avenue D.

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Photographic Log – Building Inventory

ISMP Annual Indoor Air Monitoring Report
Former East 11th Street Works
Manhattan, New York

Pit with sump located in tank room (facing east) within 170 Avenue D.

Vault with crawl space (facing east) where JR-178-IA-1 was located at 178 Avenue D.

Meter room (facing west) located within 178 Avenue D.

Compactor room (facing west) within 178 Avenue D.

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Photographic Log – Building Inventory

ISMP Annual Indoor Air Monitoring Report
Former East 11th Street Works
Manhattan, New York

Entrance to ground-level area (facing east) of 1115 FDR Drive.

Tank room (containing JR-1115-IA-3 (facing north) within 1115 FDR Drive. Two drains contained in floor with large fan and vents.

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Photographic Log – Building Inventory

ISMP Annual Indoor Air Monitoring Report
Former East 11th Street Works
Manhattan, New York

Pit and sump containing water located within tank room at 1115 FDR Drive.

Storage room area (facing north) located within 1115 FDR Drive.

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Photographic Log – Building Inventory

ISMP Annual Indoor Air Monitoring Report
Former East 11th Street Works
Manhattan, New York

Storage room area (facing east) where JR-1115-IA-1 was obtained within 1115 FDR Drive.

Outside of plaster room area facing meter room (south) located within 1115 FDR Drive.

Miscellaneous plaster, tile, and adhesives located in plaster room (facing west) within 1115 FDR Drive.

Grout mixing area plaster and adhesives located in plaster room (facing south within 1115 FDR Drive.

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Photographic Log – Building Inventory

ISMP Annual Indoor Air Monitoring Report
Former East 11th Street Works
Manhattan, New York

Plaster-Weld contained in plaster room (approximately half-full) within 1115 FDR Drive.

Various empty (used) cleaning buckets and cleaning solution located in plaster room within 1115 FDR Drive.

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Photographic Log – Building Inventory

ISMP Annual Indoor Air Monitoring Report
Former East 11th Street Works
Manhattan, New York

Floor wax remover (used) located in plaster room within 1115 FDR Drive.

General break area (facing east) in plaster room within 1115 FDR Drive.

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Photographic Log – Building Inventory

ISMP Annual Indoor Air Monitoring Report
Former East 11th Street Works
Manhattan, New York

Office located behind plastic curtain in plaster room (facing east) within 1115 FDR Drive.

Various cleaning supplies and lockers (facing north) in plaster room within 1115 FDR Drive.

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Photographic Log – Building Inventory

ISMP Annual Indoor Air Monitoring Report
Former East 11th Street Works
Manhattan, New York

5-50 lb bags of Hydroment dry tile grout contained in plaster room within 1115 FDR Drive.

1-1 gallon (used) container of construction adhesive in plaster room within 1115 FDR Drive.

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Photographic Log – Building Inventory

ISMP Annual Indoor Air Monitoring Report
Former East 11th Street Works
Manhattan, New York

Bathroom contained in plaster room (facing south) within 1115 FDR Drive.

Assorted soaps and air freshener in bathroom of plaster room within 1115 FDR Drive.

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Photographic Log – Building Inventory

ISMP Annual Indoor Air Monitoring Report
Former East 11th Street Works
Manhattan, New York

Approximately 200-50 lb bags of Red Top Gauging Plaster in plaster room within 1115 FDR Drive.

Approximately 25-50 lb bags of Grand Prize hydrated finish lime in plaster room within 1115 FDR Drive.

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Photographic Log – Building Inventory

ISMP Annual Indoor Air Monitoring Report
Former East 11th Street Works
Manhattan, New York

1-5 gallon (used) container of Corcraft floor sealer in plaster room within 1115 FDR Drive.

Vault containing crawl space (facing south) where JR-1141-IA-1 was located at 1141 FDR Drive.

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Photographic Log – Building Inventory

ISMP Annual Indoor Air Monitoring Report
Former East 11th Street Works
Manhattan, New York

Hallway (facing south) containing tank room and compactor room at 1141 FDR Drive.

Tank room (facing northeast) containing JR-1141-IA-2 within 1141 FDR Drive. Tank room contains various piping and a pit with a sump.

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Photographic Log – Building Inventory

ISMP Annual Indoor Air Monitoring Report
Former East 11th Street Works
Manhattan, New York

Pit and sump (with JR-1141-IA-2) within Tank Room located at 1141 FDR Drive.

Vault containing crawl space (facing northwest) where JR-1141-IA-3 was located at 1141 FDR Drive.

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Photographic Log – Building Inventory

ISMP Annual Indoor Air Monitoring Report
Former East 11th Street Works
Manhattan, New York

Trash compactor room (facing north) located within 1223 FDR Drive.

1-5 gallon container of latex paint (used) located in trash compactor room within 1223 FDR Drive.

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Photographic Log – Building Inventory

ISMP Annual Indoor Air Monitoring Report
Former East 11th Street Works
Manhattan, New York

Storage room (facing south) containing various furniture located in 1223 FDR Drive.

Outside of storage room (facing south) containing bags of rock salt and a mop bucket within 1223 FDR Drive.

Assorted piping (facing east) contained outside of telecommunications room (on right) within 1223 FDR Drive.

Storage area (facing north) containing miscellaneous materials located within 1223 FDR Drive.

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Photographic Log – Building Inventory

ISMP Annual Indoor Air Monitoring Report
Former East 11th Street Works
Manhattan, New York

Main walkway (facing east) containing various building-related materials located within 1223 FDR Drive.

Storage area (facing south) containing various bulbs within 1223 FDR Drive.

Compactor room (west) located within 1223 FDR Drive.

Tank room (containing 2 drains and fans) located within 1223 FDR Drive.

ARCADIS

Photographic Log – Building Inventory

ISMP Annual Indoor Air Monitoring Report
Former East 11th Street Works
Manhattan, New York

Pit containing sump in the tank room located within 1223 FDR Drive.

Attachment 3

Sample Collection Logs (on compact disk)

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Infrastructure, environment, buildings

Indoor/Ambient Air Sample Collection Log

		Sample ID:	IR-170-1A-1
Client:	Consolidated Edison	Outdoor/Indoor:	Indoor
Project:	East 11th Street	Sample Intake Height:	4ft
Location:	Jacob RHS	Miscellaneous Equipment:	N/A
Project #:	B0043013	Time On/Off:	8:20 / 13:45
Samplers:	AF / DM	Subcontractor:	N/A

Instrument Readings:

Time	Canister Pressure (inches of HG)	Temperature (F or C)	Relative Humidity (%)	Air Speed (ft/min)	Pressure Differential (inches of H20)	PID (ppm or ppb)
8:20	-30	43				0
9:30	-20	43				0
10:30	-22					0
11:30	-20					0
12:30	-17					0
1:30	-13					0

SUMMA Canister Information:

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

Canister ID: ~~13874~~ 6613

Flow Controller ID: ~~K447~~ K499

Time	Can Pressure
2:30	-10
3:45	-7

General Observations/Notes:

Please record current weather information including wind speed and direction, ambient temperature, barometric pressure, and relative humidity via suitable information source (e.g., weatherunderground.com).

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Indoor/Ambient Air Sample Collection Log

		Sample ID:	DUP-032613
Client:	Consolidated Edison	Outdoor/Indoor:	Indoor
Project:	East 11th Street	Sample Intake Height:	4 ft
Location:	Jacob Ruis	Miscellaneous Equipment:	N/A
Project #:	B0043013	Time On/Off:	8:20 / 3:45
Samplers:	AF/DM	Subcontractor:	N/A

Instrument Readings:

Time	Canister Pressure (inches of HG)	Temperature (F or C)	Relative Humidity (%)	Air Speed (ft/min)	Pressure Differential (inches of H20)	PID (ppm or ppb)
8:20	-30	43				0
9:30	-28	43				0
10:30	-24					0
11:30	-21					0
12:30	-18					0
1:30	-14					0

SUMMA Canister Information:

	Time	Can Pressure
Size (circle one): 1 L (6 L)	2:30	-11
	3:45	-7

Canister ID: 1142

Flow Controller ID: AOC6

General Observations/Notes:

PARENT SAMPLE JR-170-1A-1

Please record current weather information including wind speed and direction, ambient temperature, barometric pressure, and relative humidity via suitable information source (e.g., weatherunderground.com).

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Infrastructure, environment, buildings

Indoor/Ambient Air Sample Collection Log JR-170-IA-2

		Sample ID:	~~JR-170-IA~~ REP-033111
Client:	Consolidated Edison	Outdoor/Indoor:	Indoor
Project:	East 11th Street	Sample Intake Height:	4ft
Location:	Jacob RIIS	Miscellaneous Equipment:	N/A
Project #:	R0043013.0001	Time On/Off:	8:20 / 3:45
Samplers:	AF/DM	Subcontractor:	N/A

Instrument Readings:

Time	Canister Pressure (inches of HG)	Temperature (F or C)	Relative Humidity (%)	Air Speed (ft/min)	Pressure Differential (inches of H20)	PID (ppm or ppb)
8:20	-32	43				0
9:30	-26	43				0
10:36	-24					0
11:30	-20					0
12:30	-17					0
1:30	-13					0

SUMMA Canister Information:

Time	Can Pressure
2:30	-10
3:45	-7

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

Canister ID: 12874

Flow Controller ID: K147

General Observations/Notes:

Please record current weather information including wind speed and direction, ambient temperature, barometric pressure, and relative humidity via suitable information source (e.g., weatherunderground.com).

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Indoor/Ambient Air Sample Collection Log

		Sample ID:	JR-170-1A-3
Client:	Consolidated Edison	Outdoor/Indoor:	Indoor
Project:	East 11th Street	Sample Intake Height:	3ft
Location:	Jacob Riis	Miscellaneous Equipment:	N/A
Project #:	B0043013.0001	Time On/Off:	8:20 3:45
Samplers:	AF/DM	Subcontractor:	N/A

Instrument Readings:

Time	Canister Pressure (inches of HG)	Temperature (F or C)	Relative Humidity (%)	Air Speed (ft/min)	Pressure Differential (inches of H20)	PID (ppm or ppb)
8:20	-32	43				0
9:30	-29	43				0
10:30	-28					0
11:30	-22					0
12:30	-20					0
1:30	-16					0
						0
						0
						0

SUMMA Canister Information:

Time | Can Pressure
2:30 | -12
3:45 | -8

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

Canister ID: 12738

Flow Controller ID: 4022

General Observations/Notes:

Please record current weather information including wind speed and direction, ambient temperature, barometric pressure, and relative humidity via suitable information source (e.g., weatherunderground.com).

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Indoor/Ambient Air Sample Collection Log

		Sample ID:	JR-170-IA-4
Client:	Consolidated Edison	Outdoor/Indoor:	Indoor
Project:	East 11th Street	Sample Intake Height:	3.5ft
Location:	Jacob Riis	Miscellaneous Equipment:	N/A
Project #:	B0043013.0001	Time On/Off:	8:20 3:45
Samplers:	AF/DM	Subcontractor:	N/A

Instrument Readings:

Time	Canister Pressure (inches of HG)	Temperature (F or C)	Relative Humidity (%)	Air Speed (ft/min)	Pressure Differential (inches of H20)	PID (ppm or ppb)
8:20	-32	43				0
9:30	-28	43				0
10:30	-24					0
11:30	-21					0
12:30	-17					0
1:30	-14					0

SUMMA Canister Information:

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

Canister ID: 6131

Flow Controller ID: 1330

Time	Can Pressure
2:30	-11
3:45	-8

General Observations/Notes:

Please record current weather information including wind speed and direction, ambient temperature, barometric pressure, and relative humidity via suitable information source (e.g., weatherunderground.com).

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Indoor/Ambient Air Sample Collection Log

		Sample ID:	JR-178-1A-1
Client:	Consolidated Edison	Outdoor/Indoor:	Indoor
Project:	East 11th Street	Sample Intake Height:	2ft.
Location:	Jacob Riis	Miscellaneous Equipment:	N/A
Project #:	R0043013.0001	Time On/Off:	8:30 3:45
Samplers:	AF/DM	Subcontractor:	N/A

Instrument Readings:

Time	Canister Pressure (inches of HG)	Temperature (F or C)	Relative Humidity (%)	Air Speed (ft/min)	Pressure Differential (inches of H20)	PID (ppm or ppb)
8:30	-31					0
9:30	-10					0
9:30 switch canister	-29					0
10:30	-25					0
11:30	-22					0
12:30	-19					0
						0
						0
						0
						0

SUMMA Canister Information:

Time Can Pressure
1:30 -16
2:30 -13
3:45 -8

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

Canister ID: ~~371~~ 7497

Flow Controller ID: ~~AC13~~ AC03

General Observations/Notes:

Please record current weather information including wind speed and direction, ambient temperature, barometric pressure, and relative humidity via suitable information source (e.g., weatherunderground.com).

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Indoor/Ambient Air Sample Collection Log

		Sample ID:	JR-178-1A-2
Client:	Consolidated Edison	Outdoor/Indoor:	Indoor
Project:	East 11th Street	Sample Intake Height:	~~3.5ft~~ 2.5 ft
Location:	Jacob Riis	Miscellaneous Equipment:	N/A
Project #:	B0043813.0001	Time On/Off:	8:35 3:45
Samplers:	AF/DM	Subcontractor:	N/A

Instrument Readings:

Time	Canister Pressure (inches of HG)	Temperature (F or C)	Relative Humidity (%)	Air Speed (ft/min)	Pressure Differential (inches of H20)	PID (ppm or ppb)
8:35	-29	43				0
9:30	-27	47				0
10:30	-26					0
11:30	-22					0
12:30	-20					0
1:30	-17					0
						0
						0

SUMMA Canister Information:

	Time	Can Pressure
	2:00	-14
	3:45	-9

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

Canister ID: 1364

Flow Controller ID: A007

General Observations/Notes:

Please record current weather information including wind speed and direction, ambient temperature, barometric pressure, and relative humidity via suitable information source (e.g., weatherunderground.com).

* 2nd Time Sampling due to slow pressure movement

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Indoor/Ambient Air Sample Collection Log

Sample ID: JR-178-1A-3

Client:	Consolidated Edison	**Outdoor/Indoor:**	Indoor
Project:	East 11th Street	**Sample Intake Height:**	5 ft
Location:	Jacob Riis	**Miscellaneous Equipment:**	N/A
Project #:	B0043B3	**Time On/Off:**	7:35 - 3:05
Samplers:	AF/DM	**Subcontractor:**	N/A

Instrument Readings:

Time	Canister Pressure (inches of HG)	Temperature (F or C)	Relative Humidity (%)	Air Speed (ft/min)	Pressure Differential (inches of H20)	PID (ppm or ppb)
7:35	-30					200
8:35	-28					352
9:30	-26					0
10:30	-21					200
11:36	-19					0
12:30	-16					0

SUMMA Canister Information:

Time	Pressure
1:30	-12
2:30	-10
3:25	-7

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

Canister ID: 04176

Flow Controller ID: A021

General Observations/Notes:

Please record current weather information including wind speed and direction, ambient temperature, barometric pressure, and relative humidity via suitable information source (e.g., weatherunderground.com).

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Indoor/Ambient Air Sample Collection Log 037613

		Sample ID:	AA-[redacted]311
Client:	Consolidated Edison	Outdoor/Indoor:	Outdoor
Project:	Former East 14th Street Works	Sample Intake Height:	3ft
Location:	Jacob Riis	Miscellaneous Equipment:	N/A
Project #:	B0043013.0001	Time On/Off:	8:30 3:45
Samplers:	AF/DM	Subcontractor:	N/A

Instrument Readings:

Time	Canister Pressure (inches of HG)	Temperature (F or C)	Relative Humidity (%)	Air Speed (ft/min)	Pressure Differential (inches of H20)	PID (ppm or ppb)
8:30	-30	43				0
9:30	-24					0
10:30	-25					0
11:30	-24					0
12:30	-21					0
1:30	-18					6

SUMMA Canister Information:

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

Canister ID: 6675

Flow Controller ID: A009

Time	Can Pressure
2:30	-14
3:45	-9

General Observations/Notes:

Please record current weather information including wind speed and direction, ambient temperature, barometric pressure, and relative humidity via suitable information source (e.g., weatherunderground.com).

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Indoor/Ambient Air Sample Collection Log

Sample ID: JR-1223-IA-1

Client:	Consolidated Edison	**Outdoor/Indoor:**	Indoor
Project:	East 11th Street	**Sample Intake Height:**	3ft
Location:	Jacob RHS	**Miscellaneous Equipment:**	N/A
Project #:	B0048013.0001	**Time On/Off:**	7:30 - 3:05
Samplers:	AF/DM	**Subcontractor:**	N/A

Instrument Readings:

Time	Canister Pressure (inches of HG)	Temperature (F or C)	Relative Humidity (%)	Air Speed (ft/min)	Pressure Differential (inches of H20)	PID (ppm or ppb)
7:30	-30					0
8:30	-28					0
9:30	-25					0
10:30	-21					0
11:30	-18					0
12:30	-15					

SUMMA Canister Information:

Time	Pressure
1:30	-11
2:30	-8
3:05	-6

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

Canister ID: 92084

Flow Controller ID: K518

General Observations/Notes:

Please record current weather information including wind speed and direction, ambient temperature, barometric pressure, and relative humidity via suitable information source (e.g., weatherunderground.com).

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Indoor/Ambient Air Sample Collection Log

		Sample ID:	JR-1223-IA-2
Client:	Consolidated Edison	Outdoor/Indoor:	Indoor
Project:	East 11th Street	Sample Intake Height:	3ft
Location:	Jacob Riis	Miscellaneous Equipment:	N/A
Project #:	B0043013.0001	Time On/Off:	7:30 - 3:45
Samplers:	AF/DM	Subcontractor:	N/A

Instrument Readings:

Time	Canister Pressure (inches of HG)	Temperature (F or C)	Relative Humidity (%)	Air Speed (ft/min)	Pressure Differential (inches of H20)	PID (ppm or ppb)
7:30	-30					0
8:30	-21					0
8:30	-21					0
9:30	-28					0
10:30	-23					0
11:30	-21					0

changed out canister

SUMMA Canister Information:

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

Canister ID: ~~01844~~ 5-1498

Flow Controller ID: ~~K514~~ K156

Time	Pressure
12:30	-18
1:30	-14
2:30	-11
3:45	-6

General Observations/Notes:

Please record current weather information including wind speed and direction, ambient temperature, barometric pressure, and relative humidity via suitable information source (e.g., weatherunderground.com).

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Indoor/Ambient Air Sample Collection Log

Sample ID: JR-123-IA-3

Client:	Consolidated Edison	**Outdoor/Indoor:**	Indoor
Project:	East 11th Street	**Sample Intake Height:**	3ft
Location:	Jacob Riis	**Miscellaneous Equipment:**	N/A
Project #:	B0048013.0001	**Time On/Off:**	7:30-3:20
Samplers:	AF/DM	**Subcontractor:**	N/A

Instrument Readings:

Time	Canister Pressure (inches of HG)	Temperature (F or C)	Relative Humidity (%)	Air Speed (ft/min)	Pressure Differential (inches of H20)	PID (ppm or ppb)
7:30	-30					0
8:30	-28					0
9:30	-25					0
10:30	-23					0
11:30	-18					0
12:30	-15					

Time	Pressure
1:30	-11
2:30	-9
3:20	-6

SUMMA Canister Information:

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

Canister ID: 6620

Flow Controller ID: K178

General Observations/Notes:

Please record current weather information including wind speed and direction, ambient temperature, barometric pressure, and relative humidity via suitable information source (e.g., weatherunderground.com).

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Indoor/Ambient Air Sample Collection Log

		Sample ID:	JR-1223-IA-4
Client:	Consolidated Edison	Outdoor/Indoor:	Indoor
Project:	East 11th Street	Sample Intake Height:	3 ft
Location:	Jacob Riis	Miscellaneous Equipment:	N/A
Project #:	B0043013.0001	Time On/Off:	7:30 - 3:05
Samplers:	AF/DM	Subcontractor:	N/A

Instrument Readings:

Time	Canister Pressure (inches of HG)	Temperature (F or C)	Relative Humidity (%)	Air Speed (ft/min)	Pressure Differential (inches of H20)	PID (ppm or ppb)
7:30	-30					0
8:30	-28					0
9:30	-25					0
10:30	-21					0
11:30	-18					0
12:30	-14					

SUMMA Canister Information:

Time	Pressure
1:30	-10
2:30	-8
3:05	-6

PID: 0, 0, 0

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

Canister ID: 6521

Flow Controller ID: A008

General Observations/Notes:

Please record current weather information including wind speed and direction, ambient temperature, barometric pressure, and relative humidity via suitable information source (e.g., weatherunderground.com).

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Indoor/Ambient Air Sample Collection Log

AA-032713

~~AA-071411~~

Sample ID: ~~[illegible]~~

Client:	Consolidated Edison	Outdoor/Indoor:	Indoor
Project:	East 11th Street	Sample Intake Height:	4'
Location:	Jacob Riis	Miscellaneous Equipment:	N/A
Project #:	B0043013.0001	Time On/Off:	~~7~~ 25 - 3:30
Samplers:	AF/DM	Subcontractor:	N/A

Instrument Readings:

Time	Canister Pressure (inches of HG)	Temperature (F or C)	Relative Humidity (%)	Air Speed (ft/min)	Pressure Differential (inches of H20)	PID (ppm or ppb)
7:26	-30					0
8:30	-29					0
9:30	-26					0
10:30	-22					0
11:30	-20					0
12:30	-18					0

SUMMA Canister Information:

Time	Pressure
1:30	-14
2:30	-11
3:30	-7

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

Canister ID: 12891

Flow Controller ID: A002

General Observations/Notes:

Please record current weather information including wind speed and direction, ambient temperature, barometric pressure, and relative humidity via suitable information source (e.g., weatherunderground.com).

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Indoor/Ambient Air Sample Collection Log

		Sample ID:	JR-1115-1A-#1
Client:	Consolidated Edison	Outdoor/Indoor:	Indoor
Project:	East 11th Street	Sample Intake Height:	5 ft
Location:	Jacob Ries	Miscellaneous Equipment:	N/A
Project #:	B0043013	Time On/Off:	7:30-3:30
Samplers:	AF/DM	Subcontractor:	N/A

Instrument Readings:

Time	Canister Pressure (inches of HG)	Temperature (F or C)	Relative Humidity (%)	Air Speed (ft/min)	Pressure Differential (inches of H20)	PID (ppm or ppb)
7:30	-30					0
8:30	-29					0
9:30	-25					0
10:30	-22					0
11:30	-19					0
12:30	-15					0

Time	Pressure	
1:30	-12	0
2:30	-9	0
3:30	-6	0

SUMMA Canister Information:

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

Canister ID: 6611

Flow Controller ID: K900

General Observations/Notes:

Please record current weather information including wind speed and direction, ambient temperature, barometric pressure, and relative humidity via suitable information source (e.g., weatherunderground.com).

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Indoor/Ambient Air Sample Collection Log

		Sample ID:	DUP-033013
Client:	Consolidated Edison	**Outdoor/Indoor:**	Indoor
Project:	East 11th Street	**Sample Intake Height:**	5ft
Location:	Jacob RIIS	**Miscellaneous Equipment:**	N/A
Project #:	B0043013	**Time On/Off:**	7:30-3:30
Samplers:	AF/DM	**Subcontractor:**	N/A

Instrument Readings:

Time	Canister Pressure (inches of HG)	Temperature (F or C)	Relative Humidity (%)	Air Speed (ft/min)	Pressure Differential (inches of H20)	PID (ppm or ppb)
7:30	-30					0
8:30	-29					0
9:30	-25					0
10:30	-22					0
11:30	-19					0
12:30	-15					0

Time	Pressure
1:30	-12
2:30	-9
3:30	-6

SUMMA Canister Information:

Size (circle one): 1 L 6 L

Canister ID: 12639

Flow Controller ID: K406

General Observations/Notes:

PARENT JR-1115-1A-1

Please record current weather information including wind speed and direction, ambient temperature, barometric pressure, and relative humidity via suitable information source (e.g., weatherunderground.com).

