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February 10, 2023

Mr. Michael Belveg
New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 7
615 Erie Boulevard West
Syracuse, NY 13204-2400

Subject: Carrier Corporation, Dewitt, Onondaga County, New York
Corrective Action Order — Index CO 7-20051118-4
Site Registry No.: 734043
AOC G Carrier-DeWitt Fill Area Supplemental RCRA Facility Investigation Report

2022 Soil Vapor Results – AOC G

Dear Mr. Belveg:

On the behalf of Carrier Corporation (Carrier), AECOM Technical Services, Inc. (AECOM), is submitting a summary of the soil vapor sampling and analytical results for samples collected on December 19, 2022. The sampling was consistent with the *Work Plan Addendum and Revised Work Plan Addendum* (Work Plan) (Haley & Aldrich, 2022; Haley & Aldrich, 2023) to the *RCRA Facility Investigation Work Plan – Supplemental Investigation Thompson Road Facility* (AECOM, 2017) for Area of Concern G (AOC G) submitted by Haley & Aldrich to the New York State Department of Environmental Conservation (NYSDEC). AOC G is an undeveloped parcel of land located to the west of the Carrier Thompson Road Facility (see **Figure 1**).

Soil vapor sampling was conducted along the southern boundary of the AOC G parcel near groundwater well TR-35 (**Figure 2**). Samples were collected at two locations (on Carrier property), approximately 50 feet (ft). west and 50 ft. east of TR-35. As detailed herein, soil vapor sample data indicates that no soil vapor sample concentrations exceed values identified in the New York State Department of Health (NYSDOH) decision matrices.

Sampling Methodology

Probe Installation

Field work was completed by AECOM on December 16, 2022 and consistent with the NYSDOH *Final Guidance for Evaluating Soil Vapor Intrusion* (NYSDOH, 2006) in the State of New York. Temporary sampling probes were installed via hand-auguring, with a 6-inch vapor sampling screen placed at the specified depth and 0.25-inch outside diameter polyethylene tubing installed to ground surface from the sampling depth. AECOM used tape measurements during installation of the soil vapor point tubing to determine sampling depths for the sample probe installation. The installation was backfilled with 1 ft of sand and backfilled with bentonite chips from the top of sand to the ground surface. Sample locations are illustrated on **Figure 2**.

Soil Vapor Sampling

The probes were allowed to equilibrate for approximately 70 hours before sampling was initiated on December 19, 2022. The probes were purged to remove a minimum of three void volumes. A vacuum leak check of the sampling media was also performed using a shroud filled with helium. After purging and successful leak testing (i.e., no helium detected), samples were collected using evacuated 1-liter stainless-steel canisters with flow controllers to limit the sampling rate to a maximum of 200 milliliters per minute.

The depth to water observed during completion of the soil borings was approximately 5 ft below ground surface (bgs), which was less than anticipated based on the depth to water observed in groundwater well TR-36 (August 2022). As a result, the deeper interval sample proposed in the work plan was within the water table and could not be collected, and only a single sample could be collected at each location: boring AOCG-SVP-01 was placed at 3.0 ft bgs (i.e., sample interval of 2.5 to 3.0 ft bgs) and boring AOCG-SVP-02 was installed at 3.5 ft bgs (i.e., sample interval 3.0 to 3.5 ft bgs). Sample collection forms documenting field activities and sample probe construction logs are included in **Attachment A**. The sample intervals are consistent with NYSDOH guidance for collection of shallow soil vapor samples.

Samples were shipped under chain of custody procedures to Alpha Analytical (ELAP ID 11148, 11627). Samples were analyzed for the project-approved target compound list, specifically, benzene, toluene, ethylbenzene, p/m-xylene, o-xylene, vinyl chloride, 1,1-dichloroethene, methylene chloride, trans-1,2-dichloroethene, 1,1-dichloroethane, cis-1,2-dichloroethene, 1,1,1-trichloroethane, carbon tetrachloride, trichloroethene, and tetrachloroethene.

Analytical Results

Data Usability

Upon receipt of the analytical results from the laboratory, a Data Usability Summary Report (DUSR) was prepared by an AECOM chemist consistent with NYSDEC DER-10 (NYSDEC, 2010), and a limited data validation consistent with the United States Environmental Protection Agency Region II data validation procedures.

The DUSR presents details pertaining to items such as surrogate sample recoveries, matrix spike recoveries, duplicate sample analyses, instrument calibration and performance and method blank sample analyses. No data nonconformances were noted during the review. A copy of the analytical report and DUSR is provided in **Attachment B** and **Attachment C**, respectively. No data were rejected from consideration and the results are considered usable for the purposes of the investigation.

Results Versus Applicable Criteria

Laboratory analytical results are presented in **Table 1**. As an initial data screen, the analytical results were compared to the NYSDOH Matrices A, B, and C, presented in the May 2017 update to the *Final Guidance for Evaluating Soil Vapor Intrusion* in the State of New York.

Data collected during this investigation indicate that no soil vapor concentrations detected in the sample intervals exceed soil vapor screening values established for the NYSDOH decision matrices.

Recommendations

AOC G is an undeveloped parcel of land located to the west of the Carrier Thompson Road Facility. Soil vapor samples were collected along the southern boundary of the AOC G parcel at two locations, approximately 50 ft west and 50 ft. east of TR-35. As reported above, data collected during this investigation indicate that no soil vapor concentrations detected exceed soil vapor screening values established for the NYSDOH decision matrices.

Based on these results and considering no complete exposure pathways exists at the parcel (i.e., the parcel has no buildings), no additional investigation is being recommended at this time. However, it is anticipated that the parcel remedy will require additional actions to address potential soil vapor concerns prior to any future development on AOC G.

The following next steps are proposed:

1. Incorporate these results into the *RCRA Facility Investigation Report – Supplemental Investigation Thompson Road Facility* (Supplemental RFI) (AECOM, 2021) prepared for the AOC G for resubmission to NYSDEC.

2. Pending approval of the revised Supplemental RFI, proceed with the Corrective Measures Study.

Should you have any questions, please contact me at 919 461-1194.

Yours sincerely,

Peter Hollatz
Senior Principal
peter.hollatz@aecom.com

Jon Alberg
Senior Principal
jon.alberg@aecom.com

References

AECOM, 2017. *RCRA Facility Investigation Work Plan – Supplemental Investigation Thompson Road Facility*. AECOM, March 2017.