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Indoor/Ambient Air Sample Collection Log

		Sample ID:	JR-1115-11-2
Client:	Consolidated Edison	Outdoor/Indoor:	Indoor
Project:	East 11th Street	Sample Intake Height:	3.5 ft
Location:	Jacob Riis	Miscellaneous Equipment:	N/A
Project #:	B0043013	Time On/Off:	7:30 - 3:35
Samplers:	AF/DM	Subcontractor:	N/A

Instrument Readings:

Time	Canister Pressure (inches of HG)	Temperature (F or C)	Relative Humidity (%)	Air Speed (ft/min)	Pressure Differential (inches of H20)	PID (ppm or ppb)
7:30	-30					0
8:30	-28					0
9:30	-24					0
10:30	-22					0
11:30	-19					0
12:30	-15					

Time / Pressure
1:30 / -12
2:30 / -9
3:35 / -6

SUMMA Canister Information:

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

Canister ID: 35288N

Flow Controller ID: AC04

General Observations/Notes:

Please record current weather information including wind speed and direction, ambient temperature, barometric pressure, and relative humidity via suitable information source (e.g., weatherunderground.com).

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Indoor/Ambient Air Sample Collection Log

		Sample ID:	JR-111S-1A-3
Client:	Consolidated Edison	Outdoor/Indoor:	Indoor
Project:	East 11th Street	Sample Intake Height:	6 ft.
Location:	Jacob RIS	Miscellaneous Equipment:	N/A
Project #:	B0043013.0001	Time On/Off:	7:30-3:35
Samplers:	AF/DM	Subcontractor:	N/A

Instrument Readings:

Time	Canister Pressure (inches of HG)	Temperature (F or C)	Relative Humidity (%)	Air Speed (ft/min)	Pressure Differential (inches of H20)	PID (ppm or ppb)
7:30	-30					0
8:30	-28					0
9:30	-25					0
10:30	-22					0
11:30	-19					0
12:30	-15					0

Time	Pressure
1:30	-12
2:30	-10
3:35	-7

SUMMA Canister Information:

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

Canister ID: 7491

Flow Controller ID: K224

General Observations/Notes:

Please record current weather information including wind speed and direction, ambient temperature, barometric pressure, and relative humidity via suitable information source (e.g., weatherunderground.com).

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Indoor/Ambient Air Sample Collection Log

Sample ID: JR-111S-1A-4

Client:	Consolidated Edison	**Outdoor/Indoor:**	Indoor
Project:	East 11th Street	**Sample Intake Height:**	3ft
Location:	Jacob Ries	**Miscellaneous Equipment:**	N/A
Project #:	B0043013.0001	**Time On/Off:**	7:30-3:10
Samplers:	AF/DM	**Subcontractor:**	N/A

Instrument Readings:

Time	Canister Pressure (inches of HG)	Temperature (F or C)	Relative Humidity (%)	Air Speed (ft/min)	Pressure Differential (inches of H20)	PID (ppm or ppb)
7:30	-29					0
8:30	-25					0
9:30	-24					0
10:30	-20					0
11:30	-17					0
12:30	-14					0

SUMMA Canister Information:

Time	Pressure
1:30	-10
2:30	-7
3:10	-5

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

Canister ID: 1116

Flow Controller ID: K476

General Observations/Notes:

Please record current weather information including wind speed and direction, ambient temperature, barometric pressure, and relative humidity via suitable information source (e.g., weatherunderground.com).

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Indoor/Ambient Air Sample Collection Log

		Sample ID:	JR-1141-1A-1
Client:	Consolidated Edison	**Outdoor/Indoor:**	~~JR-1141-1A-1~~ indoor
Project:	East 11th Street	**Sample Intake Height:**	3 ft
Location:	Jacob RHS	**Miscellaneous Equipment:**	N/A
Project #:	B0043013.0001	**Time On/Off:**	7:30 - 3:40
Samplers:	AF/DM	**Subcontractor:**	N/A

Instrument Readings:

Time	Canister Pressure (inches of HG)	Temperature (F or C)	Relative Humidity (%)	Air Speed (ft/min)	Pressure Differential (inches of H20)	PID (ppm or ppb)
7:30	-30					0
8:30	-25					0
9:30	-25					0
10:30	-21					0
11:30	-19					0
12:30	-15					0

SUMMA Canister Information:

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

Canister ID: 41769

Flow Controller ID: K408

Time	Pressure
1:30	-12
2:30	-10
~~3:00~~ 3:40	-6

0
0

General Observations/Notes:

Please record current weather information including wind speed and direction, ambient temperature, barometric pressure, and relative humidity via suitable information source (e.g., weatherunderground.com).

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Indoor/Ambient Air Sample Collection Log

		Sample ID:	SR-1141-IA-2
Client:	Consolidated Edison	Outdoor/Indoor:	Indoor
Project:	East 11th Street	Sample Intake Height:	3'
Location:	Jacob RIS	Miscellaneous Equipment:	N/A
Project #:	R0043013.0001	Time On/Off:	8:30-9:00
Samplers:	AF/DM	Subcontractor:	N/A

Instrument Readings:

Time	Canister Pressure (inches of HG)	Temperature (F or C)	Relative Humidity (%)	Air Speed (ft/min)	Pressure Differential (inches of H20)	PID (ppm or ppb)
8:30	-30					0
9:00	-29					0
9:30	-27					0
10:30	-24					0
11:30	-20					0
12:30	-17					0

Time / Pressure
1:30 / -14
2:30 / -12
~~3:30~~ 4:00 / -8

PID: 0, 6, 0

SUMMA Canister Information:

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

Canister ID: 04165

Flow Controller ID: K321

General Observations/Notes:

Please record current weather information including wind speed and direction, ambient temperature, barometric pressure, and relative humidity via suitable information source (e.g., weatherunderground.com).

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Indoor/Ambient Air Sample Collection Log

Sample ID: JR-1141-IA-3

Client:	Consolidated Edison	**Outdoor/Indoor:**	Indoor
Project:	East 11th Street	**Sample Intake Height:**	3ft.
Location:	Jacob RUS	**Miscellaneous Equipment:**	N/A
Project #:	B0043013.0001	**Time On/Off:**	7:30-3:50
Samplers:	AF/DM	**Subcontractor:**	N/A

Instrument Readings:

Time	Canister Pressure (inches of HG)	Temperature (F or C)	Relative Humidity (%)	Air Speed (ft/min)	Pressure Differential (inches of H20)	PID (ppm or ppb)
7:30	-30					0
8:30	-29					0
9:30	-26					0
10:30	-23					0
11:30	-20					0
12:30	-15					

Time	Pressure
1:30	-12
2:30	-10
3:50	-6

SUMMA Canister Information:

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

Canister ID: 6372

Flow Controller ID: K529

General Observations/Notes:

Please record current weather information including wind speed and direction, ambient temperature, barometric pressure, and relative humidity via suitable information source (e.g., weatherunderground.com).

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Indoor/Ambient Air Sample Collection Log AA-032813

		Sample ID:	~~AA-032813-11~~
Client:	Consolidated Edison	Outdoor/Indoor:	Outdoor
Project:	East 11th st	Sample Intake Height:	3 ft
Location:	Jacob RAS	Miscellaneous Equipment:	N/A
Project #:	B0043013.0001	Time On/Off:	7:35-3:30
Samplers:	AF/DM	Subcontractor:	N/A

Instrument Readings:

Time	Canister Pressure (inches of HG)	Temperature (F or C)	Relative Humidity (%)	Air Speed (ft/min)	Pressure Differential (inches of H20)	PID (ppm or ppb)
7:35	-29					0
8:30	-28					0
9:30	-24					0
10:30	-21					0
11:30	-18					0
12:30	-15					0

Time: 1:30, 2:30, ~~3:30~~

Pressure: -11, -9, -6

SUMMA Canister Information:

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

Canister ID: 1124

Flow Controller ID: K227

General Observations/Notes:

Please record current weather information including wind speed and direction, ambient temperature, barometric pressure, and relative humidity via suitable information source (e.g., weatherunderground.com).

Attachment 4

Data Usability Summary Reports (DUSRs) (on compact disk)

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Imagine the result

ConEd E. 11th Street Site

Data Usability Summary Report

NEW YORK CITY, NEW YORK

Volatile Analyses

SDG# H3D010403

Analyses Performed By:
Test America
Knoxville, Tennessee

Report: #19084R
Review Level: Tier III
Project: B0043013.0003.00001

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) #H3D010403 for samples collected in association with the ConEd East 11th Street Site. The review was conducted as a Tier III evaluation and included review of data package completeness. Only analytical data associated with constituents of concern were reviewed for this validation. Included with this assessment are the validation annotated sample result sheets and chain of custody. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis				
					VOC	SVOC	PCB	MET	MISC
JR-1115-IA-1	M0HCL1AA	Air	3/28/2013		X				
JR-1115-IA-2	M0HCM1AA	Air	3/28/2013		X				
JR-1115-IA-3	M0HCN1AA	Air	3/28/2013		X				
JR-1115-IA-4	M0HCP1AA	Air	3/28/2013		X				
AA-032813	M0HCQ1AA	Air	3/28/2013		X				
DUP-032813	M0HCR1AA	Air	3/28/2013	JR-1115-IA-1	X				
JR-1141-IA-1	M0HCT1AA	Air	3/28/2013		X				
JR-1141-IA-2	M0HCV1AA	Air	3/28/2013		X				
JR-1141-IA-3	M0HCW1AA	Air	3/28/2013		X				

ANALYTICAL DATA PACKAGE DOCUMENTATION
GENERAL INFORMATION

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Sample receipt condition		X		X	
Requested analyses and sample results		X		X	
Collection Technique (grab, composite, etc.)		X		X	
Methods of analysis		X		X	
Reporting limits		X		X	
Sample collection date		X		X	
Laboratory sample received date		X		X	
Sample preservation verification (as applicable)		X		X	
Sample preparation/extraction/analysis dates		X		X	
Fully executed Chain-of-Custody (COC) form completed		X		X	
Narrative summary of QA or sample problems provided		X		X	
Data Package Completeness and Compliance		X		X	

QA - Quality Assurance

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-31- Validating Air Samples Volatile Organic Analysis of Ambient Air In Canister by Method TO-15 of October 2006, New York State DEC Analytical Method ASP 2005 TO-15 (QA/QC Criteria R9 TO-15), NYSDEC Modifications to R9 TO-15 QA/QC Criteria February 2008 and NYSDEC Proposed Change to the ASP Regarding Canister Vacuum June 26, 2009.

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:

- Concentration (C) Qualifiers

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

  B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

- Quantitation (Q) Qualifiers

  E The compound was quantitated above the calibration range.

  D Concentration is based on a diluted sample analysis.

- Validation Qualifiers

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

  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.

  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.

  UB Compound considered non-detect at the listed value due to associated blank contamination.

  N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

  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.

VOLATILE ORGANIC COMPOUND (VOC) ANALYSES

1. Holding Times

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

Method	Matrix	Holding Time	Preservation	Return Canister Pressure
EPA TO-15	Air	30 days from collection to analysis	Ambient Temperature	< -1" Hg

All samples were analyzed within the specified holding time and return canister pressure criteria.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method 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. 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 reporting limit (RL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were detected in the associated QA blanks; however, the associated sample results were greater than the BAL and/or were non-detect. Therefore, sample results greater than the BAL resulted in the removal of the laboratory qualifier (B). No other qualification of the sample results was required.

3. Mass Spectrometer Tuning

Sample locations were compliant with the Method TO-15 requirement of analysis within a 24-hour tune clock but not compliant with the NYSDEC requirement of analysis within a 12-hour tune clock. The data were not qualified.

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

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%) 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 or Continuing	Compound	Criteria
All sample locations within this SDG	CCV %D	1,2,4-Trichlorobenzene	-30.1%

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 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.)

Note: No sample results were qualified as rejected (R) due to the deviations listed above.

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 40% or less than 40% of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

7. 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 of 70% to 130%. The relative percent difference (RPD) between the LCS recoveries must exhibit an RPD within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

8. 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. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of three times the RL is applied for air matrices.

Results for the field duplicate samples are summarized in the following table.

Sample ID/ Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
JR-1115-IA-1/ DUP-032813	1,1,2-Trichloro-1,2,2-trifluoroethane	0.48 J	0.49 J	AC
	1,2,4-Trimethylbenzene	0.17 J	0.21 J	AC
	1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.11 J	0.12 J	AC
	1,2-Dichloroethane	0.081 J	0.081 J	AC
	1,3,5-Trimethylbenzene	0.39 U	0.22 J	AC
	2,2,4-Trimethylpentane	0.15 J	0.15 J	AC
	2-Methylbutane	0.94	0.93	AC
	2-Methylpentane	0.28 U	0.29	AC
	Benzene	0.59	0.61	AC
	Carbon tetrachloride	0.52	0.54	AC
	Chloroform	3.5	3.7	5.5 %
	Chloromethane	1.1	1.2	AC
	Dichlorodifluoromethane	2.5	2.5	0.0 %
	Ethylbenzene	0.16 J	0.16 J	AC
	Methylene chloride	0.83	1.1	AC
	m-Xylene & p-Xylene	0.49	0.52	AC
	Naphthalene	3.2	4.2	AC
	n-Butane	6.4	6.5	1.5 %
	n-Decane	0.71 J	1.5 J	AC

Sample ID/ Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
	n-Dodecane	0.41 J	0.43 J	AC
	n-Heptane	0.22 J	0.19 J	AC
	n-Hexane	0.32 J	0.37 J	AC
	n-Octane	0.19 J	0.16 J	AC
	Nonane	0.21 J	0.24 J	AC
	n-Undecane	0.38 J	0.5 J	AC
	o-Xylene	0.19 J	0.2 J	AC
	Pentane	0.57 J	0.58 J	AC
	Styrene	0.14 J	0.15 J	AC
	Tetrachloroethene	3.8	0.51 J	NC
	Toluene	1.1	1.2	AC
	Trichloroethene	1.6	0.21 U	NC
	Trichlorofluoromethane	1.3	1.3	AC

AC Acceptable
U Not detected

The compounds Tetrachloroethene and Trichloroethene associated with sample locations JR-1115-IA-1 and DUP-032813 exhibited a field duplicate RPD greater than the control limit. The associated sample results from sample locations for the listed compound were qualified as estimated.

9. Compound Identification

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

Sample results associated with compound that exhibited a concentration greater than the linear range of the instrument calibration are summarized in the following table.

Sample ID	Compound	Original Analysis	Diluted Analysis ug/m3	Reported Analysis ug/m3
JR-1115-IA-2	n-Butane	39 E	44 D	44 D
JR-1115-IA-4	n-Butane	100 E	120 D	120 D

Note: In the instance where both the original analysis and the diluted analysis sample results exhibited a concentration greater than and/or less than the calibration linear range of the instrument; the sample result exhibiting the greatest concentration will be reported as the final result.

Sample results associated with compounds exhibiting concentrations greater than the linear range are qualified as documented in the table below when reported as the final reported sample result.

Reported Sample Results	Qualification
Diluted sample result within calibration range	D
Diluted sample result less than the calibration range	DJ

Reported Sample Results	Qualification
Diluted sample result greater than the calibration range	EDJ
Original sample result greater than the calibration range	EJ

10. System Performance and Overall Assessment

A method detection limit (MDL) study was not performed for the following compounds:

Indene
Indane
2-Methylpentane
2,3-Dimethylpentane
2-Ethylthiophene
2-Methylthiophene
3-Methylthiophene
Thiophene
1,2,3-Trimethylbenzene

No estimated results are reported below the reporting limit for these compounds.

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 FOR VOCs

VOCs: TO-15	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier II Validation					
Canister return pressure (<-1"Hg)		X		X	
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks					X
C. Trip blanks					X
Laboratory Control Sample (LCS)		X		X	
Laboratory Control Sample Duplicate(LCSD)					X
LCS/LCSD Precision (RPD)					X
Matrix Spike (MS)					X
Matrix Spike Duplicate(MSD)					X
MS/MSD Precision (RPD)					X
Field/Lab Duplicate (%D)		X	X		
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content					X
Tier III Validation					
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X	X		
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
A. Reconstructed ion chromatograms		X		X	
B. Quantitation Reports		X		X	

VOCs: TO-15	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
C. RT of sample compounds within the established RT windows		X		X	
D. Transcription/calculation errors present				X	
E. Reporting limits adjusted to reflect sample dilutions		X		X	

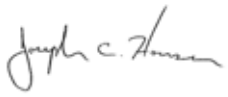
%RSD Percent relative difference
%R Percent recovery
RPD Relative percent difference
%D Percent difference

SAMPLE COMPLIANCE REPORT

Sample Delivery Group (SDG)	Sampling Date	Protocol	Sample ID	Matrix	Compliancy[1]					Noncompliance
					VOC	SVOC	PCB/PEST /HERB	MET	MISC	
H3D010403	3/28/2013	TO-15	JR-1115-IA-1	Air	No	--	--	--	--	Field Duplicate RPD, CCAL %D
H3D010403	3/28/2013	TO-15	JR-1115-IA-2	Air	No	--	--	--	--	CCAL %D
H3D010403	3/28/2013	TO-15	JR-1115-IA-3	Air	No	--	--	--	--	CCAL %D
H3D010403	3/28/2013	TO-15	JR-1115-IA-4	Air	No	--	--	--	--	CCAL %D
H3D010403	3/28/2013	TO-15	AA-032813	Air	No	--	--	--	--	CCAL %D
H3D010403	3/28/2013	TO-15	DUP-032813	Air	No	--	--	--	--	Field Duplicate RPD
H3D010403	3/28/2013	TO-15	JR-1141-IA-1	Air	No	--	--	--	--	CCAL %D
H3D010403	3/28/2013	TO-15	JR-1141-IA-2	Air	No	--	--	--	--	CCAL %D
H3D010403	3/28/2013	TO-15	JR-1141-IA-3	Air	No	--	--	--	--	CCAL %D

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

VALIDATION PERFORMED BY: Joseph C. Houser

SIGNATURE: 

DATE: April 20, 2013

PEER REVIEW BY: Dennis Capria

DATE: April 4, 2013

CORRECTED SAMPLE ANALYSIS DATA SHEETS AND COCs

ARCADIS U.S., Inc.

Client Sample ID: JR-1115-IA-1

GC/MS Volatiles

Lot-Sample #	H3D010403 - 001	Work Order #	M0HCL1AA	Matrix.....:	AIR

Date Sampled...:	03/28/2013	Date Received..:	03/30/2013
Prep Date.....:	04/01/2013	Analysis Time....:	04/02/2013
Prep Batch #.....:	3091059	Analysis Time....:	04:10
Dilution Factor.:	1	Method.....:	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.18**	**0.080**	**0.023**	**0.59**	**0.26**	**0.073**
Bromomethane	ND	0.080	0.013	ND	0.31	0.050
n-Butane	**2.7**	**0.16**	**0.025**	**6.4**	**0.38**	**0.059**
Carbon tetrachloride	**0.082**	**0.040**	**0.015**	**0.52**	**0.25**	**0.094**
Chlorobenzene	ND	0.080	0.020	ND	0.37	0.092
Chloroethane	ND	0.080	0.014	ND	0.21	0.037
Chloroform	**0.73**	**0.080**	**0.015**	**3.5**	**0.39**	**0.073**
Chloromethane	**0.52**	**0.20**	**0.064**	**1.1**	**0.41**	**0.13**
n-Decane	**0.12 J**	**0.40**	**0.022**	**0.71 J**	**2.3**	**0.13**
1,2-Dibromoethane (EDB)	ND	0.080	0.018	ND	0.61	0.14
1,2-Dichlorobenzene	ND	0.080	0.028	ND	0.48	0.17
1,3-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
1,4-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
Dichlorodifluoromethane	**0.51**	**0.080**	**0.027**	**2.5**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	**0.020 J**	**0.080**	**0.019**	**0.081 J**	**0.32**	**0.077**
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
1,1-Dichloroethene	ND	0.080	0.014	ND	0.32	0.056
1,2-Dichloropropane	ND	0.080	0.021	ND	0.37	0.097
cis-1,3-Dichloropropene	ND	0.080	0.029	ND	0.36	0.13
trans-1,3-Dichloropropene	ND	0.080	0.019	ND	0.36	0.086
1,2-Dichloro-1,1,2,2-tetrafluoroethane	**0.015 J**	**0.080**	**0.013**	**0.11 J**	**0.56**	**0.091**
Indane	ND	0.080	0.080	ND	0.39	0.39
n-Dodecane	**0.058 J**	**0.40**	**0.031**	**0.41 J**	**2.8**	**0.22**
Ethylbenzene	**0.037 J**	**0.080**	**0.027**	**0.16 J**	**0.35**	**0.12**
n-Heptane	**0.054 J**	**0.20**	**0.019**	**0.22 J**	**0.82**	**0.078**
Hexachlorobutadiene	ND	0.080	0.031	ND	0.85	0.33
n-Hexane	**0.091 J**	**0.20**	**0.013**	**0.32 J**	**0.70**	**0.046**
Indene	ND	0.16	0.16	ND	0.76	0.76
2-Methylbutane	**0.32**	**0.20**	**0.012**	**0.94**	**0.59**	**0.035**
Isopropylbenzene	ND	0.16	0.024	ND	0.79	0.12
Methylene chloride	**0.24 B**	**0.20**	**0.018**	**0.83 B**	**0.69**	**0.063**
Naphthalene	**0.62**	**0.20**	**0.036**	**3.2**	**1.0**	**0.19**
Nonane	**0.041 J**	**0.20**	**0.017**	**0.21 J**	**1.0**	**0.089**
n-Octane	**0.041 J**	**0.16**	**0.014**	**0.19 J**	**0.75**	**0.065**
Pentane	**0.19 J**	**0.40**	**0.024**	**0.57 J**	**1.2**	**0.071**
2-Methylpentane	ND	0.080	0.080	ND	0.28	0.28
Styrene	**0.033 J**	**0.080**	**0.023**	**0.14 J**	**0.34**	**0.098**
1,1,2,2-Tetrachloroethane	ND	0.080	0.024	ND	0.55	0.16
Tetrachloroethene	**0.55 J**	**0.080**	**0.016**	**3.8 J**	**0.54 J**	**0.11**
Thiophene	ND	0.080	0.080	ND	0.28	0.28
2-Ethylthiophene	ND	0.080	0.080	ND	0.37	0.37

ARCADIS U.S., Inc.

Client Sample ID: JR-1115-IA-1

GC/MS Volatiles

Lot-Sample # H3D010403 - 001 Work Order # M0HCL1AA Matrix.....: AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
2-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
3-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
Toluene	**0.30**	**0.080**	**0.021**	**1.1**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND J	0.080	0.039	ND J	0.59	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.30**	**0.040**	**0.014**	**1.6**	**0.21**	**0.075**
Trichlorofluoromethane	**0.23**	**0.080**	**0.0098**	**1.3**	**0.45**	**0.055**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.062 J**	**0.080**	**0.012**	**0.48 J**	**0.61**	**0.092**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.036 J**	**0.080**	**0.025**	**0.17 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
2,2,4-Trimethylpentane	**0.032 J**	**0.20**	**0.016**	**0.15 J**	**0.93**	**0.075**
n-Undecane	**0.060 J**	**0.40**	**0.025**	**0.38 J**	**2.6**	**0.16**
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
m-Xylene & p-Xylene	**0.11**	**0.080**	**0.050**	**0.49**	**0.35**	**0.22**
o-Xylene	**0.045 J**	**0.080**	**0.024**	**0.19 J**	**0.35**	**0.10**
2,3-Dimethylpentane	ND	0.080	0.080	ND	0.33	0.33

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	106	60 - 140

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.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

ARCADIS U.S., Inc.

Client Sample ID: JR-1115-IA-2

GC/MS Volatiles

Lot-Sample #	H3D010403 - 002	**Work Order #**	M0HCM1AA	**Matrix.....:**	AIR
Date Sampled...:	03/28/2013	**Date Received..:**	03/30/2013		
Prep Date.....:	04/01/2013	**Analysis Time....:**	04/02/2013		
Prep Batch #.....:	3091059	**Analysis Time....:**	06:02		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	0.18	0.080	0.023	0.59	0.26	0.073
Bromomethane	ND	0.080	0.013	ND	0.31	0.050
n-Butane	~~17 E~~ 19 D	0.16	0.025	~~39 E~~ 44 D	0.38	0.059
Carbon tetrachloride	0.079	0.040	0.015	0.50	0.25	0.094
Chlorobenzene	ND	0.080	0.020	ND	0.37	0.092
Chloroethane	ND	0.080	0.014	ND	0.21	0.037
Chloroform	0.28	0.080	0.015	1.4	0.39	0.073
Chloromethane	0.49	0.20	0.064	1.0	0.41	0.13
n-Decane	1.3	0.40	0.022	7.7	2.3	0.13
1,2-Dibromoethane (EDB)	ND	0.080	0.018	ND	0.61	0.14
1,2-Dichlorobenzene	ND	0.080	0.028	ND	0.48	0.17
1,3-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
1,4-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
Dichlorodifluoromethane	0.50	0.080	0.027	2.5	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
1,1-Dichloroethene	ND	0.080	0.014	ND	0.32	0.056
1,2-Dichloropropane	ND	0.080	0.021	ND	0.37	0.097
cis-1,3-Dichloropropene	ND	0.080	0.029	ND	0.36	0.13
trans-1,3-Dichloropropene	ND	0.080	0.019	ND	0.36	0.086
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.016 J	0.080	0.013	0.11 J	0.56	0.091
Indane	ND	0.080	0.080	ND	0.39	0.39
n-Dodecane	0.16 J	0.40	0.031	1.1 J	2.8	0.22
Ethylbenzene	1.3	0.080	0.027	5.5	0.35	0.12
n-Heptane	0.12 J	0.20	0.019	0.49 J	0.82	0.078
Hexachlorobutadiene	ND	0.080	0.031	ND	0.85	0.33
n-Hexane	0.13 J	0.20	0.013	0.44 J	0.70	0.046
Indene	ND	0.16	0.16	ND	0.76	0.76
2-Methylbutane	0.40	0.20	0.012	1.2	0.59	0.035
Isopropylbenzene	0.081 J	0.16	0.024	0.40 J	0.79	0.12
Methylene chloride	0.20 ~~B~~	0.20	0.018	0.70 ~~B~~	0.69	0.063
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Nonane	1.2	0.20	0.017	6.0	1.0	0.089
n-Octane	0.14 J	0.16	0.014	0.65 J	0.75	0.065
Pentane	0.73	0.40	0.024	2.1	1.2	0.071
2-Methylpentane	0.086	0.080	0.080	0.30	0.28	0.28
Styrene	ND	0.080	0.023	ND	0.34	0.098
1,1,2,2-Tetrachloroethane	ND	0.080	0.024	ND	0.55	0.16
Tetrachloroethene	0.16	0.080	0.016	1.1	0.54	0.11
Thiophene	ND	0.080	0.080	ND	0.28	0.28
2-Ethylthiophene	ND	0.080	0.080	ND	0.37	0.37

ARCADIS U.S., Inc.

Client Sample ID: JR-1115-IA-2

GC/MS Volatiles

Lot-Sample # H3D010403 - 002 **Work Order #** M0HCM1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
2-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
3-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
Toluene	**0.31**	**0.080**	**0.021**	**1.2**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND J	0.080	0.039	ND J	0.59	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.016 J**	**0.040**	**0.014**	**0.084 J**	**0.21**	**0.075**
Trichlorofluoromethane	**0.24**	**0.080**	**0.0098**	**1.3**	**0.45**	**0.055**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.065 J**	**0.080**	**0.012**	**0.50 J**	**0.61**	**0.092**
1,2,3-Trimethylbenzene	**0.25**	**0.080**	**0.080**	**1.2**	**0.39**	**0.39**
1,2,4-Trimethylbenzene	**0.49**	**0.080**	**0.025**	**2.4**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	**0.20**	**0.080**	**0.026**	**0.97**	**0.39**	**0.13**
2,2,4-Trimethylpentane	**0.043 J**	**0.20**	**0.016**	**0.20 J**	**0.93**	**0.075**
n-Undecane	**0.57**	**0.40**	**0.025**	**3.6**	**2.6**	**0.16**
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
m-Xylene & p-Xylene	**3.4**	**0.080**	**0.050**	**15**	**0.35**	**0.22**
o-Xylene	**0.93**	**0.080**	**0.024**	**4.1**	**0.35**	**0.10**
2,3-Dimethylpentane	ND	0.080	0.080	ND	0.33	0.33

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	107	60 - 140

Qualifiers

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

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

ARCADIS U.S., Inc.

Client Sample ID: JR-1115-IA-2

GC/MS Volatiles

Lot-Sample #	H3D010403 - 002	**Work Order #**	M0HCM2AA
Matrix.....:	AIR		
Date Sampled...:	03/28/2013	**Date Received..:**	03/30/2013
Prep Date.....:	04/02/2013	**Analysis Time....:**	04/03/2013
Prep Batch #.....:	3092048	**Analysis Time....:**	07:01
Dilution Factor.:	2	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
n-Butane	**18 D**	**0.32**	**0.050**	**44 D**	**0.76**	**0.12**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	103	60 - 140

Qualifiers

D Result was obtained from the analysis of a dilution.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

ARCADIS U.S., Inc.

Client Sample ID: JR-1115-IA-3

GC/MS Volatiles

Lot-Sample #	H3D010403 - 003	**Work Order #**	M0HCN1AA	**Matrix.....:**	AIR
Date Sampled...:	03/28/2013	**Date Received..:**	03/30/2013		
Prep Date.....:	04/01/2013	**Analysis Time....:**	04/02/2013		
Prep Batch #.....:	3091059	**Analysis Time....:**	06:57		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.18**	**0.080**	**0.023**	**0.57**	**0.26**	**0.073**
Bromomethane	ND	0.080	0.013	ND	0.31	0.050
n-Butane	**2.1**	**0.16**	**0.025**	**5.1**	**0.38**	**0.059**
Carbon tetrachloride	**0.083**	**0.040**	**0.015**	**0.52**	**0.25**	**0.094**
Chlorobenzene	ND	0.080	0.020	ND	0.37	0.092
Chloroethane	ND	0.080	0.014	ND	0.21	0.037
Chloroform	**0.69**	**0.080**	**0.015**	**3.4**	**0.39**	**0.073**
Chloromethane	**0.62**	**0.20**	**0.064**	**1.3**	**0.41**	**0.13**
n-Decane	**0.026 J**	**0.40**	**0.022**	**0.15 J**	**2.3**	**0.13**
1,2-Dibromoethane (EDB)	ND	0.080	0.018	ND	0.61	0.14
1,2-Dichlorobenzene	ND	0.080	0.028	ND	0.48	0.17
1,3-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
1,4-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
Dichlorodifluoromethane	**0.51**	**0.080**	**0.027**	**2.5**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	**0.028 J**	**0.080**	**0.019**	**0.11 J**	**0.32**	**0.077**
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
1,1-Dichloroethene	ND	0.080	0.014	ND	0.32	0.056
1,2-Dichloropropane	ND	0.080	0.021	ND	0.37	0.097
cis-1,3-Dichloropropene	ND	0.080	0.029	ND	0.36	0.13
trans-1,3-Dichloropropene	ND	0.080	0.019	ND	0.36	0.086
1,2-Dichloro-1,1,2,2-tetrafluoroethane	**0.015 J**	**0.080**	**0.013**	**0.11 J**	**0.56**	**0.091**
Indane	ND	0.080	0.080	ND	0.39	0.39
n-Dodecane	ND	0.40	0.031	ND	2.8	0.22
Ethylbenzene	**0.043 J**	**0.080**	**0.027**	**0.19 J**	**0.35**	**0.12**
n-Heptane	**0.063 J**	**0.20**	**0.019**	**0.26 J**	**0.82**	**0.078**
Hexachlorobutadiene	ND	0.080	0.031	ND	0.85	0.33
n-Hexane	**0.11 J**	**0.20**	**0.013**	**0.38 J**	**0.70**	**0.046**
Indene	ND	0.16	0.16	ND	0.76	0.76
2-Methylbutane	**0.31**	**0.20**	**0.012**	**0.92**	**0.59**	**0.035**
Isopropylbenzene	ND	0.16	0.024	ND	0.79	0.12
Methylene chloride	**0.29 B**	**0.20**	**0.018**	**0.99 B**	**0.69**	**0.063**
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Nonane	**0.028 J**	**0.20**	**0.017**	**0.15 J**	**1.0**	**0.089**
n-Octane	**0.033 J**	**0.16**	**0.014**	**0.16 J**	**0.75**	**0.065**
Pentane	**0.22 J**	**0.40**	**0.024**	**0.66 J**	**1.2**	**0.071**
2-Methylpentane	ND	0.080	0.080	ND	0.28	0.28
Styrene	ND	0.080	0.023	ND	0.34	0.098
1,1,2,2-Tetrachloroethane	ND	0.080	0.024	ND	0.55	0.16
Tetrachloroethene	**0.097**	**0.080**	**0.016**	**0.66**	**0.54**	**0.11**
Thiophene	ND	0.080	0.080	ND	0.28	0.28
2-Ethylthiophene	ND	0.080	0.080	ND	0.37	0.37

ARCADIS U.S., Inc.

Client Sample ID: JR-1115-IA-3

GC/MS Volatiles

Lot-Sample # H3D010403 - 003 **Work Order #** M0HCN1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
2-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
3-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
Toluene	**0.27**	**0.080**	**0.021**	**1.0**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND J	0.080	0.039	ND J	0.59	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
Trichlorofluoromethane	**0.24**	**0.080**	**0.0098**	**1.3**	**0.45**	**0.055**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.060 J**	**0.080**	**0.012**	**0.46 J**	**0.61**	**0.092**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
2,2,4-Trimethylpentane	**0.033 J**	**0.20**	**0.016**	**0.15 J**	**0.93**	**0.075**
n-Undecane	ND	0.40	0.025	ND	2.6	0.16
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
m-Xylene & p-Xylene	**0.13**	**0.080**	**0.050**	**0.55**	**0.35**	**0.22**
o-Xylene	**0.048 J**	**0.080**	**0.024**	**0.21 J**	**0.35**	**0.10**
2,3-Dimethylpentane	ND	0.080	0.080	ND	0.33	0.33

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	105	60 - 140

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.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

ARCADIS U.S., Inc.

Client Sample ID: JR-1115-IA-4

GC/MS Volatiles

Lot-Sample #	H3D010403 - 004	**Work Order #**	M0HCP1AA	**Matrix.....:**	AIR
Date Sampled...:	03/28/2013	**Date Received..:**	03/30/2013		
Prep Date.....:	04/01/2013	**Analysis Time....:**	04/02/2013		
Prep Batch #.....:	3091059	**Analysis Time....:**	07:53		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	0.19	0.080	0.023	0.60	0.26	0.073
Bromomethane	ND	0.080	0.013	ND	0.31	0.050
n-Butane	~~44 E~~ 51 D	0.16	0.025	~~100 E~~ 120 D	0.38	0.059
Carbon tetrachloride	0.080	0.040	0.015	0.51	0.25	0.094
Chlorobenzene	ND	0.080	0.020	ND	0.37	0.092
Chloroethane	ND	0.080	0.014	ND	0.21	0.037
Chloroform	0.20	0.080	0.015	0.98	0.39	0.073
Chloromethane	0.45	0.20	0.064	0.92	0.41	0.13
n-Decane	0.27 J	0.40	0.022	1.6 J	2.3	0.13
1,2-Dibromoethane (EDB)	ND	0.080	0.018	ND	0.61	0.14
1,2-Dichlorobenzene	ND	0.080	0.028	ND	0.48	0.17
1,3-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
1,4-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
Dichlorodifluoromethane	0.50	0.080	0.027	2.5	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
1,1-Dichloroethene	ND	0.080	0.014	ND	0.32	0.056
1,2-Dichloropropane	ND	0.080	0.021	ND	0.37	0.097
cis-1,3-Dichloropropene	ND	0.080	0.029	ND	0.36	0.13
trans-1,3-Dichloropropene	ND	0.080	0.019	ND	0.36	0.086
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.019 J	0.080	0.013	0.13 J	0.56	0.091
Indane	ND	0.080	0.080	ND	0.39	0.39
n-Dodecane	0.29 J	0.40	0.031	2.0 J	2.8	0.22
Ethylbenzene	0.16	0.080	0.027	0.70	0.35	0.12
n-Heptane	0.15 J	0.20	0.019	0.61 J	0.82	0.078
Hexachlorobutadiene	ND	0.080	0.031	ND	0.85	0.33
n-Hexane	0.15 J	0.20	0.013	0.52 J	0.70	0.046
Indene	ND	0.16	0.16	ND	0.76	0.76
2-Methylbutane	0.40	0.20	0.012	1.2	0.59	0.035
Isopropylbenzene	ND	0.16	0.024	ND	0.79	0.12
Methylene chloride	0.21 ~~B~~	0.20	0.018	0.71 ~~B~~	0.69	0.063
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Nonane	0.084 J	0.20	0.017	0.44 J	1.0	0.089
n-Octane	0.15 J	0.16	0.014	0.68 J	0.75	0.065
Pentane	1.1	0.40	0.024	3.2	1.2	0.071
2-Methylpentane	0.089	0.080	0.080	0.31	0.28	0.28
Styrene	ND	0.080	0.023	ND	0.34	0.098
1,1,2,2-Tetrachloroethane	ND	0.080	0.024	ND	0.55	0.16
Tetrachloroethene	0.065 J	0.080	0.016	0.44 J	0.54	0.11
Thiophene	ND	0.080	0.080	ND	0.28	0.28
2-Ethylthiophene	ND	0.080	0.080	ND	0.37	0.37

ARCADIS U.S., Inc.

Client Sample ID: JR-1115-IA-4

GC/MS Volatiles

Lot-Sample # H3D010403 - 004 Work Order # M0HCP1AA Matrix.....: AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
2-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
3-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
Toluene	0.36	0.080	0.021	1.4	0.30	0.079
1,2,4-Trichlorobenzene	ND J	0.080	0.039	ND J	0.59	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
Trichlorofluoromethane	0.25	0.080	0.0098	1.4	0.45	0.055
1,1,2-Trichloro-1,2,2-trifluoroethane	0.066 J	0.080	0.012	0.50 J	0.61	0.092
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	0.11	0.080	0.025	0.56	0.39	0.12
1,3,5-Trimethylbenzene	0.039 J	0.080	0.026	0.19 J	0.39	0.13
2,2,4-Trimethylpentane	0.047 J	0.20	0.016	0.22 J	0.93	0.075
n-Undecane	0.43	0.40	0.025	2.7	2.6	0.16
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
m-Xylene & p-Xylene	0.59	0.080	0.050	2.6	0.35	0.22
o-Xylene	0.19	0.080	0.024	0.83	0.35	0.10
2,3-Dimethylpentane	ND	0.080	0.080	ND	0.33	0.33

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

Qualifiers

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

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

ARCADIS U.S., Inc.

Client Sample ID: JR-1115-IA-4

GC/MS Volatiles

Lot-Sample #	H3D010403 - 004	**Work Order #**	M0HCP2AA	**Matrix.....:**	AIR
Date Sampled...:	03/28/2013	**Date Received..:**	03/30/2013		
Prep Date.....:	04/02/2013	**Analysis Time....:**	04/03/2013		
Prep Batch #.....:	3092048	**Analysis Time....:**	07:55		
Dilution Factor.:	5	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
n-Butane	51 D	0.80	0.12	120 D	1.9	0.30

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	100	60 - 140

Qualifiers

D Result was obtained from the analysis of a dilution.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

ARCADIS U.S., Inc.

Client Sample ID: AA-032813

GC/MS Volatiles

Lot-Sample #	H3D010403 - 005	Work Order #	M0HCQ1AA	Matrix.....:	AIR
Date Sampled...:	03/28/2013	Date Received..:	03/30/2013		
Prep Date.....:	04/01/2013	Analysis Time....:	04/02/2013		
Prep Batch #.....:	3091059	Analysis Time....:	08:49		
Dilution Factor.:	1	Method.....:	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.20**	**0.080**	**0.023**	**0.64**	**0.26**	**0.073**
Bromomethane	ND	0.080	0.013	ND	0.31	0.050
n-Butane	**0.86**	**0.16**	**0.025**	**2.0**	**0.38**	**0.059**
Carbon tetrachloride	**0.081**	**0.040**	**0.015**	**0.51**	**0.25**	**0.094**
Chlorobenzene	ND	0.080	0.020	ND	0.37	0.092
Chloroethane	**0.026 J**	**0.080**	**0.014**	**0.067 J**	**0.21**	**0.037**
Chloroform	**0.057 J**	**0.080**	**0.015**	**0.28 J**	**0.39**	**0.073**
Chloromethane	**0.49**	**0.20**	**0.064**	**1.0**	**0.41**	**0.13**
n-Decane	**0.049 J**	**0.40**	**0.022**	**0.29 J**	**2.3**	**0.13**
1,2-Dibromoethane (EDB)	ND	0.080	0.018	ND	0.61	0.14
1,2-Dichlorobenzene	ND	0.080	0.028	ND	0.48	0.17
1,3-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
1,4-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
Dichlorodifluoromethane	**0.50**	**0.080**	**0.027**	**2.5**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	**0.025 J**	**0.080**	**0.019**	**0.10 J**	**0.32**	**0.077**
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
1,1-Dichloroethene	ND	0.080	0.014	ND	0.32	0.056
1,2-Dichloropropane	ND	0.080	0.021	ND	0.37	0.097
cis-1,3-Dichloropropene	ND	0.080	0.029	ND	0.36	0.13
trans-1,3-Dichloropropene	ND	0.080	0.019	ND	0.36	0.086
1,2-Dichloro-1,1,2,2-tetrafluoroethane	**0.017 J**	**0.080**	**0.013**	**0.12 J**	**0.56**	**0.091**
Indane	ND	0.080	0.080	ND	0.39	0.39
n-Dodecane	ND	0.40	0.031	ND	2.8	0.22
Ethylbenzene	**0.040 J**	**0.080**	**0.027**	**0.17 J**	**0.35**	**0.12**
n-Heptane	**0.090 J**	**0.20**	**0.019**	**0.37 J**	**0.82**	**0.078**
Hexachlorobutadiene	ND	0.080	0.031	ND	0.85	0.33
n-Hexane	**0.18 J**	**0.20**	**0.013**	**0.62 J**	**0.70**	**0.046**
Indene	ND	0.16	0.16	ND	0.76	0.76
2-Methylbutane	**0.36**	**0.20**	**0.012**	**1.1**	**0.59**	**0.035**
Isopropylbenzene	ND	0.16	0.024	ND	0.79	0.12
Methylene chloride	**0.48 B**	**0.20**	**0.018**	**1.7 B**	**0.69**	**0.063**
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Nonane	**0.042 J**	**0.20**	**0.017**	**0.22 J**	**1.0**	**0.089**
n-Octane	**0.055 J**	**0.16**	**0.014**	**0.26 J**	**0.75**	**0.065**
Pentane	**0.29 J**	**0.40**	**0.024**	**0.86 J**	**1.2**	**0.071**
2-Methylpentane	**0.11**	**0.080**	**0.080**	**0.38**	**0.28**	**0.28**
Styrene	ND	0.080	0.023	ND	0.34	0.098
1,1,2,2-Tetrachloroethane	ND	0.080	0.024	ND	0.55	0.16
Tetrachloroethene	**0.076 J**	**0.080**	**0.016**	**0.51 J**	**0.54**	**0.11**
Thiophene	ND	0.080	0.080	ND	0.28	0.28
2-Ethylthiophene	ND	0.080	0.080	ND	0.37	0.37

ARCADIS U.S., Inc.

Client Sample ID: AA-032813

GC/MS Volatiles

Lot-Sample # H3D010403 - 005 Work Order # M0HCQ1AA Matrix.....: AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
2-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
3-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
Toluene	**0.27**	**0.080**	**0.021**	**1.0**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND J	0.080	0.039	ND J	0.59	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.028 J**	**0.040**	**0.014**	**0.15 J**	**0.21**	**0.075**
Trichlorofluoromethane	**0.24**	**0.080**	**0.0098**	**1.3**	**0.45**	**0.055**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.066 J**	**0.080**	**0.012**	**0.50 J**	**0.61**	**0.092**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.033 J**	**0.080**	**0.025**	**0.16 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
2,2,4-Trimethylpentane	**0.043 J**	**0.20**	**0.016**	**0.20 J**	**0.93**	**0.075**
n-Undecane	ND	0.40	0.025	ND	2.6	0.16
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
m-Xylene & p-Xylene	**0.13**	**0.080**	**0.050**	**0.56**	**0.35**	**0.22**
o-Xylene	**0.053 J**	**0.080**	**0.024**	**0.23 J**	**0.35**	**0.10**
2,3-Dimethylpentane	ND	0.080	0.080	ND	0.33	0.33

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	106	60 - 140

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.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

ARCADIS U.S., Inc.

Client Sample ID: DUP-032813

GC/MS Volatiles

Lot-Sample #	H3D010403 - 006	**Work Order #**	M0HCR1AA	**Matrix.....:**	AIR
Date Sampled...:	03/28/2013	**Date Received..:**	03/30/2013		
Prep Date.....:	04/01/2013	**Analysis Time....:**	04/02/2013		
Prep Batch #.....:	3091059	**Analysis Time....:**	09:45		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	0.19	0.080	0.023	0.61	0.26	0.073
Bromomethane	ND	0.080	0.013	ND	0.31	0.050
n-Butane	2.7	0.16	0.025	6.5	0.38	0.059
Carbon tetrachloride	0.085	0.040	0.015	0.54	0.25	0.094
Chlorobenzene	ND	0.080	0.020	ND	0.37	0.092
Chloroethane	ND	0.080	0.014	ND	0.21	0.037
Chloroform	0.76	0.080	0.015	3.7	0.39	0.073
Chloromethane	0.60	0.20	0.064	1.2	0.41	0.13
n-Decane	0.25 J	0.40	0.022	1.5 J	2.3	0.13
1,2-Dibromoethane (EDB)	ND	0.080	0.018	ND	0.61	0.14
1,2-Dichlorobenzene	ND	0.080	0.028	ND	0.48	0.17
1,3-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
1,4-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
Dichlorodifluoromethane	0.50	0.080	0.027	2.5	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	0.020 J	0.080	0.019	0.081 J	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
1,1-Dichloroethene	ND	0.080	0.014	ND	0.32	0.056
1,2-Dichloropropane	ND	0.080	0.021	ND	0.37	0.097
cis-1,3-Dichloropropene	ND	0.080	0.029	ND	0.36	0.13
trans-1,3-Dichloropropene	ND	0.080	0.019	ND	0.36	0.086
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.017 J	0.080	0.013	0.12 J	0.56	0.091
Indane	ND	0.080	0.080	ND	0.39	0.39
n-Dodecane	0.062 J	0.40	0.031	0.43 J	2.8	0.22
Ethylbenzene	0.037 J	0.080	0.027	0.16 J	0.35	0.12
n-Heptane	0.046 J	0.20	0.019	0.19 J	0.82	0.078
Hexachlorobutadiene	ND	0.080	0.031	ND	0.85	0.33
n-Hexane	0.10 J	0.20	0.013	0.37 J	0.70	0.046
Indene	ND	0.16	0.16	ND	0.76	0.76
2-Methylbutane	0.31	0.20	0.012	0.93	0.59	0.035
Isopropylbenzene	ND	0.16	0.024	ND	0.79	0.12
Methylene chloride	0.30 B	0.20	0.018	1.1 B	0.69	0.063
Naphthalene	0.81	0.20	0.036	4.2	1.0	0.19
Nonane	0.045 J	0.20	0.017	0.24 J	1.0	0.089
n-Octane	0.035 J	0.16	0.014	0.16 J	0.75	0.065
Pentane	0.19 J	0.40	0.024	0.58 J	1.2	0.071
2-Methylpentane	0.081	0.080	0.080	0.29	0.28	0.28
Styrene	0.035 J	0.080	0.023	0.15 J	0.34	0.098
1,1,2,2-Tetrachloroethane	ND	0.080	0.024	ND	0.55	0.16
Tetrachloroethene	0.075 J	0.080	0.016	0.51 J	0.54	0.11
Thiophene	ND	0.080	0.080	ND	0.28	0.28
2-Ethylthiophene	ND	0.080	0.080	ND	0.37	0.37

ARCADIS U.S., Inc.