AECOM, 2021. *RCRA Facility Investigation Report – Supplemental Investigation Thompson Road Facility*. AECOM, May 2021.

Haley & Aldrich, 2022. *Work Plan Addendum*. December 2022

Haley & Aldrich, 2023. *Revised Work Plan Addendum*. February 2023.

NYSDEC, 2010. *DER-10 Technical Guidance for Site Investigation and Remediation.* May 2010.

NYSDOH, 2006. *Final Guidance for Evaluating Soil Vapor Intrusion.* October 2006

Tables

1 Analytical Results Summary Table

Figures

1 Site Plan – Soil Vapor Investigation Work Plan
2 Locations of Soil Vapor Probes – Soil Vapor Investigation

Attachments

A Sample Collection Forms and Sample Probe Construction Logs
B Analytical Report
C DUSR

cc: Gary Priscott, NYSDEC
Julia M. Kenney, NYSDOH (hard copy)
Scarlett McLaughlin, NYSDOH
Don Sorbello, Carrier Corporation
Joe Basile, Carrier Corporation

Tables

TABLE 1
Carrier Site
Thompson Road, Syracuse, NY
VI Sampling Results
December 2022 - AOC G

Sample ID				AOCG-SVP-1	FD-1	AOCG-SVP-2
Matrix				Soil Vapor	Soil Vapor	Soil Vapor
Date Sampled				12/19/2022	12/19/2022	12/19/2022
Parameter	Units	NYSDOH Matrix SSV Low Range	NYSDOH Matrix SSV High Range			
Chlorinated VOCs						
Matrix A						
1,1-Dichloroethene	UG/M3	6	60	0.079 U	0.079 U	0.079 U
1,2-Dichloroethene (cis)	UG/M3	6	60	0.079 U	0.079 U	0.079 U
Carbon tetrachloride	UG/M3	6	60	1.05	1.11	0.296
Trichloroethene	UG/M3	6	60	0.602	0.704	5.86
Matrix B						
1,1,1-Trichloroethane	UG/M3	100	1,000	0.687	0.704	0.207
Tetrachloroethene	UG/M3	100	1,000	2.33	3.28	1.78
Methylene chloride	UG/M3	100	1,000	1.74 U	1.74 U	1.74 U
Matrix C						
Vinyl chloride	UG/M3	6	60	0.051 U	0.051 U	0.051 U
Other						
1,1-Dichloroethane	UG/M3			0.081 U	0.081 U	0.081 U
1,2-Dichloroethene (trans)	UG/M3			0.079 U	0.079 U	0.079 U
Non-Chlorinated VOCs						
Benzene	UG/M3			2.73	2.73	0.594
Ethylbenzene	UG/M3			2.96	3.11	1.89
Toluene	UG/M3			20.7	21.7	7.54
m&p-Xylene	UG/M3			13.1	17.7	9.16
o-Xylene	UG/M3			2.1	3.61	1.6

Notes:

IA - indoor air

OA - outdoor air

SSV - sub-slab vapor

NYSDOH - New York State Department of Health

UG/M3 - micrograms per cubic meter

NA - Not Analyzed

Per NYSDOH Matrix Guidance: Mitigate

Per NYSDOH Matrix Guidance: Monitor

Per NYSDOH Matrix Guidance: Identify source(s) and resample or mitigate

Per NYSDOH Matrix Guidance: Mitigate, and Exceeds NYSDOH Air Guideline Value

Flags assigned during chemistry validation are shown.

Detection Limits shown are Method Detection Limits (MDL)

U – The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

J – The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

J- – The result is an estimated quantity, but the result may be biased low.

D – The sample result was reported from a secondary dilution analysis.

UJ – The analyte was analyzed for, but not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Figures

L:\DCS\Projects\60310231_UTCAOCGRI\MISC\GIS\Maps\AOC G\SVI WORK PLAN\01 SITE PLAN.mxd 11/1/2022

N

State Hwy 298

Sanders Creek

State Hwy 298

Carrier Cir

Court Street Rd

North Parking Lot

Middle Parking Lot

North Wetland

West Ponded Area

Approximate Fill Area Limits (AOC G)

Fill Area

South Parking Lot

West Wetland

Outfall "B"

Tractor Trailer Parking Lot

Thompson Rd

South Branch Ley Creek

Outfall "A"

Legend

- Surface Water Drainage Path
- Stream
- Approximate Limits of Fill Area
- Approximate Property Boundary
- Carrier Parcel Boundary

Sources:
NYS ITS GIS Program Office and NYS ORPTS, 2022
NYS ITS GIS Program Office, 2018

300 0 300 Feet

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SITE PLAN
SOIL VAPOR INVESTIGATION WORK PLAN

FIGURE 1

FIGURE 2

LOCATIONS OF SOIL VAPOR PROBES
SOIL VAPOR INVESTIGATION

N

Estimated Extent of 2018, 2019, & 2020 Groundwater VOC Exceedances

Area of Impacted Soil
(Unrestricted Use impacts across most of the area; Industrial Use impacts are fewer and localized)

Fill Area

South Drainage Swale

TR-37
TR-33
TR-24
TR-27D
TR-34
TR-36
TR-28D
TR-05
TR-09D
TR-35
TR-TEMP1
TR-TEMP2
TR-TEMP3
AOCG-SVP-1
AOCG-SVP-2
LF-SS-04
LF-SS-05
SS-21
C-1
C-2
A-4

396
398
400
402

Legend

- Soil Vapor Probe
- Monitoring Well
- Temporary Well
- Sediment/Pore Water/ Surface Water Sample
- Sediment Sample
- Surface Soil/Soil Boring (2018)
- Groundwater Flow Direction
- Groundwater Elevation Contour
- Surface Water Drainage Path
- Site Area
- Area of Impacted Soil
- Estimated Extent of 2018, 2019, & 2020 Groundwater VOC Exceedances
- Approximate Limits of Fill Area
- Carrier Parcel Boundary

Source:
NYS ITS GIS Program Office, 2018

60 0 60 Feet

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L:\DCS\Projects\60310231_UTCAOCGRIMISC\GIS\MapsAOC GSVI (DEC 2022)\02 SV PROBE LOCATIONS.mxd 1/16/2023