Client Sample ID: DUP-032813

GC/MS Volatiles

Lot-Sample # H3D010403 - 006 **Work Order #** M0HCR1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
2-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
3-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
Toluene	**0.32**	**0.080**	**0.021**	**1.2**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND J	0.080	0.039	ND J	0.59	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
Trichlorofluoromethane	**0.23**	**0.080**	**0.0098**	**1.3**	**0.45**	**0.055**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.065 J**	**0.080**	**0.012**	**0.49 J**	**0.61**	**0.092**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.043 J**	**0.080**	**0.025**	**0.21 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	**0.044 J**	**0.080**	**0.026**	**0.22 J**	**0.39**	**0.13**
2,2,4-Trimethylpentane	**0.031 J**	**0.20**	**0.016**	**0.15 J**	**0.93**	**0.075**
n-Undecane	**0.078 J**	**0.40**	**0.025**	**0.50 J**	**2.6**	**0.16**
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
m-Xylene & p-Xylene	**0.12**	**0.080**	**0.050**	**0.52**	**0.35**	**0.22**
o-Xylene	**0.046 J**	**0.080**	**0.024**	**0.20 J**	**0.35**	**0.10**
2,3-Dimethylpentane	ND	0.080	0.080	ND	0.33	0.33

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	107	60 - 140

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.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

ARCADIS U.S., Inc.

Client Sample ID: JR-1141-IA-1

GC/MS Volatiles

Lot-Sample #	H3D010403 - 007	Work Order #	M0HCT1AA	Matrix.....:	AIR
Date Sampled...:	03/28/2013	Date Received..:	03/30/2013		
Prep Date.....:	04/01/2013	Analysis Time....:	04/02/2013		
Prep Batch #.....:	3091060	Analysis Time....:	05:36		
Dilution Factor.:	1	Method.....:	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.19**	**0.080**	**0.023**	**0.61**	**0.26**	**0.073**
Bromomethane	ND	0.080	0.013	ND	0.31	0.050
n-Butane	**8.3**	**0.16**	**0.025**	**20**	**0.38**	**0.059**
Carbon tetrachloride	**0.090**	**0.040**	**0.015**	**0.57**	**0.25**	**0.094**
Chlorobenzene	ND	0.080	0.020	ND	0.37	0.092
Chloroethane	**0.13**	**0.080**	**0.014**	**0.34**	**0.21**	**0.037**
Chloroform	**1.3**	**0.080**	**0.015**	**6.3**	**0.39**	**0.073**
Chloromethane	**1.7**	**0.20**	**0.064**	**3.5**	**0.41**	**0.13**
n-Decane	**0.066 J**	**0.40**	**0.022**	**0.38 J**	**2.3**	**0.13**
1,2-Dibromoethane (EDB)	ND	0.080	0.018	ND	0.61	0.14
1,2-Dichlorobenzene	ND	0.080	0.028	ND	0.48	0.17
1,3-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
1,4-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
Dichlorodifluoromethane	**0.17**	**0.080**	**0.027**	**0.86**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	**0.035 J**	**0.080**	**0.019**	**0.14 J**	**0.32**	**0.077**
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
1,1-Dichloroethene	ND	0.080	0.014	ND	0.32	0.056
1,2-Dichloropropane	ND	0.080	0.021	ND	0.37	0.097
cis-1,3-Dichloropropene	ND	0.080	0.029	ND	0.36	0.13
trans-1,3-Dichloropropene	ND	0.080	0.019	ND	0.36	0.086
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	0.080	0.013	ND	0.56	0.091
Indane	ND	0.080	0.080	ND	0.39	0.39
n-Dodecane	ND	0.40	0.031	ND	2.8	0.22
Ethylbenzene	**0.035 J**	**0.080**	**0.027**	**0.15 J**	**0.35**	**0.12**
n-Heptane	**0.058 J**	**0.20**	**0.019**	**0.24 J**	**0.82**	**0.078**
Hexachlorobutadiene	ND	0.080	0.031	ND	0.85	0.33
n-Hexane	**0.12 J**	**0.20**	**0.013**	**0.41 J**	**0.70**	**0.046**
Indene	ND	0.16	0.16	ND	0.76	0.76
2-Methylbutane	**0.40**	**0.20**	**0.012**	**1.2**	**0.59**	**0.035**
Isopropylbenzene	ND	0.16	0.024	ND	0.79	0.12
Methylene chloride	**0.33 B**	**0.20**	**0.018**	**1.1 B**	**0.69**	**0.063**
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Nonane	**0.066 J**	**0.20**	**0.017**	**0.35 J**	**1.0**	**0.089**
n-Octane	**0.035 J**	**0.16**	**0.014**	**0.17 J**	**0.75**	**0.065**
Pentane	**0.23 J**	**0.40**	**0.024**	**0.68 J**	**1.2**	**0.071**
2-Methylpentane	**0.10**	**0.080**	**0.080**	**0.37**	**0.28**	**0.28**
Styrene	ND	0.080	0.023	ND	0.34	0.098
1,1,2,2-Tetrachloroethane	ND	0.080	0.024	ND	0.55	0.16
Tetrachloroethene	**0.065 J**	**0.080**	**0.016**	**0.44 J**	**0.54**	**0.11**
Thiophene	ND	0.080	0.080	ND	0.28	0.28
2-Ethylthiophene	ND	0.080	0.080	ND	0.37	0.37
2-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32

ARCADIS U.S., Inc.

Client Sample ID: JR-1141-IA-1

GC/MS Volatiles

Lot-Sample # H3D010403 - 007 **Work Order #** M0HCT1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
3-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
Toluene	**0.23**	**0.080**	**0.021**	**0.86**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND J	0.080	0.039	ND J	0.59	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.015 J**	**0.040**	**0.014**	**0.082 J**	**0.21**	**0.075**
Trichlorofluoromethane	**0.19**	**0.080**	**0.0098**	**1.1**	**0.45**	**0.055**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.063 J**	**0.080**	**0.012**	**0.48 J**	**0.61**	**0.092**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.035 J**	**0.080**	**0.025**	**0.17 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
2,2,4-Trimethylpentane	**0.036 J**	**0.20**	**0.016**	**0.17 J**	**0.93**	**0.075**
n-Undecane	ND	0.40	0.025	ND	2.6	0.16
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
m-Xylene & p-Xylene	**0.11**	**0.080**	**0.050**	**0.47**	**0.35**	**0.22**
o-Xylene	**0.041 J**	**0.080**	**0.024**	**0.18 J**	**0.35**	**0.10**
2,3-Dimethylpentane	ND	0.080	0.080	ND	0.33	0.33

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	109	60 - 140

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.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

ARCADIS U.S., Inc.

Client Sample ID: JR-1141-IA-2

GC/MS Volatiles

Lot-Sample #	H3D010403 - 008	Work Order #	M0HCV1AA	Matrix.....:	AIR
Date Sampled...:	03/28/2013	Date Received..:	03/30/2013		
Prep Date.....:	04/01/2013	Analysis Time....:	04/02/2013		
Prep Batch #.....:	3091060	Analysis Time....:	06:28		
Dilution Factor.:	1	Method.....:	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.14**	**0.080**	**0.023**	**0.46**	**0.26**	**0.073**
Bromomethane	ND	0.080	0.013	ND	0.31	0.050
n-Butane	**5.8**	**0.16**	**0.025**	**14**	**0.38**	**0.059**
Carbon tetrachloride	**0.078**	**0.040**	**0.015**	**0.49**	**0.25**	**0.094**
Chlorobenzene	ND	0.080	0.020	ND	0.37	0.092
Chloroethane	**0.053 J**	**0.080**	**0.014**	**0.14 J**	**0.21**	**0.037**
Chloroform	**1.7**	**0.080**	**0.015**	**8.5**	**0.39**	**0.073**
Chloromethane	**0.76**	**0.20**	**0.064**	**1.6**	**0.41**	**0.13**
n-Decane	**0.029 J**	**0.40**	**0.022**	**0.17 J**	**2.3**	**0.13**
1,2-Dibromoethane (EDB)	ND	0.080	0.018	ND	0.61	0.14
1,2-Dichlorobenzene	ND	0.080	0.028	ND	0.48	0.17
1,3-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
1,4-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
Dichlorodifluoromethane	**0.21**	**0.080**	**0.027**	**1.0**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	**0.030 J**	**0.080**	**0.019**	**0.12 J**	**0.32**	**0.077**
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
1,1-Dichloroethene	ND	0.080	0.014	ND	0.32	0.056
1,2-Dichloropropane	ND	0.080	0.021	ND	0.37	0.097
cis-1,3-Dichloropropene	ND	0.080	0.029	ND	0.36	0.13
trans-1,3-Dichloropropene	ND	0.080	0.019	ND	0.36	0.086
1,2-Dichloro-1,1,2,2-tetrafluoroethane	**0.017 J**	**0.080**	**0.013**	**0.12 J**	**0.56**	**0.091**
Indane	ND	0.080	0.080	ND	0.39	0.39
n-Dodecane	ND	0.40	0.031	ND	2.8	0.22
Ethylbenzene	**0.028 J**	**0.080**	**0.027**	**0.12 J**	**0.35**	**0.12**
n-Heptane	**0.042 J**	**0.20**	**0.019**	**0.17 J**	**0.82**	**0.078**
Hexachlorobutadiene	ND	0.080	0.031	ND	0.85	0.33
n-Hexane	**0.088 J**	**0.20**	**0.013**	**0.31 J**	**0.70**	**0.046**
Indene	ND	0.16	0.16	ND	0.76	0.76
2-Methylbutane	**0.55**	**0.20**	**0.012**	**1.6**	**0.59**	**0.035**
Isopropylbenzene	ND	0.16	0.024	ND	0.79	0.12
Methylene chloride	**0.40 B**	**0.20**	**0.018**	**1.4 B**	**0.69**	**0.063**
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Nonane	ND	0.20	0.017	ND	1.0	0.089
n-Octane	ND	0.16	0.014	ND	0.75	0.065
Pentane	**0.35 J**	**0.40**	**0.024**	**1.0 J**	**1.2**	**0.071**
2-Methylpentane	**0.086**	**0.080**	**0.080**	**0.30**	**0.28**	**0.28**
Styrene	ND	0.080	0.023	ND	0.34	0.098
1,1,2,2-Tetrachloroethane	ND	0.080	0.024	ND	0.55	0.16
Tetrachloroethene	**0.023 J**	**0.080**	**0.016**	**0.16 J**	**0.54**	**0.11**
Thiophene	ND	0.080	0.080	ND	0.28	0.28
2-Ethylthiophene	ND	0.080	0.080	ND	0.37	0.37

ARCADIS U.S., Inc.

Client Sample ID: JR-1141-IA-2

GC/MS Volatiles

Lot-Sample # H3D010403 - 008 Work Order # M0HCV1AA Matrix.....: AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
2-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
3-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
Toluene	**0.10**	**0.080**	**0.021**	**0.39**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND J	0.080	0.039	ND J	0.59	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
Trichlorofluoromethane	**0.21**	**0.080**	**0.0098**	**1.2**	**0.45**	**0.055**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.058 J**	**0.080**	**0.012**	**0.45 J**	**0.61**	**0.092**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
2,2,4-Trimethylpentane	**0.087 J**	**0.20**	**0.016**	**0.41 J**	**0.93**	**0.075**
n-Undecane	ND	0.40	0.025	ND	2.6	0.16
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
m-Xylene & p-Xylene	**0.068 J**	**0.080**	**0.050**	**0.29 J**	**0.35**	**0.22**
o-Xylene	ND	0.080	0.024	ND	0.35	0.10
2,3-Dimethylpentane	ND	0.080	0.080	ND	0.33	0.33

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	109	60 - 140

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.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

ARCADIS U.S., Inc.

Client Sample ID: JR-1141-IA-3

GC/MS Volatiles

Lot-Sample #	H3D010403 - 009	Work Order #	M0HCW1AA	Matrix.....:	AIR
Date Sampled...:	03/28/2013	Date Received..:	03/30/2013		
Prep Date.....:	04/01/2013	Analysis Time....:	04/02/2013		
Prep Batch #.....:	3091060	Analysis Time....:	07:20		
Dilution Factor.:	1	Method.....:	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.22**	**0.080**	**0.023**	**0.69**	**0.26**	**0.073**
Bromomethane	**0.017 J**	**0.080**	**0.013**	**0.068 J**	**0.31**	**0.050**
n-Butane	**5.9**	**0.16**	**0.025**	**14**	**0.38**	**0.059**
Carbon tetrachloride	**0.089**	**0.040**	**0.015**	**0.56**	**0.25**	**0.094**
Chlorobenzene	ND	0.080	0.020	ND	0.37	0.092
Chloroethane	**0.024 J**	**0.080**	**0.014**	**0.063 J**	**0.21**	**0.037**
Chloroform	**3.0**	**0.080**	**0.015**	**14**	**0.39**	**0.073**
Chloromethane	**0.71**	**0.20**	**0.064**	**1.5**	**0.41**	**0.13**
n-Decane	**0.023 J**	**0.40**	**0.022**	**0.14 J**	**2.3**	**0.13**
1,2-Dibromoethane (EDB)	ND	0.080	0.018	ND	0.61	0.14
1,2-Dichlorobenzene	ND	0.080	0.028	ND	0.48	0.17
1,3-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
1,4-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
Dichlorodifluoromethane	**0.22**	**0.080**	**0.027**	**1.1**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	**0.028 J**	**0.080**	**0.019**	**0.11 J**	**0.32**	**0.077**
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
1,1-Dichloroethene	ND	0.080	0.014	ND	0.32	0.056
1,2-Dichloropropane	ND	0.080	0.021	ND	0.37	0.097
cis-1,3-Dichloropropene	ND	0.080	0.029	ND	0.36	0.13
trans-1,3-Dichloropropene	ND	0.080	0.019	ND	0.36	0.086
1,2-Dichloro-1,1,2,2-tetrafluoroethane	**0.013 J**	**0.080**	**0.013**	**0.093 J**	**0.56**	**0.091**
Indane	ND	0.080	0.080	ND	0.39	0.39
n-Dodecane	ND	0.40	0.031	ND	2.8	0.22
Ethylbenzene	ND	0.080	0.027	ND	0.35	0.12
n-Heptane	**0.050 J**	**0.20**	**0.019**	**0.20 J**	**0.82**	**0.078**
Hexachlorobutadiene	ND	0.080	0.031	ND	0.85	0.33
n-Hexane	**0.14 J**	**0.20**	**0.013**	**0.51 J**	**0.70**	**0.046**
Indene	ND	0.16	0.16	ND	0.76	0.76
2-Methylbutane	**0.48**	**0.20**	**0.012**	**1.4**	**0.59**	**0.035**
Isopropylbenzene	ND	0.16	0.024	ND	0.79	0.12
Methylene chloride	**0.32 B**	**0.20**	**0.018**	**1.1 B**	**0.69**	**0.063**
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Nonane	**0.022 J**	**0.20**	**0.017**	**0.12 J**	**1.0**	**0.089**
n-Octane	**0.015 J**	**0.16**	**0.014**	**0.071 J**	**0.75**	**0.065**
Pentane	**0.32 J**	**0.40**	**0.024**	**0.94 J**	**1.2**	**0.071**
2-Methylpentane	**0.12**	**0.080**	**0.080**	**0.44**	**0.28**	**0.28**
Styrene	ND	0.080	0.023	ND	0.34	0.098
1,1,2,2-Tetrachloroethane	ND	0.080	0.024	ND	0.55	0.16
Tetrachloroethene	**0.054 J**	**0.080**	**0.016**	**0.37 J**	**0.54**	**0.11**
Thiophene	ND	0.080	0.080	ND	0.28	0.28
2-Ethylthiophene	ND	0.080	0.080	ND	0.37	0.37

ARCADIS U.S., Inc.

Client Sample ID: JR-1141-IA-3

GC/MS Volatiles

Lot-Sample # H3D010403 - 009 Work Order # M0HCW1AA Matrix.....: AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
2-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
3-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
Toluene	**0.17**	**0.080**	**0.021**	**0.63**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND J	0.080	0.039	ND J	0.59	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.030 J**	**0.040**	**0.014**	**0.16 J**	**0.21**	**0.075**
Trichlorofluoromethane	**0.21**	**0.080**	**0.0098**	**1.2**	**0.45**	**0.055**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.066 J**	**0.080**	**0.012**	**0.51 J**	**0.61**	**0.092**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
2,2,4-Trimethylpentane	**0.035 J**	**0.20**	**0.016**	**0.16 J**	**0.93**	**0.075**
n-Undecane	ND	0.40	0.025	ND	2.6	0.16
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
m-Xylene & p-Xylene	**0.050 J**	**0.080**	**0.050**	**0.21 J**	**0.35**	**0.22**
o-Xylene	ND	0.080	0.024	ND	0.35	0.10
2,3-Dimethylpentane	ND	0.080	0.080	ND	0.33	0.33

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	110	60 - 140

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.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

H3D010403

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: Bruce Ahrens	Sampled By: ARCADIS	1 of 2 COCs
Company: ARCADIS	Phone: 585-662-4034		
Address: 6723 Townpath Rd	Site Contact: Aaron Falzarano		
City/State/Zip: Syracuse NY 13214	TAL Contact: Jamie McKinney		
Phone: 315-446-9120			
FAX:			
Project Name: East 11th St	Analysis Turnaround Time		
Site/location: Jacob Riis Housing	Standard (Specify) X		
PO #	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15 (SEE ATTACH C)	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
JR-1115-IA-1	3/28/13	730	330	-30	-6	K900	6611	X							X				
JR-1115-IA-2		730	335	-30	-6	A004	3528BN	X							X				
JR-1115-IA-3		730	335	-30	-7	K224	7491	X							X				
JR-1115-IA-4		730	310	-29	-5	K476	1116	X							X				
AA-032813		735	320	-29	-6	K222	1124	X								X			
DUP-032813		730	330	-30	-6	K406	12639	X							X				

Sampled by :
ARCADIS

Temperature (Fahrenheit)	Interior	Ambient
Start	VARIED	38
Stop	VARIED	52

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

Recd temp Ambient
no custody seals
D.D.F 3-30-13
Fedex #4744 0259 7342
7331
Recd 2 boxes
9 Summa
9 - Flows
9 Canister Caps

Special Instructions/QC Requirements & Comments:
PLEASE REFER TO APPENDIX C FOR REPORTING LIMITS.
PLEASE CHECK CANISTER PRESURES AND NOTIFY ARCADIS PRIOR TO ANALYSIS

Canisters Shipped by:	Date/Time:	Canisters Received by:
Samples Relinquished by:	Date/Time: 3/29/13 14:00	Received by: 3-29-13 14:00
Relinquished by:	Date/Time: 3-29-13 1900	Received by: 330.13 0950

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

H3D010403

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: BRUCE AHRENS	Sampled By: ARCADIS	2 of 2 COCs
Company: ARCADIS	Phone: 585-662-34034		
Address: 6723 TOWPATH RD.	Site Contact: AARON FALTARAND		
City/State/Zip SYRACUSE NY 13214	TAL Contact: JANICE MCKINNEY		
Phone: 315-446-9120			
FAX:			
Project Name: EAST 11TH ST	Analysis Turnaround Time		
Site/location: JACOB RIIS HOUSING	Standard (Specify) X		
PO #	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
JR-1141-IA-1	3/28/13	730	340	-30	-6	K408	41769	X							X				
JR-1141-IA-2	↓	830	400	-30	-8	K321	04165	X							X				
JR-1141-IA-3	↓	730	350	-30	-6	K529	6372	X							X				

Sampled by :
ARCADIS

Temperature (Fahrenheit)	Interior	Ambient
Start	VARIED	38
Stop	VARIED	52

Pressure (inches of Hg)	Interior	Ambient
Start		
Stop		

Special Instructions/QC Requirements & Comments:
PLEASE REFER TO APPENDIX C FOR REPORTING LIMITS.
PLEASE CHECK CANISTER PRESSURES AND NOTIFY ARCADIS PRIOR TO ANALYSIS

Canisters Shipped by:	Date/Time:	Canisters Received by:	
Samples Relinquished by:	Date/Time: 3/29/13 14:00	Received by:	3-29-13 14:00
Relinquished by:	Date/Time: 3/29/13 1900	Received by: David B. Fox 3.30.13 0950	

ARCADIS
Infrastructure · Water · Environment · Buildings

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ConEd E. 11th Street Site

Data Usability Summary Report

NEW YORK CITY, NEW YORK

Volatile Analyses

SDG# H3C290430

Analyses Performed By:
Test America
Knoxville, Tennessee

Report: #19108R
Review Level: Tier III
Project: B0043013.0003.00001

SUMMARY

This data quality assessment summarizes the review of Sample Delivery Group (SDG) #H3C290430 for samples collected in association with the ConEd East 11th Street Site. The review was conducted as a Tier III evaluation and included review of data package completeness. Only analytical data associated with constituents of concern were reviewed for this validation. Included with this assessment are the validation annotated sample result sheets and chain of custody. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Collection Date	Parent Sample	Analysis				
					VOC	SVOC	PCB	MET	MISC
AA-032613	M0G901AA	Air	3/26/2013		X				
JR-178-IA-1	M0G911AA	Air	3/26/2013		X				
JR-178-IA-2	M0G921AA	Air	3/26/2013		X				
JR-1223-IA-1	M0G941AA	Air	3/27/2013		X				
JR-1223-IA-2	M0G951AA	Air	3/27/2013		X				
JR-1223-IA-3	M0G961AA	Air	3/27/2013		X				
JR-1223-IA-4	M0G971AA	Air	3/27/2013		X				
AA-032713	M0G981AA	Air	3/27/2013		X				
JR-178-IA-3 #2	M0G991AA	Air	3/27/2013		X				
JR-170-IA-1	M0G9R1AA	Air	3/26/2013		X				
DUP-032613	M0G9T1AA	Air	3/26/2013	JR-170-IA-1	X				
JR-170-IA-2	M0G9V1AA	Air	3/26/2013		X				
JR-170-IA-3	M0G9W1AA	Air	3/26/2013		X				
JR-170-IA-4	M0G9X1AA	Air	3/26/2013		X				

ANALYTICAL DATA PACKAGE DOCUMENTATION
GENERAL INFORMATION

Items Reviewed	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
Sample receipt condition		X		X	
Requested analyses and sample results		X		X	
Collection Technique (grab, composite, etc.)		X		X	
Methods of analysis		X		X	
Reporting limits		X		X	
Sample collection date		X		X	
Laboratory sample received date		X		X	
Sample preservation verification (as applicable)		X		X	
Sample preparation/extraction/analysis dates		X		X	
Fully executed Chain-of-Custody (COC) form completed		X		X	
Narrative summary of QA or sample problems provided		X		X	
Data Package Completeness and Compliance		X		X	

QA - Quality Assurance

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-31- Validating Air Samples Volatile Organic Analysis of Ambient Air In Canister by Method TO-15 of October 2006, New York State DEC Analytical Method ASP 2005 TO-15 (QA/QC Criteria R9 TO-15), NYSDEC Modifications to R9 TO-15 QA/QC Criteria February 2008 and NYSDEC Proposed Change to the ASP Regarding Canister Vacuum June 26, 2009.

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:

- Concentration (C) Qualifiers

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

  B The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

- Quantitation (Q) Qualifiers

  E The compound was quantitated above the calibration range.

  D Concentration is based on a diluted sample analysis.

- Validation Qualifiers

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

  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.

  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.

  UB Compound considered non-detect at the listed value due to associated blank contamination.

  N The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.

  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.

VOLATILE ORGANIC COMPOUND (VOC) ANALYSES

1. Holding Times

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

Method	Matrix	Holding Time	Preservation	Return Canister Pressure
EPA TO-15	Air	30 days from collection to analysis	Ambient Temperature	< -1" Hg

All samples were analyzed within the specified holding time and return canister pressure criteria.

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method 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. 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 reporting limit (RL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

Compounds were detected in the associated QA blanks; however, the associated sample results were greater than the BAL and/or were non-detect. Therefore, sample results greater than the BAL resulted in the removal of the laboratory qualifier (B). No other qualification of the sample results was required.

3. Mass Spectrometer Tuning

A few sample locations were compliant with the Method TO-15 requirement of analysis within a 24-hour tune clock but not compliant with the NYSDEC requirement of analysis within a 12-hour tune clock. The data were not qualified.

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

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%) 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 or Continuing	Compound	Criteria
AA-032613 JR-178-IA-1 JR-178-IA-2 JR-1223-IA-1 JR-1223-IA-2 JR-1223-IA-3 JR-1223-IA-4 AA-032713 JR-170-IA-1 DUP-032613 JR-170-IA-2 JR-170-IA-3 JR-170-IA-4	CCV %D	1,2,4-Trichlorobenzene	-30.1%

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 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.)

Note: No sample results were qualified as rejected (R) due to the deviations listed above.

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 40% or less than 40% of the area counts of the associated continuing calibration standard.

All internal standard responses were within control limits.

7. 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 of 70% to 130%. The relative percent difference (RPD) between the LCS recoveries must exhibit an RPD within the laboratory-established acceptance limits.

All compounds associated with the LCS analysis exhibited recoveries within the control limits.

8. 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. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of three times the RL is applied for air matrices.

Results for the field duplicate samples are summarized in the following table.

Sample ID/ Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
JR-170-IA-1/ DUP-032613	1,1,2-Trichloro-1,2,2-trifluoroethane	0.49 J	0.53 J	AC
	1,2,4-Trimethylbenzene	0.33 J	0.44	AC
	1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.12 J	0.12 J	AC
	1,2-Dichloroethane	0.088 J	0.091 J	AC
	1,3,5-Trimethylbenzene	0.39 U	0.16 J	AC
	2,2,4-Trimethylpentane	0.83 J	0.89 J	AC
	2-Methylbutane	2.9	2.9	AC
	2-Methylpentane	0.92	0.94	AC
	Benzene	1.3	1.4	7.4 %
	Carbon tetrachloride	0.5	0.58	AC
	Chloroethane	0.069 J	0.07 J	AC
	Chloroform	14	14	0.0 %

Sample ID/ Duplicate ID	Compound	Sample Result	Duplicate Result	RPD
	Chloromethane	1.2	1.2	AC
	Dichlorodifluoromethane	2.6	2.7	3.7 %
	Ethylbenzene	0.33 J	0.42	AC
	Methylene chloride	1.9	1.1	AC
	m-Xylene & p-Xylene	1.1	1.4	AC
	n-Butane	6.1	6	1.6 %
	n-Decane	0.49 J	0.59 J	AC
	n-Dodecane	0.69 J	2.8 U	AC
	n-Heptane	0.48 J	0.5 J	AC
	n-Hexane	1.4	0.96	AC
	n-Octane	0.29 J	0.33 J	AC
	Nonane	0.28 J	0.34 J	AC
	n-Undecane	0.49 J	0.28 J	AC
	o-Xylene	0.42	0.5	AC
	Pentane	1.4	1.5	AC
	Tetrachloroethene	0.62	0.84	AC
	Toluene	2.1	1.9	10.0 %
	Trichloroethene	0.081 J	0.087 J	AC
	Trichlorofluoromethane	1.4	1.5	AC

AC Acceptable
U Not detected

The calculated RPDs between the parent sample and field duplicate were acceptable.

9. 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.

10. System Performance and Overall Assessment

A method detection limit (MDL) study was not performed for the following compounds:

Indene
Indane
2-Methylpentane
2,3-Dimethylpentane
2-Ethylthiophene
2-Methylthiophene
3-Methylthiophene
Thiophene
1,2,3-Trimethylbenzene

No estimated results are reported below the reporting limit for these compounds.

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 FOR VOCs

VOCs: TO-15	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
Tier II Validation					
Canister return pressure (<-1"Hg)		X		X	
Holding times		X		X	
Reporting limits (units)		X		X	
Blanks					
A. Method blanks		X	X		
B. Equipment blanks					X
C. Trip blanks					X
Laboratory Control Sample (LCS)		X		X	
Laboratory Control Sample Duplicate(LCSD)					X
LCS/LCSD Precision (RPD)					X
Matrix Spike (MS)					X
Matrix Spike Duplicate(MSD)					X
MS/MSD Precision (RPD)					X
Field/Lab Duplicate (%D)		X		X	
Surrogate Spike Recoveries		X		X	
Dilution Factor		X		X	
Moisture Content					X
Tier III Validation					
System performance and column resolution		X		X	
Initial calibration %RSDs		X		X	
Continuing calibration RRFs		X		X	
Continuing calibration %Ds		X	X		
Instrument tune and performance check		X		X	
Ion abundance criteria for each instrument used		X		X	
Internal standard		X		X	
Compound identification and quantitation					
A. Reconstructed ion chromatograms		X		X	
B. Quantitation Reports		X		X	

VOCs: TO-15	Reported		Performance Acceptable		Not Required
	No	Yes	No	Yes	
GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)					
C. RT of sample compounds within the established RT windows		X		X	
D. Transcription/calculation errors present				X	
E. Reporting limits adjusted to reflect sample dilutions		X		X	

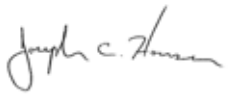
%RSD Percent relative difference
%R Percent recovery
RPD Relative percent difference
%D Percent difference

SAMPLE COMPLIANCE REPORT

Sample Delivery Group (SDG)	Sampling Date	Protocol	Sample ID	Matrix	Compliancy[1]					Noncompliance
					VOC	SVOC	PCB/PEST /HERB	MET	MISC	
H3C290430	3/26/2013	TO-15	AA-032613	Air	No	--	--	--	--	CCAL %D
H3C290430	3/26/2013	TO-15	JR-178-IA-1	Air	No	--	--	--	--	CCAL %D
H3C290430	3/26/2013	TO-15	JR-178-IA-2	Air	No	--	--	--	--	CCAL %D
H3C290430	3/27/2013	TO-15	JR-1223-IA-1	Air	No	--	--	--	--	CCAL %D
H3C290430	3/27/2013	TO-15	JR-1223-IA-2	Air	No	--	--	--	--	CCAL %D
H3C290430	3/27/2013	TO-15	JR-1223-IA-3	Air	No	--	--	--	--	CCAL %D
H3C290430	3/27/2013	TO-15	JR-1223-IA-4	Air	No	--	--	--	--	CCAL %D
H3C290430	3/27/2013	TO-15	AA-032713	Air	No	--	--	--	--	CCAL %D
H3C290430	3/27/2013	TO-15	JR-178-IA-3 #2	Air	Yes	--	--	--	--	
H3C290430	3/26/2013	TO-15	JR-170-IA-1	Air	No	--	--	--	--	CCAL %D
H3C290430	3/26/2013	TO-15	DUP-032613	Air	No	--	--	--	--	CCAL %D
H3C290430	3/26/2013	TO-15	JR-170-IA-2	Air	No	--	--	--	--	CCAL %D
H3C290430	3/26/2013	TO-15	JR-170-IA-3	Air	No	--	--	--	--	CCAL %D
H3C290430	3/26/2013	TO-15	JR-170-IA-4	Air	No	--	--	--	--	CCAL %D

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

VALIDATION PERFORMED BY: Joseph C. Houser

SIGNATURE: 

DATE: April 20, 2013

PEER REVIEW BY: Dennis Capria

DATE: April 22, 2013

CORRECTED SAMPLE ANALYSIS DATA SHEETS AND COCs

ARCADIS U.S., Inc.

Client Sample ID: JR-170-IA-1

GC/MS Volatiles

Lot-Sample # H3C290430 - 001 **Work Order #** M0G9R1AA **Matrix.....:** AIR

Date Sampled...:	03/26/2013	**Date Received..:**	03/29/2013
Prep Date.....:	04/01/2013	**Analysis Time....:**	04/01/2013
Prep Batch #.....:	3091059	**Analysis Time....:**	14:04
Dilution Factor.:	1	**Method.....:**	TO-15

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.40**	**0.080**	**0.023**	**1.3**	**0.26**	**0.073**
Bromomethane	ND	0.080	0.013	ND	0.31	0.050
n-Butane	**2.6**	**0.16**	**0.025**	**6.1**	**0.38**	**0.059**
Carbon tetrachloride	**0.079**	**0.040**	**0.015**	**0.50**	**0.25**	**0.094**
Chlorobenzene	ND	0.080	0.020	ND	0.37	0.092
Chloroethane	**0.026 J**	**0.080**	**0.014**	**0.069 J**	**0.21**	**0.037**
Chloroform	**2.9**	**0.080**	**0.015**	**14**	**0.39**	**0.073**
Chloromethane	**0.57**	**0.20**	**0.064**	**1.2**	**0.41**	**0.13**
n-Decane	**0.084 J**	**0.40**	**0.022**	**0.49 J**	**2.3**	**0.13**
1,2-Dibromoethane (EDB)	ND	0.080	0.018	ND	0.61	0.14
1,2-Dichlorobenzene	ND	0.080	0.028	ND	0.48	0.17
1,3-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
1,4-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
Dichlorodifluoromethane	**0.53**	**0.080**	**0.027**	**2.6**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	**0.022 J**	**0.080**	**0.019**	**0.088 J**	**0.32**	**0.077**
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
1,1-Dichloroethene	ND	0.080	0.014	ND	0.32	0.056
1,2-Dichloropropane	ND	0.080	0.021	ND	0.37	0.097
cis-1,3-Dichloropropene	ND	0.080	0.029	ND	0.36	0.13
trans-1,3-Dichloropropene	ND	0.080	0.019	ND	0.36	0.086
1,2-Dichloro-1,1,2,2-tetrafluoroethane	**0.017 J**	**0.080**	**0.013**	**0.12 J**	**0.56**	**0.091**
Indane	ND	0.080	0.080	ND	0.39	0.39
n-Dodecane	**0.10 J**	**0.40**	**0.031**	**0.69 J**	**2.8**	**0.22**
Ethylbenzene	**0.076 J**	**0.080**	**0.027**	**0.33 J**	**0.35**	**0.12**
n-Heptane	**0.12 J**	**0.20**	**0.019**	**0.48 J**	**0.82**	**0.078**
Hexachlorobutadiene	ND	0.080	0.031	ND	0.85	0.33
n-Hexane	**0.41**	**0.20**	**0.013**	**1.4**	**0.70**	**0.046**
Indene	ND	0.16	0.16	ND	0.76	0.76
2-Methylbutane	**1.0**	**0.20**	**0.012**	**2.9**	**0.59**	**0.035**
Isopropylbenzene	ND	0.16	0.024	ND	0.79	0.12
Methylene chloride	**0.54 B**	**0.20**	**0.018**	**1.9 B**	**0.69**	**0.063**
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Nonane	**0.052 J**	**0.20**	**0.017**	**0.28 J**	**1.0**	**0.089**
n-Octane	**0.063 J**	**0.16**	**0.014**	**0.29 J**	**0.75**	**0.065**
Pentane	**0.48**	**0.40**	**0.024**	**1.4**	**1.2**	**0.071**
2-Methylpentane	**0.26**	**0.080**	**0.080**	**0.92**	**0.28**	**0.28**
Styrene	ND	0.080	0.023	ND	0.34	0.098
1,1,2,2-Tetrachloroethane	ND	0.080	0.024	ND	0.55	0.16
Tetrachloroethene	**0.092**	**0.080**	**0.016**	**0.62**	**0.54**	**0.11**
Thiophene	ND	0.080	0.080	ND	0.28	0.28
2-Ethylthiophene	ND	0.080	0.080	ND	0.37	0.37

ARCADIS U.S., Inc.

Client Sample ID: JR-170-IA-1

GC/MS Volatiles

Lot-Sample # H3C290430 - 001 **Work Order #** M0G9R1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
2-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
3-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
Toluene	**0.55**	**0.080**	**0.021**	**2.1**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND J	0.080	0.039	ND J	0.59	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.015 J**	**0.040**	**0.014**	**0.081 J**	**0.21**	**0.075**
Trichlorofluoromethane	**0.26**	**0.080**	**0.0098**	**1.4**	**0.45**	**0.055**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.065 J**	**0.080**	**0.012**	**0.49 J**	**0.61**	**0.092**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.068 J**	**0.080**	**0.025**	**0.33 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
2,2,4-Trimethylpentane	**0.18 J**	**0.20**	**0.016**	**0.83 J**	**0.93**	**0.075**
n-Undecane	**0.077 J**	**0.40**	**0.025**	**0.49 J**	**2.6**	**0.16**
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
m-Xylene & p-Xylene	**0.24**	**0.080**	**0.050**	**1.1**	**0.35**	**0.22**
o-Xylene	**0.097**	**0.080**	**0.024**	**0.42**	**0.35**	**0.10**
2,3-Dimethylpentane	ND	0.080	0.080	ND	0.33	0.33

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	107	60 - 140

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.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

ARCADIS U.S., Inc.

Client Sample ID: DUP-032613

GC/MS Volatiles

Lot-Sample #	H3C290430 - 002	**Work Order #**	M0G9T1AA	**Matrix.....:**	AIR
Date Sampled...:	03/26/2013	**Date Received..:**	03/29/2013		
Prep Date.....:	04/01/2013	**Analysis Time....:**	04/01/2013		
Prep Batch #.....:	3091059	**Analysis Time....:**	15:00		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.44**	**0.080**	**0.023**	**1.4**	**0.26**	**0.073**
Bromomethane	ND	0.080	0.013	ND	0.31	0.050
n-Butane	**2.5**	**0.16**	**0.025**	**6.0**	**0.38**	**0.059**
Carbon tetrachloride	**0.092**	**0.040**	**0.015**	**0.58**	**0.25**	**0.094**
Chlorobenzene	ND	0.080	0.020	ND	0.37	0.092
Chloroethane	**0.026 J**	**0.080**	**0.014**	**0.070 J**	**0.21**	**0.037**
Chloroform	**2.9**	**0.080**	**0.015**	**14**	**0.39**	**0.073**
Chloromethane	**0.56**	**0.20**	**0.064**	**1.2**	**0.41**	**0.13**
n-Decane	**0.10 J**	**0.40**	**0.022**	**0.59 J**	**2.3**	**0.13**
1,2-Dibromoethane (EDB)	ND	0.080	0.018	ND	0.61	0.14
1,2-Dichlorobenzene	ND	0.080	0.028	ND	0.48	0.17
1,3-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
1,4-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
Dichlorodifluoromethane	**0.56**	**0.080**	**0.027**	**2.7**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	**0.022 J**	**0.080**	**0.019**	**0.091 J**	**0.32**	**0.077**
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
1,1-Dichloroethene	ND	0.080	0.014	ND	0.32	0.056
1,2-Dichloropropane	ND	0.080	0.021	ND	0.37	0.097
cis-1,3-Dichloropropene	ND	0.080	0.029	ND	0.36	0.13
trans-1,3-Dichloropropene	ND	0.080	0.019	ND	0.36	0.086
1,2-Dichloro-1,1,2,2-tetrafluoroethane	**0.017 J**	**0.080**	**0.013**	**0.12 J**	**0.56**	**0.091**
Indane	ND	0.080	0.080	ND	0.39	0.39
n-Dodecane	ND	0.40	0.031	ND	2.8	0.22
Ethylbenzene	**0.097**	**0.080**	**0.027**	**0.42**	**0.35**	**0.12**
n-Heptane	**0.12 J**	**0.20**	**0.019**	**0.50 J**	**0.82**	**0.078**
Hexachlorobutadiene	ND	0.080	0.031	ND	0.85	0.33
n-Hexane	**0.27**	**0.20**	**0.013**	**0.96**	**0.70**	**0.046**
Indene	ND	0.16	0.16	ND	0.76	0.76
2-Methylbutane	**1.0**	**0.20**	**0.012**	**2.9**	**0.59**	**0.035**
Isopropylbenzene	ND	0.16	0.024	ND	0.79	0.12
Methylene chloride	**0.33 B**	**0.20**	**0.018**	**1.1 B**	**0.69**	**0.063**
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Nonane	**0.065 J**	**0.20**	**0.017**	**0.34 J**	**1.0**	**0.089**
n-Octane	**0.070 J**	**0.16**	**0.014**	**0.33 J**	**0.75**	**0.065**
Pentane	**0.51**	**0.40**	**0.024**	**1.5**	**1.2**	**0.071**
2-Methylpentane	**0.27**	**0.080**	**0.080**	**0.94**	**0.28**	**0.28**
Styrene	ND	0.080	0.023	ND	0.34	0.098
1,1,2,2-Tetrachloroethane	ND	0.080	0.024	ND	0.55	0.16
Tetrachloroethene	**0.12**	**0.080**	**0.016**	**0.84**	**0.54**	**0.11**
Thiophene	ND	0.080	0.080	ND	0.28	0.28
2-Ethylthiophene	ND	0.080	0.080	ND	0.37	0.37

ARCADIS U.S., Inc.

Client Sample ID: DUP-032613

GC/MS Volatiles

Lot-Sample # H3C290430 - 002 **Work Order #** M0G9T1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
2-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
3-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
Toluene	**0.52**	**0.080**	**0.021**	**1.9**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND J	0.080	0.039	ND J	0.59	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.016 J**	**0.040**	**0.014**	**0.087 J**	**0.21**	**0.075**
Trichlorofluoromethane	**0.26**	**0.080**	**0.0098**	**1.5**	**0.45**	**0.055**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.069 J**	**0.080**	**0.012**	**0.53 J**	**0.61**	**0.092**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.090**	**0.080**	**0.025**	**0.44**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	**0.032 J**	**0.080**	**0.026**	**0.16 J**	**0.39**	**0.13**
2,2,4-Trimethylpentane	**0.19 J**	**0.20**	**0.016**	**0.89 J**	**0.93**	**0.075**
n-Undecane	**0.043 J**	**0.40**	**0.025**	**0.28 J**	**2.6**	**0.16**
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
m-Xylene & p-Xylene	**0.33**	**0.080**	**0.050**	**1.4**	**0.35**	**0.22**
o-Xylene	**0.12**	**0.080**	**0.024**	**0.50**	**0.35**	**0.10**
2,3-Dimethylpentane	ND	0.080	0.080	ND	0.33	0.33

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	102	60 - 140

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.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

ARCADIS U.S., Inc.

Client Sample ID: JR-170-IA-2

GC/MS Volatiles

Lot-Sample #	H3C290430 - 003	**Work Order #**	M0G9V1AA	**Matrix.....:**	AIR
Date Sampled...:	03/26/2013	**Date Received..:**	03/29/2013		
Prep Date.....:	04/01/2013	**Analysis Time....:**	04/01/2013		
Prep Batch #.....:	3091059	**Analysis Time....:**	15:56		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.23**	**0.080**	**0.023**	**0.72**	**0.26**	**0.073**
Bromomethane	ND	0.080	0.013	ND	0.31	0.050
n-Butane	**0.84**	**0.16**	**0.025**	**2.0**	**0.38**	**0.059**
Carbon tetrachloride	**0.069**	**0.040**	**0.015**	**0.43**	**0.25**	**0.094**
Chlorobenzene	ND	0.080	0.020	ND	0.37	0.092
Chloroethane	ND	0.080	0.014	ND	0.21	0.037
Chloroform	**0.079 J**	**0.080**	**0.015**	**0.39 J**	**0.39**	**0.073**
Chloromethane	**0.58**	**0.20**	**0.064**	**1.2**	**0.41**	**0.13**
n-Decane	**0.11 J**	**0.40**	**0.022**	**0.62 J**	**2.3**	**0.13**
1,2-Dibromoethane (EDB)	ND	0.080	0.018	ND	0.61	0.14
1,2-Dichlorobenzene	ND	0.080	0.028	ND	0.48	0.17
1,3-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
1,4-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
Dichlorodifluoromethane	**0.53**	**0.080**	**0.027**	**2.6**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	**0.022 J**	**0.080**	**0.019**	**0.088 J**	**0.32**	**0.077**
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
1,1-Dichloroethene	ND	0.080	0.014	ND	0.32	0.056
1,2-Dichloropropane	ND	0.080	0.021	ND	0.37	0.097
cis-1,3-Dichloropropene	ND	0.080	0.029	ND	0.36	0.13
trans-1,3-Dichloropropene	ND	0.080	0.019	ND	0.36	0.086
1,2-Dichloro-1,1,2,2-tetrafluoroethane	**0.016 J**	**0.080**	**0.013**	**0.11 J**	**0.56**	**0.091**
Indane	ND	0.080	0.080	ND	0.39	0.39
n-Dodecane	ND	0.40	0.031	ND	2.8	0.22
Ethylbenzene	**0.072 J**	**0.080**	**0.027**	**0.31 J**	**0.35**	**0.12**
n-Heptane	**0.050 J**	**0.20**	**0.019**	**0.21 J**	**0.82**	**0.078**
Hexachlorobutadiene	ND	0.080	0.031	ND	0.85	0.33
n-Hexane	**0.10 J**	**0.20**	**0.013**	**0.36 J**	**0.70**	**0.046**
Indene	ND	0.16	0.16	ND	0.76	0.76
2-Methylbutane	**0.50**	**0.20**	**0.012**	**1.5**	**0.59**	**0.035**
Isopropylbenzene	ND	0.16	0.024	ND	0.79	0.12
Methylene chloride	**0.22 B**	**0.20**	**0.018**	**0.76 B**	**0.69**	**0.063**
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Nonane	**0.048 J**	**0.20**	**0.017**	**0.25 J**	**1.0**	**0.089**
n-Octane	**0.033 J**	**0.16**	**0.014**	**0.16 J**	**0.75**	**0.065**
Pentane	**0.26 J**	**0.40**	**0.024**	**0.77 J**	**1.2**	**0.071**
2-Methylpentane	**0.095**	**0.080**	**0.080**	**0.33**	**0.28**	**0.28**
Styrene	ND	0.080	0.023	ND	0.34	0.098
1,1,2,2-Tetrachloroethane	ND	0.080	0.024	ND	0.55	0.16
Tetrachloroethene	**0.081**	**0.080**	**0.016**	**0.55**	**0.54**	**0.11**
Thiophene	ND	0.080	0.080	ND	0.28	0.28
2-Ethylthiophene	ND	0.080	0.080	ND	0.37	0.37

ARCADIS U.S., Inc.