ATTACHMENT A – Field Collection Forms and Sample Probe Construction Log

Summa Canister Sampling Field Data Sheet

Site: Carrier - Thompson Road
Samplers: Rob Murphy, Tom Urban
Date: 12/19/22

Sample #	AOCG-SVP-2	AOCG-SVP-1	FD-SVP-121922		
Location	AOC-G	AOC-G	Dup of SVP-1		
Summa Canister ID	3932	3931	522		
Flow Controller ID	04494	02262	01458		
Additional Tubing Added	NO/YES How much?	NO/YES How much? 16"	NO/YES How much? 16"	NO/YES How much?	NO/YES How much?
Purge Time (Start)	1026	1055 →			
Purge Time (Stop)	1031	1100 →			
Total Purge Time (min)	5	5 →			
Purge Volume	1 Liter	1 Liter	1 Liter	1 Liter	1 Liter
Initial Tracer Gas Results	0 ppm	0 →			
PID (ppb)	342	122 →			
CH_4 (ppm)	0.0	0.0 →			
O_2 (%)	17.9	21.1 →			
CO_2	3.5%	0.6% →			
H_2S (ppm)	NA	NA →			
Pressure Gauge - before sampling	Gauge / Regulator -29.77	Gauge / Regulator -29.61	Gauge / Regulator -28.90	Gauge / Regulator	Gauge / Regulator
Sample Time (Start)	1035	1105	1105		
Sample Time (Stop)	1047	1116	1116		
Total Sample Time (min)	12	11	11		
Pressure Gauge - after sampling	Gauge / Regulator 4.96	Gauge / Regulator 4.98	Gauge / Regulator 4.99	Gauge / Regulator	Gauge / Regulator
Sample Volume	2.7 Liters	2.7 Liters	2.7 Liters	6 Liters	6 Liters
Canister Pressure Went To Ambient Pressure?	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO
General Comments:					

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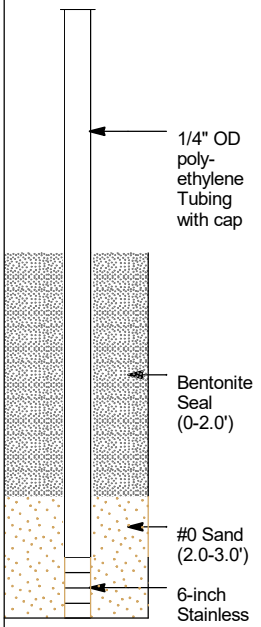
Boring and Well Construction Log

Boring No.: AOCG-SVP-01

Client: Carrier			**Sheet:** 1 **of** 1
Project/Project Location: Carrier, Syracuse NY			**Drilling Company:** Parratt-Wolff
Project #: 60676583	**Northing:** 1123041.4	**Easting:** 951485.6	**Driller:** Mark Eaves
Start Date: 12/16/2022	**Ground Elev (msl):** 407.4	**TOC Elev (msl):**	**Well Screen Interval (ft bgs):** 2.5-3.0'
Finish Date: 12/16/2022	**Drilling Method:** Hand Auger		**Water Level (ft bgs):** NA
Logged By: R. Murphy	**Reviewed By:** P. Hollatz		**Total Depth (ft bgs):** 5.0

Depth (ft bgs)	Recovery Length (feet)	PID (ppm)	USCS Code	Graphic	Soil and Rock Description Classification Scheme: USCS	Water Level	Lab Sample ID	Well Construction
-2								
0					0.0			
		0.0	SM		SM: Black silty fine SAND, trace fine gravel, damp to dry.			
		0.0						
2		0.0						
		0.0						
4					4.0			
		0.0			SM: Black silty fine SAND, trace fine gravel, moist to very moist.			
					5.0			

End of boring at 5.0 ft. bgs.



Remarks: Boring Terminated (ft): 5.0

The boring was advanced using a hand auger. No samples were collected for laboratory analysis. A soil vapor point was installed in the borehole.

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Amherst, NY 14228

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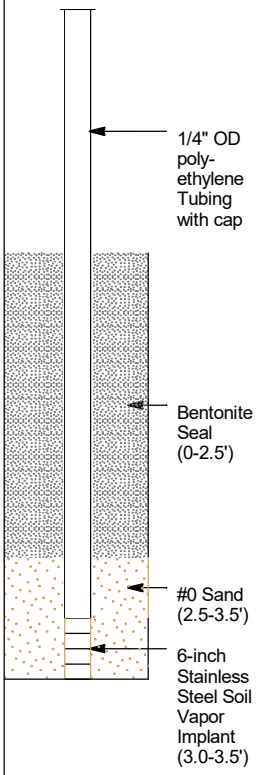
Boring and Well Construction Log

Boring No.: AOCG-SVP-02

Client: Carrier			**Sheet:** 1 **of** 1
Project/Project Location: Carrier, Syracuse NY			**Drilling Company:** Parratt-Wolff
Project #: 60676583	**Northing:** 1123034.5	**Easting:** 951382.4	**Driller:** Mark Eaves
Start Date: 12/16/2022	**Ground Elev (msl):** 407.1	**TOC Elev (msl):**	**Well Screen Interval (ft bgs):** 3.0-3.5'
Finish Date: 12/16/2022	**Drilling Method:** Hand Auger		**Water Level (ft bgs):** NA
Logged By: R. Murphy	**Reviewed By:** P. Hollatz		**Total Depth (ft bgs):** 4.5

Depth (ft bgs)	Recovery Length (feet)	PID (ppm)	USCS Code	Graphic	Soil and Rock Description Classification Scheme: USCS	Water Level	Lab Sample ID	Well Construction
-2								
0					0.0			
		0.0	SM		SM: Black silty fine SAND, trace fine to coarse gravel, roots, damp to dry. Becomes very moist at 4.5'.			
		0.0						
2		0.0						
		0.0						
4		0.0			4.5			

End of boring at 4.5 ft. bgs.



Remarks: Boring Terminated (ft): 4.5

The boring was advanced using a hand auger. No samples were collected for laboratory analysis. A soil vapor point was installed in the borehole.