Client Sample ID: JR-170-IA-2

GC/MS Volatiles

Lot-Sample # H3C290430 - 003 **Work Order #** M0G9V1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
2-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
3-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
Toluene	**0.38**	**0.080**	**0.021**	**1.4**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND J	0.080	0.039	ND J	0.59	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
Trichlorofluoromethane	**0.24**	**0.080**	**0.0098**	**1.4**	**0.45**	**0.055**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.064 J**	**0.080**	**0.012**	**0.49 J**	**0.61**	**0.092**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.049 J**	**0.080**	**0.025**	**0.24 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
2,2,4-Trimethylpentane	**0.044 J**	**0.20**	**0.016**	**0.20 J**	**0.93**	**0.075**
n-Undecane	**0.040 J**	**0.40**	**0.025**	**0.26 J**	**2.6**	**0.16**
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
m-Xylene & p-Xylene	**0.23**	**0.080**	**0.050**	**0.99**	**0.35**	**0.22**
o-Xylene	**0.075 J**	**0.080**	**0.024**	**0.33 J**	**0.35**	**0.10**
2,3-Dimethylpentane	ND	0.080	0.080	ND	0.33	0.33

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

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.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

ARCADIS U.S., Inc.

Client Sample ID: JR-170-IA-3

GC/MS Volatiles

Lot-Sample #	H3C290430 - 004	**Work Order #**	M0G9W1AA	**Matrix.....:**	AIR
Date Sampled...:	03/26/2013	**Date Received..:**	03/29/2013		
Prep Date.....:	04/01/2013	**Analysis Time....:**	04/01/2013		
Prep Batch #.....:	3091059	**Analysis Time....:**	16:52		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.39**	**0.080**	**0.023**	**1.3**	**0.26**	**0.073**
Bromomethane	ND	0.080	0.013	ND	0.31	0.050
n-Butane	**2.2**	**0.16**	**0.025**	**5.2**	**0.38**	**0.059**
Carbon tetrachloride	**0.083**	**0.040**	**0.015**	**0.52**	**0.25**	**0.094**
Chlorobenzene	ND	0.080	0.020	ND	0.37	0.092
Chloroethane	**0.025 J**	**0.080**	**0.014**	**0.067 J**	**0.21**	**0.037**
Chloroform	**4.7**	**0.080**	**0.015**	**23**	**0.39**	**0.073**
Chloromethane	**0.56**	**0.20**	**0.064**	**1.2**	**0.41**	**0.13**
n-Decane	**0.084 J**	**0.40**	**0.022**	**0.49 J**	**2.3**	**0.13**
1,2-Dibromoethane (EDB)	ND	0.080	0.018	ND	0.61	0.14
1,2-Dichlorobenzene	ND	0.080	0.028	ND	0.48	0.17
1,3-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
1,4-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
Dichlorodifluoromethane	**0.51**	**0.080**	**0.027**	**2.5**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	**0.024 J**	**0.080**	**0.019**	**0.097 J**	**0.32**	**0.077**
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
1,1-Dichloroethene	ND	0.080	0.014	ND	0.32	0.056
1,2-Dichloropropane	ND	0.080	0.021	ND	0.37	0.097
cis-1,3-Dichloropropene	ND	0.080	0.029	ND	0.36	0.13
trans-1,3-Dichloropropene	ND	0.080	0.019	ND	0.36	0.086
1,2-Dichloro-1,1,2,2-tetrafluoroethane	**0.015 J**	**0.080**	**0.013**	**0.11 J**	**0.56**	**0.091**
Indane	ND	0.080	0.080	ND	0.39	0.39
n-Dodecane	**0.049 J**	**0.40**	**0.031**	**0.34 J**	**2.8**	**0.22**
Ethylbenzene	**0.099**	**0.080**	**0.027**	**0.43**	**0.35**	**0.12**
n-Heptane	**0.14 J**	**0.20**	**0.019**	**0.56 J**	**0.82**	**0.078**
Hexachlorobutadiene	ND	0.080	0.031	ND	0.85	0.33
n-Hexane	**0.29**	**0.20**	**0.013**	**1.0**	**0.70**	**0.046**
Indene	ND	0.16	0.16	ND	0.76	0.76
2-Methylbutane	**1.4**	**0.20**	**0.012**	**4.2**	**0.59**	**0.035**
Isopropylbenzene	ND	0.16	0.024	ND	0.79	0.12
Methylene chloride	**0.32 B**	**0.20**	**0.018**	**1.1 B**	**0.69**	**0.063**
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Nonane	**0.049 J**	**0.20**	**0.017**	**0.26 J**	**1.0**	**0.089**
n-Octane	**0.058 J**	**0.16**	**0.014**	**0.27 J**	**0.75**	**0.065**
Pentane	**0.55**	**0.40**	**0.024**	**1.6**	**1.2**	**0.071**
2-Methylpentane	**0.29**	**0.080**	**0.080**	**1.0**	**0.28**	**0.28**
Styrene	ND	0.080	0.023	ND	0.34	0.098
1,1,2,2-Tetrachloroethane	ND	0.080	0.024	ND	0.55	0.16
Tetrachloroethene	**0.12**	**0.080**	**0.016**	**0.84**	**0.54**	**0.11**
Thiophene	ND	0.080	0.080	ND	0.28	0.28
2-Ethylthiophene	ND	0.080	0.080	ND	0.37	0.37

ARCADIS U.S., Inc.

Client Sample ID: JR-170-IA-3

GC/MS Volatiles

Lot-Sample # H3C290430 - 004 **Work Order #** M0G9W1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
2-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
3-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
Toluene	**0.89**	**0.080**	**0.021**	**3.4**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND J	0.080	0.039	ND J	0.59	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.025 J**	**0.040**	**0.014**	**0.13 J**	**0.21**	**0.075**
Trichlorofluoromethane	**0.25**	**0.080**	**0.0098**	**1.4**	**0.45**	**0.055**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.063 J**	**0.080**	**0.012**	**0.48 J**	**0.61**	**0.092**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.078 J**	**0.080**	**0.025**	**0.38 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	**0.034 J**	**0.080**	**0.026**	**0.17 J**	**0.39**	**0.13**
2,2,4-Trimethylpentane	**0.20**	**0.20**	**0.016**	**0.94**	**0.93**	**0.075**
n-Undecane	**0.055 J**	**0.40**	**0.025**	**0.35 J**	**2.6**	**0.16**
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
m-Xylene & p-Xylene	**0.31**	**0.080**	**0.050**	**1.3**	**0.35**	**0.22**
o-Xylene	**0.11**	**0.080**	**0.024**	**0.48**	**0.35**	**0.10**
2,3-Dimethylpentane	ND	0.080	0.080	ND	0.33	0.33

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	106	60 - 140

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.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

ARCADIS U.S., Inc.

Client Sample ID: JR-170-IA-4

GC/MS Volatiles

Lot-Sample #	H3C290430 - 005	**Work Order #**	M0G9X1AA	**Matrix.....:**	AIR
Date Sampled...:	03/26/2013	**Date Received..:**	03/29/2013		
Prep Date.....:	04/01/2013	**Analysis Time....:**	04/01/2013		
Prep Batch #.....:	3091059	**Analysis Time....:**	17:48		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.31**	**0.080**	**0.023**	**0.98**	**0.26**	**0.073**
Bromomethane	ND	0.080	0.013	ND	0.31	0.050
n-Butane	**1.6**	**0.16**	**0.025**	**3.7**	**0.38**	**0.059**
Carbon tetrachloride	**0.084**	**0.040**	**0.015**	**0.53**	**0.25**	**0.094**
Chlorobenzene	ND	0.080	0.020	ND	0.37	0.092
Chloroethane	**0.033 J**	**0.080**	**0.014**	**0.086 J**	**0.21**	**0.037**
Chloroform	**0.39**	**0.080**	**0.015**	**1.9**	**0.39**	**0.073**
Chloromethane	**0.65**	**0.20**	**0.064**	**1.3**	**0.41**	**0.13**
n-Decane	**0.26 J**	**0.40**	**0.022**	**1.5 J**	**2.3**	**0.13**
1,2-Dibromoethane (EDB)	ND	0.080	0.018	ND	0.61	0.14
1,2-Dichlorobenzene	ND	0.080	0.028	ND	0.48	0.17
1,3-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
1,4-Dichlorobenzene	**0.028 J**	**0.080**	**0.026**	**0.17 J**	**0.48**	**0.16**
Dichlorodifluoromethane	**0.50**	**0.080**	**0.027**	**2.5**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
1,1-Dichloroethene	ND	0.080	0.014	ND	0.32	0.056
1,2-Dichloropropane	ND	0.080	0.021	ND	0.37	0.097
cis-1,3-Dichloropropene	ND	0.080	0.029	ND	0.36	0.13
trans-1,3-Dichloropropene	ND	0.080	0.019	ND	0.36	0.086
1,2-Dichloro-1,1,2,2-tetrafluoroethane	**0.016 J**	**0.080**	**0.013**	**0.11 J**	**0.56**	**0.091**
Indane	ND	0.080	0.080	ND	0.39	0.39
n-Dodecane	**0.051 J**	**0.40**	**0.031**	**0.35 J**	**2.8**	**0.22**
Ethylbenzene	**0.084**	**0.080**	**0.027**	**0.36**	**0.35**	**0.12**
n-Heptane	**0.070 J**	**0.20**	**0.019**	**0.29 J**	**0.82**	**0.078**
Hexachlorobutadiene	ND	0.080	0.031	ND	0.85	0.33
n-Hexane	**0.14 J**	**0.20**	**0.013**	**0.51 J**	**0.70**	**0.046**
Indene	ND	0.16	0.16	ND	0.76	0.76
2-Methylbutane	**1.8**	**0.20**	**0.012**	**5.5**	**0.59**	**0.035**
Isopropylbenzene	ND	0.16	0.024	ND	0.79	0.12
Methylene chloride	**0.39 B**	**0.20**	**0.018**	**1.3 B**	**0.69**	**0.063**
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Nonane	**0.12 J**	**0.20**	**0.017**	**0.64 J**	**1.0**	**0.089**
n-Octane	**0.086 J**	**0.16**	**0.014**	**0.40 J**	**0.75**	**0.065**
Pentane	**0.71**	**0.40**	**0.024**	**2.1**	**1.2**	**0.071**
2-Methylpentane	**0.11**	**0.080**	**0.080**	**0.40**	**0.28**	**0.28**
Styrene	**0.032 J**	**0.080**	**0.023**	**0.14 J**	**0.34**	**0.098**
1,1,2,2-Tetrachloroethane	ND	0.080	0.024	ND	0.55	0.16
Tetrachloroethene	**0.11**	**0.080**	**0.016**	**0.74**	**0.54**	**0.11**
Thiophene	ND	0.080	0.080	ND	0.28	0.28
2-Ethylthiophene	ND	0.080	0.080	ND	0.37	0.37

ARCADIS U.S., Inc.

Client Sample ID: JR-170-IA-4

GC/MS Volatiles

Lot-Sample # H3C290430 - 005 **Work Order #** M0G9X1AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
2-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
3-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
Toluene	**0.45**	**0.080**	**0.021**	**1.7**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND J	0.080	0.039	ND J	0.59	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
Trichlorofluoromethane	**0.25**	**0.080**	**0.0098**	**1.4**	**0.45**	**0.055**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.064 J**	**0.080**	**0.012**	**0.49 J**	**0.61**	**0.092**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.071 J**	**0.080**	**0.025**	**0.35 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
2,2,4-Trimethylpentane	**0.063 J**	**0.20**	**0.016**	**0.29 J**	**0.93**	**0.075**
n-Undecane	**0.11 J**	**0.40**	**0.025**	**0.70 J**	**2.6**	**0.16**
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
m-Xylene & p-Xylene	**0.29**	**0.080**	**0.050**	**1.2**	**0.35**	**0.22**
o-Xylene	**0.091**	**0.080**	**0.024**	**0.39**	**0.35**	**0.10**
2,3-Dimethylpentane	ND	0.080	0.080	ND	0.33	0.33

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

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.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

ARCADIS U.S., Inc.

Client Sample ID: AA-032613

GC/MS Volatiles

Lot-Sample #	H3C290430 - 006	**Work Order #**	M0G901AA	**Matrix.....:**	AIR
Date Sampled...:	03/26/2013	**Date Received..:**	03/29/2013		
Prep Date.....:	04/01/2013	**Analysis Time....:**	04/01/2013		
Prep Batch #.....:	3091059	**Analysis Time....:**	19:35		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.21**	**0.080**	**0.023**	**0.67**	**0.26**	**0.073**
Bromomethane	ND	0.080	0.013	ND	0.31	0.050
n-Butane	**0.71**	**0.16**	**0.025**	**1.7**	**0.38**	**0.059**
Carbon tetrachloride	**0.081**	**0.040**	**0.015**	**0.51**	**0.25**	**0.094**
Chlorobenzene	ND	0.080	0.020	ND	0.37	0.092
Chloroethane	ND	0.080	0.014	ND	0.21	0.037
Chloroform	**0.023 J**	**0.080**	**0.015**	**0.11 J**	**0.39**	**0.073**
Chloromethane	**0.51**	**0.20**	**0.064**	**1.0**	**0.41**	**0.13**
n-Decane	ND	0.40	0.022	ND	2.3	0.13
1,2-Dibromoethane (EDB)	ND	0.080	0.018	ND	0.61	0.14
1,2-Dichlorobenzene	ND	0.080	0.028	ND	0.48	0.17
1,3-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
1,4-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
Dichlorodifluoromethane	**0.51**	**0.080**	**0.027**	**2.5**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
1,1-Dichloroethene	ND	0.080	0.014	ND	0.32	0.056
1,2-Dichloropropane	ND	0.080	0.021	ND	0.37	0.097
cis-1,3-Dichloropropene	ND	0.080	0.029	ND	0.36	0.13
trans-1,3-Dichloropropene	ND	0.080	0.019	ND	0.36	0.086
1,2-Dichloro-1,1,2,2-tetrafluoroethane	**0.018 J**	**0.080**	**0.013**	**0.12 J**	**0.56**	**0.091**
Indane	ND	0.080	0.080	ND	0.39	0.39
n-Dodecane	**0.033 J**	**0.40**	**0.031**	**0.23 J**	**2.8**	**0.22**
Ethylbenzene	**0.036 J**	**0.080**	**0.027**	**0.16 J**	**0.35**	**0.12**
n-Heptane	**0.054 J**	**0.20**	**0.019**	**0.22 J**	**0.82**	**0.078**
Hexachlorobutadiene	ND	0.080	0.031	ND	0.85	0.33
n-Hexane	**0.13 J**	**0.20**	**0.013**	**0.45 J**	**0.70**	**0.046**
Indene	ND	0.16	0.16	ND	0.76	0.76
2-Methylbutane	**0.34**	**0.20**	**0.012**	**1.0**	**0.59**	**0.035**
Isopropylbenzene	ND	0.16	0.024	ND	0.79	0.12
Methylene chloride	**0.45 B**	**0.20**	**0.018**	**1.6 B**	**0.69**	**0.063**
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Nonane	ND	0.20	0.017	ND	1.0	0.089
n-Octane	**0.023 J**	**0.16**	**0.014**	**0.11 J**	**0.75**	**0.065**
Pentane	**0.20 J**	**0.40**	**0.024**	**0.59 J**	**1.2**	**0.071**
2-Methylpentane	**0.089**	**0.080**	**0.080**	**0.31**	**0.28**	**0.28**
Styrene	ND	0.080	0.023	ND	0.34	0.098
1,1,2,2-Tetrachloroethane	ND	0.080	0.024	ND	0.55	0.16
Tetrachloroethene	**0.086**	**0.080**	**0.016**	**0.58**	**0.54**	**0.11**
Thiophene	ND	0.080	0.080	ND	0.28	0.28
2-Ethylthiophene	ND	0.080	0.080	ND	0.37	0.37

ARCADIS U.S., Inc.

Client Sample ID: AA-032613

GC/MS Volatiles

Lot-Sample # H3C290430 - 006 **Work Order #** M0G901AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
2-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
3-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
Toluene	**0.30**	**0.080**	**0.021**	**1.1**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND J	0.080	0.039	ND J	0.59	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
Trichlorofluoromethane	**0.26**	**0.080**	**0.0098**	**1.4**	**0.45**	**0.055**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.063 J**	**0.080**	**0.012**	**0.49 J**	**0.61**	**0.092**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
2,2,4-Trimethylpentane	**0.037 J**	**0.20**	**0.016**	**0.17 J**	**0.93**	**0.075**
n-Undecane	**0.025 J**	**0.40**	**0.025**	**0.16 J**	**2.6**	**0.16**
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
m-Xylene & p-Xylene	**0.089**	**0.080**	**0.050**	**0.39**	**0.35**	**0.22**
o-Xylene	**0.037 J**	**0.080**	**0.024**	**0.16 J**	**0.35**	**0.10**
2,3-Dimethylpentane	ND	0.080	0.080	ND	0.33	0.33

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

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.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

ARCADIS U.S., Inc.

Client Sample ID: JR-178-IA-1

GC/MS Volatiles

Lot-Sample #	H3C290430 - 007	**Work Order #**	M0G911AA	**Matrix.....:**	AIR
Date Sampled...:	03/26/2013	**Date Received..:**	03/29/2013		
Prep Date.....:	04/01/2013	**Analysis Time....:**	04/01/2013		
Prep Batch #....:	3091059	**Analysis Time....:**	20:34		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.52**	**0.080**	**0.023**	**1.7**	**0.26**	**0.073**
Bromomethane	ND	0.080	0.013	ND	0.31	0.050
n-Butane	**2.2**	**0.16**	**0.025**	**5.1**	**0.38**	**0.059**
Carbon tetrachloride	**0.089**	**0.040**	**0.015**	**0.56**	**0.25**	**0.094**
Chlorobenzene	ND	0.080	0.020	ND	0.37	0.092
Chloroethane	**0.034 J**	**0.080**	**0.014**	**0.089 J**	**0.21**	**0.037**
Chloroform	**4.1**	**0.080**	**0.015**	**20**	**0.39**	**0.073**
Chloromethane	**0.75**	**0.20**	**0.064**	**1.5**	**0.41**	**0.13**
n-Decane	**1.2**	**0.40**	**0.022**	**7.1**	**2.3**	**0.13**
1,2-Dibromoethane (EDB)	ND	0.080	0.018	ND	0.61	0.14
1,2-Dichlorobenzene	ND	0.080	0.028	ND	0.48	0.17
1,3-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
1,4-Dichlorobenzene	**0.039 J**	**0.080**	**0.026**	**0.24 J**	**0.48**	**0.16**
Dichlorodifluoromethane	**0.51**	**0.080**	**0.027**	**2.5**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	**0.023 J**	**0.080**	**0.019**	**0.093 J**	**0.32**	**0.077**
cis-1,2-Dichloroethene	**0.79**	**0.080**	**0.024**	**3.1**	**0.32**	**0.095**
1,1-Dichloroethene	ND	0.080	0.014	ND	0.32	0.056
1,2-Dichloropropane	ND	0.080	0.021	ND	0.37	0.097
cis-1,3-Dichloropropene	ND	0.080	0.029	ND	0.36	0.13
trans-1,3-Dichloropropene	ND	0.080	0.019	ND	0.36	0.086
1,2-Dichloro-1,1,2,2-tetrafluoroethane	**0.016 J**	**0.080**	**0.013**	**0.11 J**	**0.56**	**0.091**
Indane	ND	0.080	0.080	ND	0.39	0.39
n-Dodecane	**0.033 J**	**0.40**	**0.031**	**0.23 J**	**2.8**	**0.22**
Ethylbenzene	**0.13**	**0.080**	**0.027**	**0.58**	**0.35**	**0.12**
n-Heptane	**0.18 J**	**0.20**	**0.019**	**0.73 J**	**0.82**	**0.078**
Hexachlorobutadiene	ND	0.080	0.031	ND	0.85	0.33
n-Hexane	**0.57**	**0.20**	**0.013**	**2.0**	**0.70**	**0.046**
Indene	ND	0.16	0.16	ND	0.76	0.76
2-Methylbutane	**2.3**	**0.20**	**0.012**	**6.9**	**0.59**	**0.035**
Isopropylbenzene	**0.026 J**	**0.16**	**0.024**	**0.13 J**	**0.79**	**0.12**
Methylene chloride	**0.51 B**	**0.20**	**0.018**	**1.8 B**	**0.69**	**0.063**
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Nonane	**0.064 J**	**0.20**	**0.017**	**0.34 J**	**1.0**	**0.089**
n-Octane	**0.088 J**	**0.16**	**0.014**	**0.41 J**	**0.75**	**0.065**
Pentane	**1.6**	**0.40**	**0.024**	**4.7**	**1.2**	**0.071**
2-Methylpentane	**0.68**	**0.080**	**0.080**	**2.4**	**0.28**	**0.28**
Styrene	**0.035 J**	**0.080**	**0.023**	**0.15 J**	**0.34**	**0.098**
1,1,2,2-Tetrachloroethane	ND	0.080	0.024	ND	0.55	0.16
Tetrachloroethene	**3.0**	**0.080**	**0.016**	**20**	**0.54**	**0.11**
Thiophene	ND	0.080	0.080	ND	0.28	0.28
2-Ethylthiophene	ND	0.080	0.080	ND	0.37	0.37

ARCADIS U.S., Inc.

Client Sample ID: JR-178-IA-1

GC/MS Volatiles

Lot-Sample # H3C290430 - 007 **Work Order #** M0G911AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
2-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
3-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
Toluene	**0.95**	**0.080**	**0.021**	**3.6**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.080	0.039	ND	0.59	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.46**	**0.040**	**0.014**	**2.5**	**0.21**	**0.075**
Trichlorofluoromethane	**0.24**	**0.080**	**0.0098**	**1.4**	**0.45**	**0.055**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.066 J**	**0.080**	**0.012**	**0.50 J**	**0.61**	**0.092**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.14**	**0.080**	**0.025**	**0.71**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	**0.057 J**	**0.080**	**0.026**	**0.28 J**	**0.39**	**0.13**
2,2,4-Trimethylpentane	**0.22**	**0.20**	**0.016**	**1.0**	**0.93**	**0.075**
n-Undecane	**0.074 J**	**0.40**	**0.025**	**0.47 J**	**2.6**	**0.16**
Vinyl chloride	**0.12**	**0.080**	**0.029**	**0.31**	**0.20**	**0.074**
m-Xylene & p-Xylene	**0.56**	**0.080**	**0.050**	**2.4**	**0.35**	**0.22**
o-Xylene	**0.20**	**0.080**	**0.024**	**0.88**	**0.35**	**0.10**
2,3-Dimethylpentane	**0.092**	**0.080**	**0.080**	**0.38**	**0.33**	**0.33**

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	106	60 - 140

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.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

ARCADIS U.S., Inc.