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Amherst, NY 14228

ATTACHMENT B – Analytical Report

ANALYTICAL REPORT

Lab Number:	L2271836
Client:	AECOM 1600 Perimeter Park Dr. Suite 400 Morrisville, NC 27560
ATTN:	Peter Hollatz
Phone:	(919) 461-1194
Project Name:	CARRIER - AOC-G
Project Number:	60676583
Report Date:	01/05/23

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: CARRIER - AOC-G
Project Number: 60676583

Lab Number: L2271836
Report Date: 01/05/23

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2271836-01	SVP-2	SOIL_VAPOR	Not Specified	12/19/22 10:35	12/19/22
L2271836-02	SVP-1	SOIL_VAPOR	Not Specified	12/19/22 11:05	12/19/22
L2271836-03	FD-1	SOIL_VAPOR	Not Specified	12/19/22 00:00	12/19/22

Project Name:	CARRIER - AOC-G	**Lab Number:**	L2271836
Project Number:	60676583	**Report Date:**	01/05/23

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	CARRIER - AOC-G	**Lab Number:**	L2271836
Project Number:	60676583	**Report Date:**	01/05/23

Case Narrative (continued)

Report Revision

January 5, 2023 the report has been amended to report the site specific compound list.

Volatile Organics in Air

Canisters were released from the laboratory on December 14, 2022. The canister certification results are provided as an addendum.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 01/05/23

AIR

Project Name: CARRIER - AOC-G
Project Number: 60676583
Lab Number: L2271836
Report Date: 01/05/23

SAMPLE RESULTS

Lab ID: L2271836-01
Client ID: SVP-2
Sample Location:

Date Collected: 12/19/22 10:35
Date Received: 12/19/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 01/03/23 05:19
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	0.038	0.020	--	0.207	0.109	--		1
Benzene	0.186	0.100	--	0.594	0.319	--		1
Carbon tetrachloride	0.047	0.020	--	0.296	0.126	--		1
Trichloroethene	1.09	0.020	--	5.86	0.107	--		1
Toluene	2.00	0.100	--	7.54	0.377	--		1
Tetrachloroethene	0.263	0.020	--	1.78	0.136	--		1
Ethylbenzene	0.434	0.020	--	1.89	0.087	--		1
p/m-Xylene	2.11	0.040	--	9.16	0.174	--		1
o-Xylene	0.368	0.020	--	1.60	0.087	--		1
Xylenes, Total	2.48	0.020	--	10.8	0.087	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	97		60-140
bromochloromethane	98		60-140
chlorobenzene-d5	94		60-140

Project Name: CARRIER - AOC-G
Project Number: 60676583
Lab Number: L2271836
Report Date: 01/05/23

SAMPLE RESULTS

Lab ID: L2271836-02
Client ID: SVP-1
Sample Location:

Date Collected: 12/19/22 11:05
Date Received: 12/19/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 01/03/23 05:58
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	0.126	0.020	--	0.687	0.109	--		1
Benzene	0.856	0.100	--	2.73	0.319	--		1
Carbon tetrachloride	0.167	0.020	--	1.05	0.126	--		1
Trichloroethene	0.112	0.020	--	0.602	0.107	--		1
Toluene	5.49	0.100	--	20.7	0.377	--		1
Tetrachloroethene	0.343	0.020	--	2.33	0.136	--		1
Ethylbenzene	0.682	0.020	--	2.96	0.087	--		1
p/m-Xylene	3.01	0.040	--	13.1	0.174	--		1
o-Xylene	0.484	0.020	--	2.10	0.087	--		1
Xylenes, Total	3.50	0.020	--	15.2	0.087	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	97		60-140
bromochloromethane	98		60-140
chlorobenzene-d5	95		60-140

Project Name: CARRIER - AOC-G
Project Number: 60676583
Lab Number: L2271836
Report Date: 01/05/23

SAMPLE RESULTS

Lab ID: L2271836-03
Client ID: FD-1
Sample Location:

Date Collected: 12/19/22 00:00
Date Received: 12/19/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 01/03/23 06:37
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	0.129	0.020	--	0.704	0.109	--		1
Benzene	0.855	0.100	--	2.73	0.319	--		1
Carbon tetrachloride	0.177	0.020	--	1.11	0.126	--		1
Trichloroethene	0.131	0.020	--	0.704	0.107	--		1
Toluene	5.77	0.100	--	21.7	0.377	--		1
Tetrachloroethene	0.483	0.020	--	3.28	0.136	--		1
Ethylbenzene	0.715	0.020	--	3.11	0.087	--		1
p/m-Xylene	4.08	0.040	--	17.7	0.174	--		1
o-Xylene	0.830	0.020	--	3.61	0.087	--		1
Xylenes, Total	4.91	0.020	--	21.3	0.087	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	96		60-140
bromochloromethane	97		60-140
chlorobenzene-d5	94		60-140

Project Name: CARRIER - AOC-G
Project Number: 60676583
Lab Number: L2271836
Report Date: 01/05/23

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 01/02/23 17:41

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG1729286-4								
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Toluene	ND	0.100	--	ND	0.377	--		1
Xylenes, Total	ND	0.020	--	ND	0.087	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1

Lab Control Sample Analysis
Batch Quality Control

Project Name: CARRIER - AOC-G
Project Number: 60676583

Lab Number: L2271836
Report Date: 01/05/23

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG1729286-3								
Vinyl chloride	79		-		70-130	-		25
1,1-Dichloroethene	98		-		70-130	-		25
Methylene chloride	93		-		70-130	-		25
trans-1,2-Dichloroethene	92		-		70-130	-		25
1,1-Dichloroethane	98		-		70-130	-		25
cis-1,2-Dichloroethene	100		-		70-130	-		25
1,1,1-Trichloroethane	100		-		70-130	-		25
Benzene	85		-		70-130	-		25
Carbon tetrachloride	105		-		70-130	-		25
Trichloroethene	98		-		70-130	-		25
Toluene	87		-		70-130	-		25
Tetrachloroethene	100		-		70-130	-		25
Ethylbenzene	115		-		70-130	-		25
p/m-Xylene	116		-		70-130	-		25
o-Xylene	119		-		70-130	-		25

Project Name: CARRIER - AOC-G

Project Number: 60676583

Lab Number: L2271836

Report Date: 01/05/23

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2271836-01	SVP-2	0494	Flow 1	12/14/22	408037		-	-	-	Pass	200	191	5
L2271836-01	SVP-2	3932	2.7L Can	12/14/22	408037	L2218486-23	Pass	-30.0	-3.6	-	-	-	-
L2271836-02	SVP-1	02262	Flow 1	12/14/22	408037		-	-	-	Pass	200	198	1
L2271836-02	SVP-1	3931	2.7L Can	12/14/22	408037	L2218486-30	Pass	-30.0	-3.6	-	-	-	-
L2271836-03	FD-1	01458	Flow 1	12/14/22	408037		-	-	-	Pass	200	198	1
L2271836-03	FD-1	522	2.7L Can	12/14/22	408037	L2265535-01	Pass	-30.1	-3.8	-	-	-	-

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L2218486
Report Date: 01/05/23

Air Canister Certification Results

Lab ID: L2218486-23
Client ID: CAN3932
Sample Location:

Date Collected: 04/07/22 08:00
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 04/10/22 20:35
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L2218486
Report Date: 01/05/23

Air Canister Certification Results

Lab ID: L2218486-23
Client ID: CAN3932
Sample Location:

Date Collected: 04/07/22 08:00
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Xylenes, Total	ND	0.200	--	ND	0.869	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	0.200	--	ND	0.793	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: INDIV. CANISTER CERTIFICATION **Lab Number:** L2218486

Project Number: CANISTER QC INDIV **Report Date:** 01/05/23

Air Canister Certification Results

Lab ID: L2218486-23
Client ID: CAN3932
Sample Location:

Date Collected: 04/07/22 08:00
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L2218486
Report Date: 01/05/23

Air Canister Certification Results

Lab ID: L2218486-23
Client ID: CAN3932
Sample Location:

Date Collected: 04/07/22 08:00
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L2218486
Report Date: 01/05/23

Air Canister Certification Results

Lab ID: L2218486-23
Client ID: CAN3932
Sample Location:

Date Collected: 04/07/22 08:00
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	95		60-140
Bromochloromethane	95		60-140
chlorobenzene-d5	92		60-140

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L2218486
Report Date: 01/05/23

Air Canister Certification Results

Lab ID: L2218486-23
Client ID: CAN3932
Sample Location:

Date Collected: 04/07/22 08:00
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 04/10/22 20:35
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1

Project Name: INDIV. CANISTER CERTIFICATION **Lab Number:** L2218486

Project Number: CANISTER QC INDIV **Report Date:** 01/05/23

Air Canister Certification Results

Lab ID: L2218486-23
Client ID: CAN3932
Sample Location:

Date Collected: 04/07/22 08:00
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.100	--	ND	0.377	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L2218486
Report Date: 01/05/23

Air Canister Certification Results

Lab ID: L2218486-23
Client ID: CAN3932
Sample Location:

Date Collected: 04/07/22 08:00
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	94		60-140
bromochloromethane	95		60-140
chlorobenzene-d5	91		60-140

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L2218486
Report Date: 01/05/23

Air Canister Certification Results

Lab ID: L2218486-30
Client ID: CAN 3931
Sample Location:

Date Collected: 04/07/22 08:00
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 04/11/22 01:07
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L2218486
Report Date: 01/05/23

Air Canister Certification Results

Lab ID: L2218486-30
Client ID: CAN 3931
Sample Location:

Date Collected: 04/07/22 08:00
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Xylenes, Total	ND	0.200	--	ND	0.869	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	0.200	--	ND	0.793	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L2218486
Report Date: 01/05/23

Air Canister Certification Results

Lab ID: L2218486-30
Client ID: CAN 3931
Sample Location:

Date Collected: 04/07/22 08:00
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L2218486
Report Date: 01/05/23

Air Canister Certification Results

Lab ID: L2218486-30
Client ID: CAN 3931
Sample Location:

Date Collected: 04/07/22 08:00
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L2218486
Report Date: 01/05/23

Air Canister Certification Results

Lab ID: L2218486-30
Client ID: CAN 3931
Sample Location:

Date Collected: 04/07/22 08:00
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	94		60-140
Bromochloromethane	95		60-140
chlorobenzene-d5	93		60-140

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L2218486
Report Date: 01/05/23

Air Canister Certification Results

Lab ID: L2218486-30
Client ID: CAN 3931
Sample Location:

Date Collected: 04/07/22 08:00
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 04/11/22 01:07
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L2218486
Report Date: 01/05/23

Air Canister Certification Results

Lab ID: L2218486-30
Client ID: CAN 3931
Sample Location:

Date Collected: 04/07/22 08:00
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.100	--	ND	0.377	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV
Lab Number: L2218486
Report Date: 01/05/23

Air Canister Certification Results

Lab ID: L2218486-30
Client ID: CAN 3931
Sample Location:

Date Collected: 04/07/22 08:00
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	94		60-140
bromochloromethane	95		60-140
chlorobenzene-d5	91		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2265535
Report Date: 01/05/23

Air Canister Certification Results

Lab ID: L2265535-01
Client ID: CAN 522 SHELF 8
Sample Location:

Date Collected: 11/18/22 22:00
Date Received: 11/19/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 11/21/22 18:37
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2265535
Report Date: 01/05/23

Air Canister Certification Results

Lab ID: L2265535-01
Client ID: CAN 522 SHELF 8
Sample Location:

Date Collected: 11/18/22 22:00
Date Received: 11/19/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2265535
Report Date: 01/05/23

Air Canister Certification Results

Lab ID: L2265535-01
Client ID: CAN 522 SHELF 8
Sample Location:

Date Collected: 11/18/22 22:00
Date Received: 11/19/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2265535
Report Date: 01/05/23

Air Canister Certification Results

Lab ID: L2265535-01
Client ID: CAN 522 SHELF 8
Sample Location:

Date Collected: 11/18/22 22:00
Date Received: 11/19/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2265535
Report Date: 01/05/23

Air Canister Certification Results

Lab ID: L2265535-01
Client ID: CAN 522 SHELF 8
Sample Location:

Date Collected: 11/18/22 22:00
Date Received: 11/19/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	114		60-140
Bromochloromethane	112		60-140
chlorobenzene-d5	108		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2265535
Report Date: 01/05/23

Air Canister Certification Results

Lab ID: L2265535-01
Client ID: CAN 522 SHELF 8
Sample Location:

Date Collected: 11/18/22 22:00
Date Received: 11/19/22
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 11/21/22 18:37
Analyst: TJS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acrolein	ND	0.050	--	ND	0.115	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2265535

Project Number: CANISTER QC BAT **Report Date:** 01/05/23

Air Canister Certification Results

Lab ID: L2265535-01
Client ID: CAN 522 SHELF 8
Sample Location:

Date Collected: 11/18/22 22:00
Date Received: 11/19/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.100	--	ND	0.377	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.100	--	ND	0.518	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2265535

Project Number: CANISTER QC BAT **Report Date:** 01/05/23

Air Canister Certification Results

Lab ID: L2265535-01
Client ID: CAN 522 SHELF 8
Sample Location:

Date Collected: 11/18/22 22:00
Date Received: 11/19/22
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	103		60-140
bromochloromethane	104		60-140
chlorobenzene-d5	107		60-140

Project Name: CARRIER - AOC-G
Project Number: 60676583

Lab Number: L2271836
Report Date: 01/05/23

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
N/A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2271836-01A	Canister - 2.7 Liter	N/A	NA			Y	Absent		TO15-SIM(30)
L2271836-02A	Canister - 2.7 Liter	N/A	NA			Y	Absent		TO15-SIM(30)
L2271836-03A	Canister - 2.7 Liter	N/A	NA			Y	Absent		TO15-SIM(30)

*Values in parentheses indicate holding time in days

Project Name:	CARRIER - AOC-G	**Lab Number:**	L2271836
Project Number:	60676583	**Report Date:**	01/05/23

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	CARRIER - AOC-G	**Lab Number:**	L2271836
Project Number:	60676583	**Report Date:**	01/05/23

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	CARRIER - AOC-G	**Lab Number:**	L2271836
Project Number:	60676583	**Report Date:**	01/05/23

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name:	CARRIER - AOC-G	**Lab Number:**	L2271836
Project Number:	60676583	**Report Date:**	01/05/23

REFERENCES

48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

12/20/22 L2271836

AIR SAMPLE CHAIN OF CUSTODY RECORD

AECOM
257 WEST GENESEE STREET, SUITE 400
BUFFALO, NY 14202
PHONE: 716-856-5636
AECOM CONTACT: Peter Hollatz

PROJECT NUMBER: 60676583
SITE NAME: Carrier AOC-G
SAMPLERS (PRINT/SIGNATURE): Tom Urban/Tom Urban // Rob Murphy/Rob Murphy
DELIVERY SERVICE: Drop off AIRBILL NO.: N/A

LAB: Alpha Analytical
SHIPPING CONTAINER: 1 of 1
PAGE: 1 of 1

LOCATION IDENTIFIER	SAMPLE DATE	SAMPLE TIME	SAMPLE ID	MATRIX CODE	CANISTER SIZE (LITERS)	CANISTER ID	FLOW CONTROLLER ID	INITIAL PRESSURE/ VACUUM (" Hg)	FINAL PRESSURE/ VACUUM (" Hg)	PRESSURE/VACUUM UPON LAB RECEIPT (" Hg)	REQUIRED ANALYSIS: TO-15 SIM			REMARKS	SAMPLE TYPE CODE
SVP-2	12/19/22	1035	AOCG-SVP-2	GS	2.7	3932	0494	-30	-5		X				N
SVP-1	12/19/22	1105	AOCG-SVP-1	GS	2.7	3931	02262	-30	-5		X				N
FD-1	12/19/22	-	FD-SVP-121922	GS	2.7	522	01458	-29	-5		X				FD

MATRIX CODES: AA - AMBIENT AIR; AI - INDOOR AIR; AQ - FIELD QC; AS - SUB-SLAB AIR; GS - SOIL GAS

SAMPLE TYPE CODES: N# - NORMAL ENVIRONMENTAL SAMPLE; FD# - FIELD DUPLICATE; MS# - MATRIX SPIKE; (# - SEQUENTIAL NUMBER (FROM 1 TO 9) TO ACCOMMODATE MULTIPLE SAMPLES IN A SINGLE DAY)

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
Robert Murphy	12/19/22	1745	AAL SS	12/19/22	17:45
AAL SS	12/19/22	16:40	AAL	12/19/22	18:40

RECEIVED FOR LAB BY (SIGNATURE): AAL — DATE 12/19/22 TIME 18:45

SPECIAL INSTRUCTIONS: Modified list - contact Peter Hollatz for questions.

Distribution: Original accompanies shipment, copy to project file

12/20/22 0500 — 12/20/22 0630 — 12/20/22 0020 — 12/20/22 0630 — 12/20/22 06:30

ATTACHMENT C – DUSR

DATA USABILITY SUMMARY REPORT

VAPOR INTRUSION INVESTIGATION
CARRIER SITE
THOMPSON ROAD, SYRACUSE, NY
SITE ID# 734043

Analyses Performed by:

ALPHA ANALYTICAL
MANSFIELD, MA 02048

Prepared for:

CARRIER CORPORATION
SYRACUSE, NY

Prepared by:

AECOM
ONE JOHN JAMES AUDUBON PARKWAY
SUITE 210
AMHERST, NEW YORK 14228

JANUARY 2023

TABLE OF CONTENTS

TABLES
(Following Text)

ATTACHMENTS

1.0 INTRODUCTION

This Data Usability Summary Report (DUSR) has been prepared following the guidelines provided in New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation *DER-10 Technical Guidance for Site Investigation and Remediation*, *Appendix 2B, Guidance for Data Deliverables and the Development of Data Usability Summary Reports,* May 2010. Discussed in this DUSR are analytical data for 2 soil vapor samples and 1 soil vapor field duplicate (FD) sample collected December 19, 2022. The samples were collected in support of the Soil Vapor Intrusion Study for the Carrier site (Site #734043), located in Syracuse, New York.

2.0 ANALYTICAL METHODOLOGIES/DATA VALIDATION PROCEDURES

All samples were sent to Alpha Analytical (Mansfield, MA) for analysis. The samples were analyzed for select volatile organic compounds (VOCs) following United States Environmental Protection Agency (USEPA) *Compendium Method TO-15, Determination of VOCs in Air Collected in Specially Prepared Canisters and Analyzed By Gas Chromatography/Mass Spectrometry (GC/MS)*, EPA/625/R-96/010b, January 1999 using TO-15 Selective Ion Monitoring (SIM).

A limited data validation was performed in accordance with the guidelines in the following USEPA Region II document:

- *Analysis of Volatile Organic Compounds in Air Contained in Canisters by Method TO-15, SOP HW-31, Rev. 6,* December 2016.

The limited validation included: a completeness review of all required deliverables; holding times; a review of quality control (QC) results [blanks, instrument tunings, calibration standards, duplicate analyses, and laboratory control sample (LCS) recoveries] to determine if the data are within the protocol-required limits and specifications; a determination that all samples were analyzed using established and agreed upon analytical protocols; an evaluation of the raw data to confirm the results provided in the data summary sheets; and a review of laboratory data qualifiers.