Client Sample ID: JR-178-IA-2

GC/MS Volatiles

Lot-Sample #	H3C290430 - 008	**Work Order #**	M0G921AA	**Matrix.....:**	AIR
Date Sampled...:	03/26/2013	**Date Received..:**	03/29/2013		
Prep Date.....:	04/01/2013	**Analysis Time....:**	04/01/2013		
Prep Batch #.....:	3091059	**Analysis Time....:**	21:33		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.35**	**0.080**	**0.023**	**1.1**	**0.26**	**0.073**
Bromomethane	ND	0.080	0.013	ND	0.31	0.050
n-Butane	**1.5**	**0.16**	**0.025**	**3.5**	**0.38**	**0.059**
Carbon tetrachloride	**0.085**	**0.040**	**0.015**	**0.53**	**0.25**	**0.094**
Chlorobenzene	ND	0.080	0.020	ND	0.37	0.092
Chloroethane	**0.032 J**	**0.080**	**0.014**	**0.085 J**	**0.21**	**0.037**
Chloroform	**1.5**	**0.080**	**0.015**	**7.4**	**0.39**	**0.073**
Chloromethane	**0.59**	**0.20**	**0.064**	**1.2**	**0.41**	**0.13**
n-Decane	**0.24 J**	**0.40**	**0.022**	**1.4 J**	**2.3**	**0.13**
1,2-Dibromoethane (EDB)	ND	0.080	0.018	ND	0.61	0.14
1,2-Dichlorobenzene	ND	0.080	0.028	ND	0.48	0.17
1,3-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
1,4-Dichlorobenzene	**0.028 J**	**0.080**	**0.026**	**0.17 J**	**0.48**	**0.16**
Dichlorodifluoromethane	**0.53**	**0.080**	**0.027**	**2.6**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	**0.025 J**	**0.080**	**0.019**	**0.100 J**	**0.32**	**0.077**
cis-1,2-Dichloroethene	**0.38**	**0.080**	**0.024**	**1.5**	**0.32**	**0.095**
1,1-Dichloroethene	ND	0.080	0.014	ND	0.32	0.056
1,2-Dichloropropane	ND	0.080	0.021	ND	0.37	0.097
cis-1,3-Dichloropropene	ND	0.080	0.029	ND	0.36	0.13
trans-1,3-Dichloropropene	ND	0.080	0.019	ND	0.36	0.086
1,2-Dichloro-1,1,2,2-tetrafluoroethane	**0.016 J**	**0.080**	**0.013**	**0.11 J**	**0.56**	**0.091**
Indane	ND	0.080	0.080	ND	0.39	0.39
n-Dodecane	ND	0.40	0.031	ND	2.8	0.22
Ethylbenzene	**0.10**	**0.080**	**0.027**	**0.44**	**0.35**	**0.12**
n-Heptane	**0.10 J**	**0.20**	**0.019**	**0.43 J**	**0.82**	**0.078**
Hexachlorobutadiene	ND	0.080	0.031	ND	0.85	0.33
n-Hexane	**0.27**	**0.20**	**0.013**	**0.94**	**0.70**	**0.046**
Indene	ND	0.16	0.16	ND	0.76	0.76
2-Methylbutane	**1.1**	**0.20**	**0.012**	**3.2**	**0.59**	**0.035**
Isopropylbenzene	ND	0.16	0.024	ND	0.79	0.12
Methylene chloride	**0.97 B**	**0.20**	**0.018**	**3.4 B**	**0.69**	**0.063**
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Nonane	**0.042 J**	**0.20**	**0.017**	**0.22 J**	**1.0**	**0.089**
n-Octane	**0.067 J**	**0.16**	**0.014**	**0.31 J**	**0.75**	**0.065**
Pentane	**0.66**	**0.40**	**0.024**	**1.9**	**1.2**	**0.071**
2-Methylpentane	**0.24**	**0.080**	**0.080**	**0.84**	**0.28**	**0.28**
Styrene	**0.038 J**	**0.080**	**0.023**	**0.16 J**	**0.34**	**0.098**
1,1,2,2-Tetrachloroethane	ND	0.080	0.024	ND	0.55	0.16
Tetrachloroethene	**1.8**	**0.080**	**0.016**	**12**	**0.54**	**0.11**
Thiophene	ND	0.080	0.080	ND	0.28	0.28
2-Ethylthiophene	ND	0.080	0.080	ND	0.37	0.37

ARCADIS U.S., Inc.

Client Sample ID: JR-178-IA-2

GC/MS Volatiles

Lot-Sample # H3C290430 - 008 **Work Order #** M0G921AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
2-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
3-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
Toluene	**0.73**	**0.080**	**0.021**	**2.8**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.080	0.039	ND	0.59	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	**0.19**	**0.040**	**0.014**	**1.0**	**0.21**	**0.075**
Trichlorofluoromethane	**0.26**	**0.080**	**0.0098**	**1.5**	**0.45**	**0.055**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.068 J**	**0.080**	**0.012**	**0.52 J**	**0.61**	**0.092**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.076 J**	**0.080**	**0.025**	**0.37 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	**0.026 J**	**0.080**	**0.026**	**0.13 J**	**0.39**	**0.13**
2,2,4-Trimethylpentane	**0.092 J**	**0.20**	**0.016**	**0.43 J**	**0.93**	**0.075**
n-Undecane	**0.035 J**	**0.40**	**0.025**	**0.22 J**	**2.6**	**0.16**
Vinyl chloride	**0.073 J**	**0.080**	**0.029**	**0.19 J**	**0.20**	**0.074**
m-Xylene & p-Xylene	**0.35**	**0.080**	**0.050**	**1.5**	**0.35**	**0.22**
o-Xylene	**0.13**	**0.080**	**0.024**	**0.58**	**0.35**	**0.10**
2,3-Dimethylpentane	ND	0.080	0.080	ND	0.33	0.33

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

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.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

ARCADIS U.S., Inc.

Client Sample ID: JR-1223-IA-1

GC/MS Volatiles

Lot-Sample #	H3C290430 - 010	**Work Order #**	M0G941AA	**Matrix.....:**	AIR
Date Sampled...:	03/27/2013	**Date Received..:**	03/29/2013		
Prep Date.....:	04/01/2013	**Analysis Time....:**	04/01/2013		
Prep Batch #.....:	3091059	**Analysis Time....:**	23:28		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.19**	**0.080**	**0.023**	**0.60**	**0.26**	**0.073**
Bromomethane	ND	0.080	0.013	ND	0.31	0.050
n-Butane	**0.70**	**0.16**	**0.025**	**1.7**	**0.38**	**0.059**
Carbon tetrachloride	**0.080**	**0.040**	**0.015**	**0.51**	**0.25**	**0.094**
Chlorobenzene	ND	0.080	0.020	ND	0.37	0.092
Chloroethane	ND	0.080	0.014	ND	0.21	0.037
Chloroform	**0.21**	**0.080**	**0.015**	**1.0**	**0.39**	**0.073**
Chloromethane	**0.50**	**0.20**	**0.064**	**1.0**	**0.41**	**0.13**
n-Decane	**0.066 J**	**0.40**	**0.022**	**0.38 J**	**2.3**	**0.13**
1,2-Dibromoethane (EDB)	ND	0.080	0.018	ND	0.61	0.14
1,2-Dichlorobenzene	ND	0.080	0.028	ND	0.48	0.17
1,3-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
1,4-Dichlorobenzene	**0.029 J**	**0.080**	**0.026**	**0.18 J**	**0.48**	**0.16**
Dichlorodifluoromethane	**0.50**	**0.080**	**0.027**	**2.5**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
1,1-Dichloroethene	ND	0.080	0.014	ND	0.32	0.056
1,2-Dichloropropane	ND	0.080	0.021	ND	0.37	0.097
cis-1,3-Dichloropropene	ND	0.080	0.029	ND	0.36	0.13
trans-1,3-Dichloropropene	ND	0.080	0.019	ND	0.36	0.086
1,2-Dichloro-1,1,2,2-tetrafluoroethane	**0.017 J**	**0.080**	**0.013**	**0.12 J**	**0.56**	**0.091**
Indane	ND	0.080	0.080	ND	0.39	0.39
n-Dodecane	**0.045 J**	**0.40**	**0.031**	**0.31 J**	**2.8**	**0.22**
Ethylbenzene	**0.044 J**	**0.080**	**0.027**	**0.19 J**	**0.35**	**0.12**
n-Heptane	**0.045 J**	**0.20**	**0.019**	**0.18 J**	**0.82**	**0.078**
Hexachlorobutadiene	ND	0.080	0.031	ND	0.85	0.33
n-Hexane	**0.10 J**	**0.20**	**0.013**	**0.37 J**	**0.70**	**0.046**
Indene	ND	0.16	0.16	ND	0.76	0.76
2-Methylbutane	**0.34**	**0.20**	**0.012**	**1.00**	**0.59**	**0.035**
Isopropylbenzene	ND	0.16	0.024	ND	0.79	0.12
Methylene chloride	**0.21 B**	**0.20**	**0.018**	**0.73 B**	**0.69**	**0.063**
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Nonane	**0.030 J**	**0.20**	**0.017**	**0.16 J**	**1.0**	**0.089**
n-Octane	**0.031 J**	**0.16**	**0.014**	**0.14 J**	**0.75**	**0.065**
Pentane	**0.20 J**	**0.40**	**0.024**	**0.60 J**	**1.2**	**0.071**
2-Methylpentane	**0.096**	**0.080**	**0.080**	**0.34**	**0.28**	**0.28**
Styrene	ND	0.080	0.023	ND	0.34	0.098
1,1,2,2-Tetrachloroethane	ND	0.080	0.024	ND	0.55	0.16
Tetrachloroethene	**0.11**	**0.080**	**0.016**	**0.74**	**0.54**	**0.11**
Thiophene	ND	0.080	0.080	ND	0.28	0.28
2-Ethylthiophene	ND	0.080	0.080	ND	0.37	0.37

ARCADIS U.S., Inc.

Client Sample ID: JR-1223-IA-1

GC/MS Volatiles

Lot-Sample # H3C290430 - 010 **Work Order #** M0G941AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
2-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
3-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
Toluene	**0.25**	**0.080**	**0.021**	**0.94**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND J	0.080	0.039	ND J	0.59	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
Trichlorofluoromethane	**0.24**	**0.080**	**0.0098**	**1.3**	**0.45**	**0.055**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.064 J**	**0.080**	**0.012**	**0.49 J**	**0.61**	**0.092**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.047 J**	**0.080**	**0.025**	**0.23 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
2,2,4-Trimethylpentane	**0.040 J**	**0.20**	**0.016**	**0.18 J**	**0.93**	**0.075**
n-Undecane	**0.049 J**	**0.40**	**0.025**	**0.31 J**	**2.6**	**0.16**
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
m-Xylene & p-Xylene	**0.14**	**0.080**	**0.050**	**0.62**	**0.35**	**0.22**
o-Xylene	**0.055 J**	**0.080**	**0.024**	**0.24 J**	**0.35**	**0.10**
2,3-Dimethylpentane	ND	0.080	0.080	ND	0.33	0.33

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

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.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

ARCADIS U.S., Inc.

Client Sample ID: JR-1223-IA-2

GC/MS Volatiles

Lot-Sample #	H3C290430 - 011	**Work Order #**	M0G951AA	**Matrix.....:**	AIR
Date Sampled...:	03/27/2013	**Date Received..:**	03/29/2013		
Prep Date.....:	04/01/2013	**Analysis Time....:**	04/02/2013		
Prep Batch #.....:	3091059	**Analysis Time....:**	00:24		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.24**	**0.080**	**0.023**	**0.75**	**0.26**	**0.073**
Bromomethane	ND	0.080	0.013	ND	0.31	0.050
n-Butane	**1.4**	**0.16**	**0.025**	**3.4**	**0.38**	**0.059**
Carbon tetrachloride	**0.080**	**0.040**	**0.015**	**0.50**	**0.25**	**0.094**
Chlorobenzene	ND	0.080	0.020	ND	0.37	0.092
Chloroethane	ND	0.080	0.014	ND	0.21	0.037
Chloroform	**1.0**	**0.080**	**0.015**	**5.1**	**0.39**	**0.073**
Chloromethane	**0.48**	**0.20**	**0.064**	**1.00**	**0.41**	**0.13**
n-Decane	**0.17 J**	**0.40**	**0.022**	**0.96 J**	**2.3**	**0.13**
1,2-Dibromoethane (EDB)	ND	0.080	0.018	ND	0.61	0.14
1,2-Dichlorobenzene	ND	0.080	0.028	ND	0.48	0.17
1,3-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
1,4-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
Dichlorodifluoromethane	**0.49**	**0.080**	**0.027**	**2.4**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	**0.022 J**	**0.080**	**0.019**	**0.088 J**	**0.32**	**0.077**
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
1,1-Dichloroethene	ND	0.080	0.014	ND	0.32	0.056
1,2-Dichloropropane	ND	0.080	0.021	ND	0.37	0.097
cis-1,3-Dichloropropene	ND	0.080	0.029	ND	0.36	0.13
trans-1,3-Dichloropropene	ND	0.080	0.019	ND	0.36	0.086
1,2-Dichloro-1,1,2,2-tetrafluoroethane	**0.016 J**	**0.080**	**0.013**	**0.11 J**	**0.56**	**0.091**
Indane	ND	0.080	0.080	ND	0.39	0.39
n-Dodecane	**0.057 J**	**0.40**	**0.031**	**0.40 J**	**2.8**	**0.22**
Ethylbenzene	**0.068 J**	**0.080**	**0.027**	**0.30 J**	**0.35**	**0.12**
n-Heptane	**0.076 J**	**0.20**	**0.019**	**0.31 J**	**0.82**	**0.078**
Hexachlorobutadiene	ND	0.080	0.031	ND	0.85	0.33
n-Hexane	**0.15 J**	**0.20**	**0.013**	**0.52 J**	**0.70**	**0.046**
Indene	ND	0.16	0.16	ND	0.76	0.76
2-Methylbutane	**0.70**	**0.20**	**0.012**	**2.1**	**0.59**	**0.035**
Isopropylbenzene	ND	0.16	0.024	ND	0.79	0.12
Methylene chloride	**0.28 B**	**0.20**	**0.018**	**0.96 B**	**0.69**	**0.063**
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Nonane	**0.072 J**	**0.20**	**0.017**	**0.38 J**	**1.0**	**0.089**
n-Octane	**0.057 J**	**0.16**	**0.014**	**0.27 J**	**0.75**	**0.065**
Pentane	**0.42**	**0.40**	**0.024**	**1.2**	**1.2**	**0.071**
2-Methylpentane	**0.14**	**0.080**	**0.080**	**0.49**	**0.28**	**0.28**
Styrene	ND	0.080	0.023	ND	0.34	0.098
1,1,2,2-Tetrachloroethane	ND	0.080	0.024	ND	0.55	0.16
Tetrachloroethene	**0.13**	**0.080**	**0.016**	**0.88**	**0.54**	**0.11**
Thiophene	ND	0.080	0.080	ND	0.28	0.28
2-Ethylthiophene	ND	0.080	0.080	ND	0.37	0.37

ARCADIS U.S., Inc.

Client Sample ID: JR-1223-IA-2

GC/MS Volatiles

Lot-Sample # H3C290430 - 011 **Work Order #** M0G951AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
2-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
3-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
Toluene	**0.36**	**0.080**	**0.021**	**1.3**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND	0.080	0.039	ND	0.59	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
Trichlorofluoromethane	**0.24**	**0.080**	**0.0098**	**1.4**	**0.45**	**0.055**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.062 J**	**0.080**	**0.012**	**0.48 J**	**0.61**	**0.092**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.096**	**0.080**	**0.025**	**0.47**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	**0.026 J**	**0.080**	**0.026**	**0.13 J**	**0.39**	**0.13**
2,2,4-Trimethylpentane	**0.054 J**	**0.20**	**0.016**	**0.25 J**	**0.93**	**0.075**
n-Undecane	**0.086 J**	**0.40**	**0.025**	**0.55 J**	**2.6**	**0.16**
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
m-Xylene & p-Xylene	**0.21**	**0.080**	**0.050**	**0.93**	**0.35**	**0.22**
o-Xylene	**0.085**	**0.080**	**0.024**	**0.37**	**0.35**	**0.10**
2,3-Dimethylpentane	ND	0.080	0.080	ND	0.33	0.33

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

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.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

ARCADIS U.S., Inc.

Client Sample ID: JR-1223-IA-3

GC/MS Volatiles

Lot-Sample #	H3C290430 - 012	**Work Order #**	M0G961AA	**Matrix.....:**	AIR
Date Sampled...:	03/27/2013	**Date Received..:**	03/29/2013		
Prep Date.....:	04/01/2013	**Analysis Time....:**	04/02/2013		
Prep Batch #.....:	3091059	**Analysis Time....:**	01:21		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.24**	**0.080**	**0.023**	**0.77**	**0.26**	**0.073**
Bromomethane	ND	0.080	0.013	ND	0.31	0.050
n-Butane	**1.5**	**0.16**	**0.025**	**3.6**	**0.38**	**0.059**
Carbon tetrachloride	**0.073**	**0.040**	**0.015**	**0.46**	**0.25**	**0.094**
Chlorobenzene	ND	0.080	0.020	ND	0.37	0.092
Chloroethane	ND	0.080	0.014	ND	0.21	0.037
Chloroform	**1.2**	**0.080**	**0.015**	**6.0**	**0.39**	**0.073**
Chloromethane	**0.51**	**0.20**	**0.064**	**1.0**	**0.41**	**0.13**
n-Decane	**0.15 J**	**0.40**	**0.022**	**0.90 J**	**2.3**	**0.13**
1,2-Dibromoethane (EDB)	ND	0.080	0.018	ND	0.61	0.14
1,2-Dichlorobenzene	ND	0.080	0.028	ND	0.48	0.17
1,3-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
1,4-Dichlorobenzene	**0.029 J**	**0.080**	**0.026**	**0.18 J**	**0.48**	**0.16**
Dichlorodifluoromethane	**0.49**	**0.080**	**0.027**	**2.4**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
1,1-Dichloroethene	ND	0.080	0.014	ND	0.32	0.056
1,2-Dichloropropane	ND	0.080	0.021	ND	0.37	0.097
cis-1,3-Dichloropropene	ND	0.080	0.029	ND	0.36	0.13
trans-1,3-Dichloropropene	ND	0.080	0.019	ND	0.36	0.086
1,2-Dichloro-1,1,2,2-tetrafluoroethane	**0.015 J**	**0.080**	**0.013**	**0.11 J**	**0.56**	**0.091**
Indane	ND	0.080	0.080	ND	0.39	0.39
n-Dodecane	**0.062 J**	**0.40**	**0.031**	**0.43 J**	**2.8**	**0.22**
Ethylbenzene	**0.067 J**	**0.080**	**0.027**	**0.29 J**	**0.35**	**0.12**
n-Heptane	**0.068 J**	**0.20**	**0.019**	**0.28 J**	**0.82**	**0.078**
Hexachlorobutadiene	ND	0.080	0.031	ND	0.85	0.33
n-Hexane	**0.15 J**	**0.20**	**0.013**	**0.52 J**	**0.70**	**0.046**
Indene	ND	0.16	0.16	ND	0.76	0.76
2-Methylbutane	**0.73**	**0.20**	**0.012**	**2.1**	**0.59**	**0.035**
Isopropylbenzene	ND	0.16	0.024	ND	0.79	0.12
Methylene chloride	**0.22 B**	**0.20**	**0.018**	**0.76 B**	**0.69**	**0.063**
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Nonane	**0.066 J**	**0.20**	**0.017**	**0.35 J**	**1.0**	**0.089**
n-Octane	**0.047 J**	**0.16**	**0.014**	**0.22 J**	**0.75**	**0.065**
Pentane	**0.40**	**0.40**	**0.024**	**1.2**	**1.2**	**0.071**
2-Methylpentane	**0.15**	**0.080**	**0.080**	**0.52**	**0.28**	**0.28**
Styrene	**0.024 J**	**0.080**	**0.023**	**0.10 J**	**0.34**	**0.098**
1,1,2,2-Tetrachloroethane	ND	0.080	0.024	ND	0.55	0.16
Tetrachloroethene	**0.11**	**0.080**	**0.016**	**0.77**	**0.54**	**0.11**
Thiophene	ND	0.080	0.080	ND	0.28	0.28
2-Ethylthiophene	ND	0.080	0.080	ND	0.37	0.37

ARCADIS U.S., Inc.

Client Sample ID: JR-1223-IA-3

GC/MS Volatiles

Lot-Sample # H3C290430 - 012 **Work Order #** M0G961AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
2-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
3-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
Toluene	**0.34**	**0.080**	**0.021**	**1.3**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND J	0.080	0.039	ND J	0.59	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
Trichlorofluoromethane	**0.24**	**0.080**	**0.0098**	**1.3**	**0.45**	**0.055**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.064 J**	**0.080**	**0.012**	**0.49 J**	**0.61**	**0.092**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.096**	**0.080**	**0.025**	**0.47**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	**0.034 J**	**0.080**	**0.026**	**0.17 J**	**0.39**	**0.13**
2,2,4-Trimethylpentane	**0.058 J**	**0.20**	**0.016**	**0.27 J**	**0.93**	**0.075**
n-Undecane	**0.10 J**	**0.40**	**0.025**	**0.66 J**	**2.6**	**0.16**
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
m-Xylene & p-Xylene	**0.21**	**0.080**	**0.050**	**0.91**	**0.35**	**0.22**
o-Xylene	**0.082**	**0.080**	**0.024**	**0.36**	**0.35**	**0.10**
2,3-Dimethylpentane	ND	0.080	0.080	ND	0.33	0.33

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	105	60 - 140

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.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

ARCADIS U.S., Inc.

Client Sample ID: JR-1223-IA-4

GC/MS Volatiles

Lot-Sample #	H3C290430 - 013	**Work Order #**	M0G971AA	**Matrix.....:**	AIR
Date Sampled...:	03/27/2013	**Date Received..:**	03/29/2013		
Prep Date.....:	04/01/2013	**Analysis Time....:**	04/02/2013		
Prep Batch #.....:	3091059	**Analysis Time....:**	02:17		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.21**	**0.080**	**0.023**	**0.68**	**0.26**	**0.073**
Bromomethane	**0.015 J**	**0.080**	**0.013**	**0.058 J**	**0.31**	**0.050**
n-Butane	**1.9**	**0.16**	**0.025**	**4.4**	**0.38**	**0.059**
Carbon tetrachloride	**0.082**	**0.040**	**0.015**	**0.51**	**0.25**	**0.094**
Chlorobenzene	ND	0.080	0.020	ND	0.37	0.092
Chloroethane	**0.029 J**	**0.080**	**0.014**	**0.077 J**	**0.21**	**0.037**
Chloroform	**1.6**	**0.080**	**0.015**	**7.6**	**0.39**	**0.073**
Chloromethane	**0.49**	**0.20**	**0.064**	**1.0**	**0.41**	**0.13**
n-Decane	**0.094 J**	**0.40**	**0.022**	**0.55 J**	**2.3**	**0.13**
1,2-Dibromoethane (EDB)	ND	0.080	0.018	ND	0.61	0.14
1,2-Dichlorobenzene	ND	0.080	0.028	ND	0.48	0.17
1,3-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
1,4-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
Dichlorodifluoromethane	**0.50**	**0.080**	**0.027**	**2.5**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
1,1-Dichloroethene	ND	0.080	0.014	ND	0.32	0.056
1,2-Dichloropropane	ND	0.080	0.021	ND	0.37	0.097
cis-1,3-Dichloropropene	ND	0.080	0.029	ND	0.36	0.13
trans-1,3-Dichloropropene	ND	0.080	0.019	ND	0.36	0.086
1,2-Dichloro-1,1,2,2-tetrafluoroethane	**0.016 J**	**0.080**	**0.013**	**0.11 J**	**0.56**	**0.091**
Indane	ND	0.080	0.080	ND	0.39	0.39
n-Dodecane	ND	0.40	0.031	ND	2.8	0.22
Ethylbenzene	**0.056 J**	**0.080**	**0.027**	**0.24 J**	**0.35**	**0.12**
n-Heptane	**0.068 J**	**0.20**	**0.019**	**0.28 J**	**0.82**	**0.078**
Hexachlorobutadiene	ND	0.080	0.031	ND	0.85	0.33
n-Hexane	**0.17 J**	**0.20**	**0.013**	**0.59 J**	**0.70**	**0.046**
Indene	ND	0.16	0.16	ND	0.76	0.76
2-Methylbutane	**0.84**	**0.20**	**0.012**	**2.5**	**0.59**	**0.035**
Isopropylbenzene	ND	0.16	0.024	ND	0.79	0.12
Methylene chloride	**0.75 B**	**0.20**	**0.018**	**2.6 B**	**0.69**	**0.063**
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Nonane	**0.060 J**	**0.20**	**0.017**	**0.31 J**	**1.0**	**0.089**
n-Octane	**0.040 J**	**0.16**	**0.014**	**0.19 J**	**0.75**	**0.065**
Pentane	**0.50**	**0.40**	**0.024**	**1.5**	**1.2**	**0.071**
2-Methylpentane	**0.14**	**0.080**	**0.080**	**0.51**	**0.28**	**0.28**
Styrene	ND	0.080	0.023	ND	0.34	0.098
1,1,2,2-Tetrachloroethane	ND	0.080	0.024	ND	0.55	0.16
Tetrachloroethene	**0.094**	**0.080**	**0.016**	**0.64**	**0.54**	**0.11**
Thiophene	ND	0.080	0.080	ND	0.28	0.28
2-Ethylthiophene	ND	0.080	0.080	ND	0.37	0.37

ARCADIS U.S., Inc.