No data was qualified during the limited data validation. Definitions of USEPA data qualifiers are presented at the end of this text. The validated analytical results are presented on Table 1. Copies of validated laboratory analytical summaries (Form 1s) are presented in Attachment A. Documentation supporting the qualification of data is presented in Attachment B. Only analytical deviations affecting data usability are discussed in this report.

3.0 DATA DELIVERABLE COMPLETENESS

Full deliverable data packages (i.e., NYSDEC ASP (Category B or equivalent) were provided by the laboratory, which included all reporting forms and raw data necessary to fully evaluate and verify the reported analytical results.

4.0 SAMPLE RECEIPT/HOLDING TIMES

All samples were received by the laboratory intact and under proper chain-of-custody (COC). All samples were analyzed within the required holding times.

5.0 NONCONFORMANCES

No data nonconformances were noted during the review.

6.0 SAMPLE RESULTS AND REPORTING

Field Duplicates

A field duplicate was collected for soil vapor sample SVP-1. The field duplicate relative percent differences (RPDs) exhibited good analytical precision (i.e., RPD < 50% when parent and/or field duplicate results are detected).

All quantitation/detection limits were reported in accordance with method requirements and were adjusted for sample volume and dilution factors.

7.0 SUMMARY

All sample analyses were found to be compliant with the method criteria, except where previously noted. All sample results are usable as reported. AECOM does not recommend the recollection of any samples at this time.

Prepared By: Ann Marie Kropovitch, Chemist **Date:** 1/13/23

Reviewed By: Peter R. Fairbanks, Senior Chemist **Date:** 1/13/23

DEFINITIONS OF USEPA DATA QUALIFIERS

U – The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

J – The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

J- – The result is an estimated quantity, but the result may be biased low.

UJ – The analyte was analyzed for, but not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

R – The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample.

D – The sample result was reported from a secondary dilution analysis.

TABLE 1
VALIDATED SOIL VAPOR SAMPLE RESULTS
CARRIER SITE

Location ID		SVP-1	SVP-1	SVP-2
Sample ID		FD-1	SVP-1	SVP-2
Matrix		Soil Gas	Soil Gas	Soil Gas
Depth Interval (ft)		-	-	-
Date Sampled		12/19/22	12/19/22	12/19/22
Parameter	**Units**	Field Duplicate (1-1)		
Volatile Organic Compounds				
1,1,1-Trichloroethane	UG/M3	0.704	0.687	0.207
1,1-Dichloroethane	UG/M3	0.081 U	0.081 U	0.081 U
1,1-Dichloroethene	UG/M3	0.079 U	0.079 U	0.079 U
1,2-Dichloroethene (cis)	UG/M3	0.079 U	0.079 U	0.079 U
1,2-Dichloroethene (trans)	UG/M3	0.079 U	0.079 U	0.079 U
Benzene	UG/M3	2.73	2.73	0.594
Carbon tetrachloride	UG/M3	1.11	1.05	0.296
Ethylbenzene	UG/M3	3.11	2.96	1.89
Methylene chloride	UG/M3	1.74 U	1.74 U	1.74 U
Tetrachloroethene	UG/M3	3.28	2.33	1.78
Toluene	UG/M3	21.7	20.7	7.54
Trichloroethene	UG/M3	0.704	0.602	5.86
Vinyl chloride	UG/M3	0.051 U	0.051 U	0.051 U
Xylene (total)	UG/M3	21.3	15.2	10.8

Flags assigned during chemistry validation are shown.

MADE BY: AMK 1/12/23

CHECKED BY: _PRF 1/12/23

Detection Limits shown are PQL

ATTACHMENT A

VALIDATED FORM I'S

Results Summary
Form 1
Volatile Organics in Air by SIM

Client	: AECOM	Lab Number	: L2271836
Project Name	: CARRIER - AOC-G	Project Number	: 60676583
Lab ID	: L2271836-01	Date Collected	: 12/19/22 10:35
Client ID	: SVP-2	Date Received	: 12/19/22
Sample Location	:	Date Analyzed	: 01/03/23 05:19
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 1
Analytical Method	: 48,TO-15-SIM	Analyst	: TJS
Lab File ID	: R1730650_EV2	Instrument ID	: AIRLAB17
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-01-4	Vinyl chloride	ND	0.020	--	ND	0.051	--	U
75-35-4	1,1-Dichloroethene	ND	0.020	--	ND	0.079	--	U
75-09-2	Methylene chloride	ND	0.500	--	ND	1.74	--	U
156-60-5	trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--	U
75-34-3	1,1-Dichloroethane	ND	0.020	--	ND	0.081	--	U
156-59-2	cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--	U
71-55-6	1,1,1-Trichloroethane	0.038	0.020	--	0.207	0.109	--	
71-43-2	Benzene	0.186	0.100	--	0.594	0.319	--	
56-23-5	Carbon tetrachloride	0.047	0.020	--	0.296	0.126	--	
79-01-6	Trichloroethene	1.09	0.020	--	5.86	0.107	--	
108-88-3	Toluene	2.00	0.100	--	7.54	0.377	--	
127-18-4	Tetrachloroethene	0.263	0.020	--	1.78	0.136	--	
100-41-4	Ethylbenzene	0.434	0.020	--	1.89	0.087	--	
179601-23-1	p/m-Xylene	2.11	0.040	--	9.16	0.174	--	
95-47-6	o-Xylene	0.368	0.020	--	1.60	0.087	--	
1330-20-7	Xylenes, Total	2.48	0.020	--	10.8	0.087	--	