Client Sample ID: JR-1223-IA-4

GC/MS Volatiles

Lot-Sample # H3C290430 - 013 **Work Order #** M0G971AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
2-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
3-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
Toluene	**0.26**	**0.080**	**0.021**	**0.99**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND J	0.080	0.039	ND J	0.59	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
Trichlorofluoromethane	**0.27**	**0.080**	**0.0098**	**1.5**	**0.45**	**0.055**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.063 J**	**0.080**	**0.012**	**0.49 J**	**0.61**	**0.092**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.052 J**	**0.080**	**0.025**	**0.26 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
2,2,4-Trimethylpentane	**0.065 J**	**0.20**	**0.016**	**0.31 J**	**0.93**	**0.075**
n-Undecane	**0.038 J**	**0.40**	**0.025**	**0.24 J**	**2.6**	**0.16**
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
m-Xylene & p-Xylene	**0.15**	**0.080**	**0.050**	**0.64**	**0.35**	**0.22**
o-Xylene	**0.053 J**	**0.080**	**0.024**	**0.23 J**	**0.35**	**0.10**
2,3-Dimethylpentane	ND	0.080	0.080	ND	0.33	0.33

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

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.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

ARCADIS U.S., Inc.

Client Sample ID: AA-032713

GC/MS Volatiles

Lot-Sample #	H3C290430 - 014	**Work Order #**	M0G981AA	**Matrix.....:**	AIR
Date Sampled...:	03/27/2013	**Date Received..:**	03/29/2013		
Prep Date.....:	04/01/2013	**Analysis Time....:**	04/02/2013		
Prep Batch #.....:	3091059	**Analysis Time....:**	03:13		
Dilution Factor.:	1	**Method.....:**	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	**0.24**	**0.080**	**0.023**	**0.75**	**0.26**	**0.073**
Bromomethane	ND	0.080	0.013	ND	0.31	0.050
n-Butane	**0.88**	**0.16**	**0.025**	**2.1**	**0.38**	**0.059**
Carbon tetrachloride	**0.077**	**0.040**	**0.015**	**0.48**	**0.25**	**0.094**
Chlorobenzene	ND	0.080	0.020	ND	0.37	0.092
Chloroethane	ND	0.080	0.014	ND	0.21	0.037
Chloroform	**0.059 J**	**0.080**	**0.015**	**0.29 J**	**0.39**	**0.073**
Chloromethane	**0.50**	**0.20**	**0.064**	**1.0**	**0.41**	**0.13**
n-Decane	**0.048 J**	**0.40**	**0.022**	**0.28 J**	**2.3**	**0.13**
1,2-Dibromoethane (EDB)	ND	0.080	0.018	ND	0.61	0.14
1,2-Dichlorobenzene	ND	0.080	0.028	ND	0.48	0.17
1,3-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
1,4-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
Dichlorodifluoromethane	**0.51**	**0.080**	**0.027**	**2.5**	**0.40**	**0.13**
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	ND	0.080	0.019	ND	0.32	0.077
cis-1,2-Dichloroethene	ND	0.080	0.024	ND	0.32	0.095
1,1-Dichloroethene	ND	0.080	0.014	ND	0.32	0.056
1,2-Dichloropropane	ND	0.080	0.021	ND	0.37	0.097
cis-1,3-Dichloropropene	ND	0.080	0.029	ND	0.36	0.13
trans-1,3-Dichloropropene	ND	0.080	0.019	ND	0.36	0.086
1,2-Dichloro-1,1,2,2-tetrafluoroethane	**0.017 J**	**0.080**	**0.013**	**0.12 J**	**0.56**	**0.091**
Indane	ND	0.080	0.080	ND	0.39	0.39
n-Dodecane	ND	0.40	0.031	ND	2.8	0.22
Ethylbenzene	**0.047 J**	**0.080**	**0.027**	**0.21 J**	**0.35**	**0.12**
n-Heptane	**0.088 J**	**0.20**	**0.019**	**0.36 J**	**0.82**	**0.078**
Hexachlorobutadiene	ND	0.080	0.031	ND	0.85	0.33
n-Hexane	**0.16 J**	**0.20**	**0.013**	**0.56 J**	**0.70**	**0.046**
Indene	ND	0.16	0.16	ND	0.76	0.76
2-Methylbutane	**0.52**	**0.20**	**0.012**	**1.5**	**0.59**	**0.035**
Isopropylbenzene	ND	0.16	0.024	ND	0.79	0.12
Methylene chloride	**0.30 B**	**0.20**	**0.018**	**1.0 B**	**0.69**	**0.063**
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Nonane	**0.045 J**	**0.20**	**0.017**	**0.23 J**	**1.0**	**0.089**
n-Octane	**0.054 J**	**0.16**	**0.014**	**0.25 J**	**0.75**	**0.065**
Pentane	**0.29 J**	**0.40**	**0.024**	**0.86 J**	**1.2**	**0.071**
2-Methylpentane	**0.13**	**0.080**	**0.080**	**0.45**	**0.28**	**0.28**
Styrene	ND	0.080	0.023	ND	0.34	0.098
1,1,2,2-Tetrachloroethane	ND	0.080	0.024	ND	0.55	0.16
Tetrachloroethene	**0.12**	**0.080**	**0.016**	**0.81**	**0.54**	**0.11**
Thiophene	ND	0.080	0.080	ND	0.28	0.28
2-Ethylthiophene	ND	0.080	0.080	ND	0.37	0.37

ARCADIS U.S., Inc.

Client Sample ID: AA-032713

GC/MS Volatiles

Lot-Sample # H3C290430 - 014 **Work Order #** M0G981AA **Matrix.....:** AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
2-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
3-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
Toluene	**0.29**	**0.080**	**0.021**	**1.1**	**0.30**	**0.079**
1,2,4-Trichlorobenzene	ND J	0.080	0.039	ND J	0.59	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	ND	0.040	0.014	ND	0.21	0.075
Trichlorofluoromethane	**0.24**	**0.080**	**0.0098**	**1.3**	**0.45**	**0.055**
1,1,2-Trichloro-1,2,2-trifluoroethane	**0.062 J**	**0.080**	**0.012**	**0.48 J**	**0.61**	**0.092**
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	**0.036 J**	**0.080**	**0.025**	**0.18 J**	**0.39**	**0.12**
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
2,2,4-Trimethylpentane	**0.052 J**	**0.20**	**0.016**	**0.24 J**	**0.93**	**0.075**
n-Undecane	ND	0.40	0.025	ND	2.6	0.16
Vinyl chloride	ND	0.080	0.029	ND	0.20	0.074
m-Xylene & p-Xylene	**0.14**	**0.080**	**0.050**	**0.62**	**0.35**	**0.22**
o-Xylene	**0.056 J**	**0.080**	**0.024**	**0.24 J**	**0.35**	**0.10**
2,3-Dimethylpentane	ND	0.080	0.080	ND	0.33	0.33

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	106	60 - 140

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.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

ARCADIS U.S., Inc.

Client Sample ID: JR-178-IA-3 #2

GC/MS Volatiles

Lot-Sample #	H3C290430 - 015	Work Order #	M0G991AA	Matrix.....:	AIR
Date Sampled...:	03/27/2013	Date Received..:	03/29/2013		
Prep Date.....:	04/03/2013	Analysis Time....:	04/03/2013		
Prep Batch #.....:	3093049	Analysis Time....:	18:03		
Dilution Factor.:	1	Method.....:	TO-15		

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
Benzene	0.19	0.080	0.023	0.62	0.26	0.073
Bromomethane	0.014 J	0.080	0.013	0.055 J	0.31	0.050
n-Butane	2.5	0.16	0.025	6.0	0.38	0.059
Carbon tetrachloride	0.081	0.040	0.015	0.51	0.25	0.094
Chlorobenzene	ND	0.080	0.020	ND	0.37	0.092
Chloroethane	0.044 J	0.080	0.014	0.12 J	0.21	0.037
Chloroform	2.9	0.080	0.015	14	0.39	0.073
Chloromethane	0.69	0.20	0.064	1.4	0.41	0.13
n-Decane	ND	0.40	0.022	ND	2.3	0.13
1,2-Dibromoethane (EDB)	ND	0.080	0.018	ND	0.61	0.14
1,2-Dichlorobenzene	ND	0.080	0.028	ND	0.48	0.17
1,3-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
1,4-Dichlorobenzene	ND	0.080	0.026	ND	0.48	0.16
Dichlorodifluoromethane	0.54	0.080	0.027	2.7	0.40	0.13
1,1-Dichloroethane	ND	0.080	0.010	ND	0.32	0.040
1,2-Dichloroethane	0.021 J	0.080	0.019	0.086 J	0.32	0.077
cis-1,2-Dichloroethene	0.17	0.080	0.024	0.66	0.32	0.095
1,1-Dichloroethene	ND	0.080	0.014	ND	0.32	0.056
1,2-Dichloropropane	ND	0.080	0.021	ND	0.37	0.097
cis-1,3-Dichloropropene	ND	0.080	0.029	ND	0.36	0.13
trans-1,3-Dichloropropene	ND	0.080	0.019	ND	0.36	0.086
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.019 J	0.080	0.013	0.13 J	0.56	0.091
Indane	ND	0.080	0.080	ND	0.39	0.39
n-Dodecane	ND	0.40	0.031	ND	2.8	0.22
Ethylbenzene	0.33	0.080	0.027	1.4	0.35	0.12
n-Heptane	0.58	0.20	0.019	2.4	0.82	0.078
Hexachlorobutadiene	ND	0.080	0.031	ND	0.85	0.33
n-Hexane	0.22	0.20	0.013	0.78	0.70	0.046
Indene	ND	0.16	0.16	ND	0.76	0.76
2-Methylbutane	0.68	0.20	0.012	2.0	0.59	0.035
Isopropylbenzene	ND	0.16	0.024	ND	0.79	0.12
Methylene chloride	0.35 B	0.20	0.018	1.2 B	0.69	0.063
Naphthalene	ND	0.20	0.036	ND	1.0	0.19
Nonane	ND	0.20	0.017	ND	1.0	0.089
n-Octane	0.16	0.16	0.014	0.74	0.75	0.065
Pentane	0.61	0.40	0.024	1.8	1.2	0.071
2-Methylpentane	0.16	0.080	0.080	0.57	0.28	0.28
Styrene	ND	0.080	0.023	ND	0.34	0.098
1,1,2,2-Tetrachloroethane	0.098	0.080	0.024	0.67	0.55	0.16
Tetrachloroethene	0.95	0.080	0.016	6.4	0.54	0.11
Thiophene	ND	0.080	0.080	ND	0.28	0.28
2-Ethylthiophene	ND	0.080	0.080	ND	0.37	0.37

ARCADIS U.S., Inc.

Client Sample ID: JR-178-IA-3 #2

GC/MS Volatiles

Lot-Sample # H3C290430 - 015 Work Order # M0G991AA Matrix.....: AIR

PARAMETER	RESULTS (ppb(v/v))	REPORTING LIMIT (ppb(v/v))	MDL (ppb(v/v))	RESULTS (ug/m3)	REPORTING LIMIT (ug/m3)	MDL (ug/m3)
2-Methylthiophene	ND	0.080	0.080	ND	0.32	0.32
3-Methylthiophene	0.22	0.080	0.080	0.88	0.32	0.32
Toluene	0.80 B	0.080	0.021	3.0 B	0.30	0.079
1,2,4-Trichlorobenzene	ND	0.080	0.039	ND	0.59	0.29
1,1,1-Trichloroethane	ND	0.080	0.012	ND	0.44	0.065
1,1,2-Trichloroethane	ND	0.080	0.021	ND	0.44	0.11
Trichloroethene	0.58	0.040	0.014	3.1	0.21	0.075
Trichlorofluoromethane	0.24	0.080	0.0098	1.3	0.45	0.055
1,1,2-Trichloro-1,2,2-trifluoroethane	0.061 J	0.080	0.012	0.47 J	0.61	0.092
1,2,3-Trimethylbenzene	ND	0.080	0.080	ND	0.39	0.39
1,2,4-Trimethylbenzene	ND	0.080	0.025	ND	0.39	0.12
1,3,5-Trimethylbenzene	ND	0.080	0.026	ND	0.39	0.13
2,2,4-Trimethylpentane	2.0	0.20	0.016	9.5	0.93	0.075
n-Undecane	ND	0.40	0.025	ND	2.6	0.16
Vinyl chloride	0.039 J	0.080	0.029	0.099 J	0.20	0.074
m-Xylene & p-Xylene	0.66	0.080	0.050	2.8	0.35	0.22
o-Xylene	0.14	0.080	0.024	0.59	0.35	0.10
2,3-Dimethylpentane	0.097	0.080	0.080	0.40	0.33	0.33

SURROGATE	PERCENT RECOVERY	LABORATORY CONTROL LIMITS (%)
4-Bromofluorobenzene	104	60 - 140

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.

Result (ug/m3) = Result (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

Reporting Limit (ug/m3) = Reporting Limit (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

MDL (ug/m3) = MDL (ppb(v/v))[unrounded] * (Molecular Weight/24.45)

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H362904 3D

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: BRUCE AHRENS	Sampled By: ARCADIS	1 of 3 COCs
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FAX:			
Project Name: EAST 11TH ST	Analysis Turnaround Time		
Site/location: JACOB RIIS HOUSING	Standard (Specify)		
PO #	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15 (see CoC)	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type: Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
JR-170-1A-1	3/26/13	8:20	3:45	-30	-7	K499	6613	X						X				
DUP-032613	3/26/13	8:20	3:45	-30	-7	A006	1142	X						X				
JR-170-1A-2	3/26/13	8:20	3:45	-32	-7	K147	12874	X						X				
JR-170-1A-3	3/26/13	8:20	3:45	-32	-8	A022	12738	X						X				
JR-170-1A-4	3/26/13	8:20	3:45	-32	-8	K330	6131	X						X				
~~AA-170~~ AA-032613	3/26/13	8:30	3:45	-32	-9	A009	6675	X							X			

Sampled by :
ARCADIS

Temperature (Fahrenheit)	Interior	Ambient
Start		38
Stop		48

Pressure (inches of Hg)	Interior	Ambient
Start		29.71
Stop		29.72

NO CUSTODY SEALS
RECEIVED AT AMBIENT TEMP
SKD 3-29-13
4 MISSES FEDX 7993 @ 505 0935 TM
18 CANS / 18 FLOWS

Special Instructions/QC Requirements & Comments:
PLEASE CHECK CANISTER PRESSURES AND NOTIFY ARCADIS PRIOR TO ANALYSIS.

Canisters Shipped by:	Date/Time:	Canisters Received by: RACHEL MILLER
Samples Relinquished by:	Date/Time: 3/28/13 1235	Received by: 3/28/13 12:35
Relinquished by:	Date/Time: 3/28/13 15:00	Received by: 3-29-13 10:00

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

M3C290430

Canister Samples Chain of Custody Record

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: BRUCE AHRENS	Sampled By: ARCADIS	2 of 3 COCs
Company: ARCADIS	Phone: 585-662-4034		
Address: 6723 TOWPATH ROAD	Site Contact: AARON FALZARANO		
City/State/Zip SYRACUSE NY 13214	TAL Contact: JAMIE MCKINNEY		
Phone: 315-446-9120			
FAX:			
Project Name: EAST 11TH ST	Analysis Turnaround Time		
Site/location: JACOB RIIS HOUSING	Standard (Specify)		
PO #	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15 (see CoC)	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type: Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
JR-178-1A-1	3/26/13	9:30	8:45	-29	-8	7497	A003	X						X				
JR-178-1A-2	3/26/13	8:35	3:45	-29	-9	A007	1364	X						X				
JR-178-1A-3	3/26/13	8:35	3:45	-31	-22	A005	6267	X						X				
JR-1223-1A-1	3/27/13	7:30	3:05	-30	-6	K518	92084	X						X				
JR-1223-1A-2	3/27/13	7:30	3:45	-30	-6	K156	S-1498	X						X				
JR-1223-1A-3	3/27/13	7:30	3:20	-30	-6	K178	6620	X						X				

Sampled by :
ARCADIS

Temperature (Fahrenheit)	Interior	Ambient
Start		38
Stop		48

Pressure (inches of Hg)	Interior	Ambient
Start		29.7
Stop		29.72

Special Instructions/QC Requirements & Comments:
PLEASE CHECK CANISTER PRESSURES.
CHECK PRESSURE JR-178-1A-3 PRIOR TO ANALYSIS

Canisters Shipped by:	Date/Time:	Canisters Received by: RACHEL MILLER
Samples Relinquished by:	Date/Time: 3/28/13 1235	Received by: 3/28/13 12:35
Relinquished by:	Date/Time: 3/28/13 15:00	Received by: 3-29-13 10:00

TAL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

Canister Samples Chain of Custody Record

43629Ø13Ø

TestAmerica assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact Information	Project Manager: BRUCE AHRENS	Sampled By: ARCADIS	3 of 3 COCs
Company: ARCADIS	Phone: 585-662-4034		
Address: 6723 TOWPATH ROAD	Site Contact: AARON FALZARANO		
City/State/Zip SYRACUSE NY 13214	TAL Contact: JAMIE MCKINNEY		
Phone: 315-446-9120			
FAX:			
Project Name: EAST 11TH ST	Analysis Turnaround Time		
Site/location: JACOB RIIS HOUSING	Standard (Specify)		
PO #	Rush (Specify)		

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15 (SEE COC)	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
JR-1223-1A-4	3/27/13	7:30	3:05	-30	-6	A008	6521	X							X				
AA-032713	3/27/13	7:26	3:26	-30	-7	A002	12891	X								X			
JR-178-1A-3 #2 [illegible]	3/27/13	7:35	3:25	-30	-7	A021	04176	X							X	~~X~~			
																			1371
																			1409
																			0184

Sampled by : ARCADIS

Temperature (Fahrenheit)	Interior	Ambient
Start		38
Stop		48

Pressure (inches of Hg)	Interior	Ambient
Start		29.7
Stop		29.72

Special Instructions/QC Requirements & Comments:
SEE PAGE 1
HOLD JR-178-1A-3

Canisters Shipped by:	Date/Time:	Canisters Received by: [signature] MAIRA
Samples Relinquished by: [signature]	Date/Time: 3/28/13 1235	Received by: [signature] 3/28/13 12:35
Relinquished by: [signature]	Date/Time: 3/28/13 15:00	Received by: [signature] 3-29-13 10:00

Attachment 5

Photographic Logs – Indoor Air Monitoring Locations (on compact disk)

ARCADIS

Photographic Log –Indoor Air Monitoring Locations

ISMP Annual Air Monitoring Report
Former East 11th Street Works
Manhattan, New York

Sample location JR-170-IA-1 and DUP-032613. Samples collected on March 26, 2013.

Sample location JR-170-IA-2. Sample collected on March 26, 2013.

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Photographic Log –Indoor Air Sampling Locations

ISMP Annual Air Monitoring Report
Former East 11th Street Works
Manhattan, New York

Sample location JR-170-IA-3. Sample collected on March 26, 2013.

Sample location JR-170-IA-4. Sample collected on March 26, 2013.

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Photographic Log – Soil Vapor and Indoor Air Sampling Locations

ISMP Annual Air Monitoring Report
Former East 11th Street Works
Manhattan, New York

Sample location JR-178-IA-1. Sample collected on March 26, 2013.

Sample location JR-178-IA-2. Sample collected on March 26, 2013.

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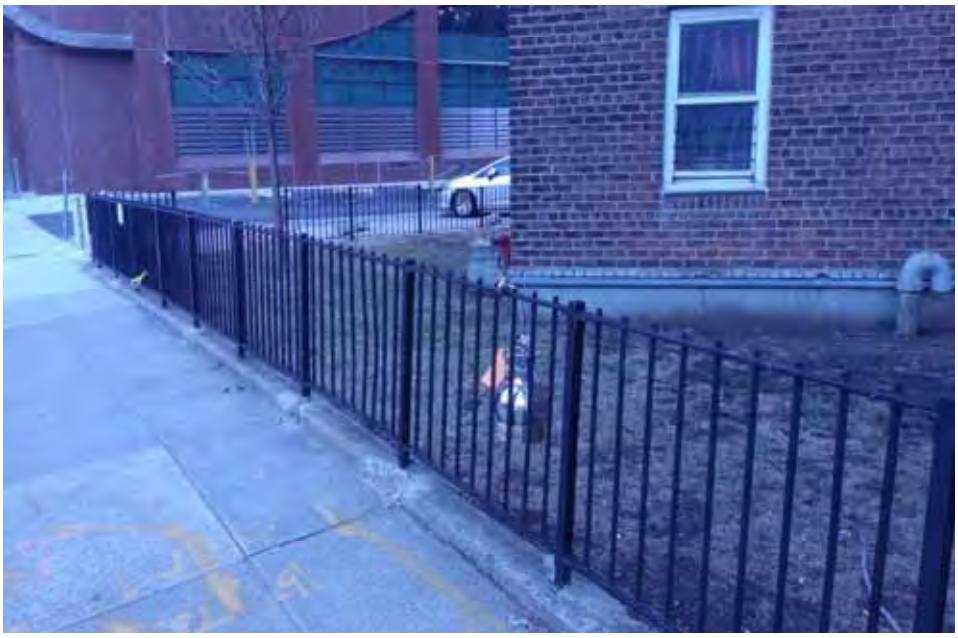
Photographic Log – Soil Vapor and Indoor Air Sampling Locations

ISMP Annual Air Monitoring Report
Former East 11th Street Works
Manhattan, New York

Sample location JR-178-IA-3. Sample collected on March 26, 2013.



Sample location AA-032310. Sample collected on March 23, 2010.

ARCADIS

Photographic Log – Soil Vapor and Indoor Air Sampling Locations

ISMP Annual Air Monitoring Report
Former East 11th Street Works
Manhattan, New York

Sample location JR-1115-IA-1 and DUP-032813. Samples collected on March 28, 2013.

Sample location JR-1115-IA-2. Sample collected on March 28, 2013.

Sample location JR-1115-IA-3. Sample collected on March 28, 2013.

Sample location JR-1115-IA-4. Sample collected on March 28, 2013.

ARCADIS

Photographic Log – Soil Vapor and Indoor Air Sampling Locations

ISMP Annual Air Monitoring Report
Former East 11th Street Works
Manhattan, New York

Sample location JR-1141-IA-1. Sample collected on March 28, 2013.

Sample location JR-1141-IA-2. Sample collected on March 28, 2013.

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Photographic Log – Soil Vapor and Indoor Air Sampling Locations

ISMP Annual Air Monitoring Report
Former East 11th Street Works
Manhattan, New York

Sample location JR-1141-IA-3. Sample collected on March 28, 2013.

Sample location AA-032813. Sample collected on March 28, 2013.

Sample location JR-1223-IA-1. Sample collected on March 27, 2013.

Sample location JR-1223-IA-2. Sample collected on March 27, 2013.

Sample location JR-1223-IA-3. Sample collected on March 27, 2013.

Sample location JR-1223-IA-4. Sample collected on March 27, 2013.

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Photographic Log – Soil Vapor and Indoor Air Sampling Locations

ISMP Annual Air Monitoring Report
Former East 11th Street Works
Manhattan, New York

Sample location AA-032713. Sample collected on March 27, 2013.