Results Summary
Form 1
Volatile Organics in Air by SIM

Client	: AECOM	Lab Number	: L2271836
Project Name	: CARRIER - AOC-G	Project Number	: 60676583
Lab ID	: L2271836-02	Date Collected	: 12/19/22 11:05
Client ID	: SVP-1	Date Received	: 12/19/22
Sample Location	:	Date Analyzed	: 01/03/23 05:58
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 1
Analytical Method	: 48,TO-15-SIM	Analyst	: TJS
Lab File ID	: R1730651_EV2	Instrument ID	: AIRLAB17
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-01-4	Vinyl chloride	ND	0.020	--	ND	0.051	--	U
75-35-4	1,1-Dichloroethene	ND	0.020	--	ND	0.079	--	U
75-09-2	Methylene chloride	ND	0.500	--	ND	1.74	--	U
156-60-5	trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--	U
75-34-3	1,1-Dichloroethane	ND	0.020	--	ND	0.081	--	U
156-59-2	cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--	U
71-55-6	1,1,1-Trichloroethane	0.126	0.020	--	0.687	0.109	--	
71-43-2	Benzene	0.856	0.100	--	2.73	0.319	--	
56-23-5	Carbon tetrachloride	0.167	0.020	--	1.05	0.126	--	
79-01-6	Trichloroethene	0.112	0.020	--	0.602	0.107	--	
108-88-3	Toluene	5.49	0.100	--	20.7	0.377	--	
127-18-4	Tetrachloroethene	0.343	0.020	--	2.33	0.136	--	
100-41-4	Ethylbenzene	0.682	0.020	--	2.96	0.087	--	
179601-23-1	p/m-Xylene	3.01	0.040	--	13.1	0.174	--	
95-47-6	o-Xylene	0.484	0.020	--	2.10	0.087	--	
1330-20-7	Xylenes, Total	3.50	0.020	--	15.2	0.087	--	

Results Summary
Form 1
Volatile Organics in Air by SIM

Client	: AECOM	Lab Number	: L2271836
Project Name	: CARRIER - AOC-G	Project Number	: 60676583
Lab ID	: L2271836-03	Date Collected	: 12/19/22 00:00
Client ID	: FD-1	Date Received	: 12/19/22
Sample Location	:	Date Analyzed	: 01/03/23 06:37
Sample Matrix	: SOIL_VAPOR	Dilution Factor	: 1
Analytical Method	: 48,TO-15-SIM	Analyst	: TJS
Lab File ID	: R1730652_EV2	Instrument ID	: AIRLAB17
Sample Amount	: 250 ml	GC Column	: RTX-1

		ppbV			ug/m3			
CAS NO.	Parameter	Results	RL	MDL	Results	RL	MDL	Qualifier
75-01-4	Vinyl chloride	ND	0.020	--	ND	0.051	--	U
75-35-4	1,1-Dichloroethene	ND	0.020	--	ND	0.079	--	U
75-09-2	Methylene chloride	ND	0.500	--	ND	1.74	--	U
156-60-5	trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--	U
75-34-3	1,1-Dichloroethane	ND	0.020	--	ND	0.081	--	U
156-59-2	cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--	U
71-55-6	1,1,1-Trichloroethane	0.129	0.020	--	0.704	0.109	--	
71-43-2	Benzene	0.855	0.100	--	2.73	0.319	--	
56-23-5	Carbon tetrachloride	0.177	0.020	--	1.11	0.126	--	
79-01-6	Trichloroethene	0.131	0.020	--	0.704	0.107	--	
108-88-3	Toluene	5.77	0.100	--	21.7	0.377	--	
127-18-4	Tetrachloroethene	0.483	0.020	--	3.28	0.136	--	
100-41-4	Ethylbenzene	0.715	0.020	--	3.11	0.087	--	
179601-23-1	p/m-Xylene	4.08	0.040	--	17.7	0.174	--	
95-47-6	o-Xylene	0.830	0.020	--	3.61	0.087	--	
1330-20-7	Xylenes, Total	4.91	0.020	--	21.3	0.087	--	

ATTACHMENT B

SUPPORT DOCUMENTATION

12/20/22 L2271836

AIR SAMPLE CHAIN OF CUSTODY RECORD

AECOM
257 WEST GENESEE STREET, SUITE 400
BUFFALO, NY 14202
PHONE: 716-856-5636

AECOM CONTACT: Peter Hollatz

PROJECT NUMBER: 60676583

SITE NAME: Carrier AOC-G

SAMPLERS (PRINT/SIGNATURE): Tom Urban/Tom Urban // Rob Murphy/Rob Murphy

DELIVERY SERVICE: Drop off AIRBILL NO.: N/A

LAB: Alpha Analytical

SHIPPING CONTAINER: 1 of 1

PAGE: 1 of 1

LOCATION IDENTIFIER	SAMPLE DATE	SAMPLE TIME	SAMPLE ID	MATRIX CODE	CANISTER SIZE (LITERS)	CANISTER ID	FLOW CONTROLLER ID	INITIAL PRESSURE/ VACUUM (" Hg)	FINAL PRESSURE/ VACUUM (" Hg)	PRESSURE/VACUUM UPON LAB RECEIPT (" Hg)	REQUIRED ANALYSIS: TO-15 SIM			REMARKS	SAMPLE TYPE CODE
SVP-2	12/19/22	1035	AOCG-SVP-2	GS	2.7	3932	0494	-30	-5		X				N
SVP-1	12/19/22	1105	AOCG-SVP-1	GS	2.7	3931	02262	-30	-5		X				N
FD-1	12/19/22	-	FD-SVP-121922	GS	2.7	522	01458	-29	-5		X				FD

MATRIX CODES: AA - AMBIENT AIR; AI - INDOOR AIR; AQ - FIELD QC; AS - SUB-SLAB AIR; GS - SOIL GAS

SAMPLE TYPE CODES: N# - NORMAL ENVIRONMENTAL SAMPLE; FD# - FIELD DUPLICATE; MS# - MATRIX SPIKE; (# - SEQUENTIAL NUMBER (FROM 1 TO 9) TO ACCOMMODATE MULTIPLE SAMPLES IN A SINGLE DAY)

RELINQUISHED BY (SIGNATURE)	DATE	TIME	RECEIVED BY (SIGNATURE)	DATE	TIME
Robert Murphy	12/19/22	1745	AAL SS	12/19/22	17:45
AAL SS	12/19/22	16:40	AAL	12/19/22	18:40

RELINQUISHED BY (SIGNATURE): Tom Urban 12/19/22 18:45

RECEIVED FOR LAB BY (SIGNATURE): 12/20/22 0020

SPECIAL INSTRUCTIONS: modified list - contact Peter Hollatz for questions.

Distribution: Original accompanies shipment, copy to project file

URSF-075K/1 OF 1/COC/CR/GCM

Tanya Dilenschneider 12/20/22 0501

R. Murphy 12/20/22 0630

R. Murphy 12/20/22 0700

AAL 12/20/22 06:30

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Case Narrative (continued)

Report Revision

January 5, 2023 the report has been amended to report the site specific compound list.

Volatile Organics in Air

Canisters were released from the laboratory on December 14, 2022. The canister certification results are provided as an addendum.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J Anderson Report Date: 01/05/23

Title: Technical Director/Representative