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Former Ozone Industries, Inc. Site, Ozone Park, Queens New York

NYSDEC Site Number: 2-41-033

December 2021 Progress Report: June 2021 through November 2021 (6-months)



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1. Introduction

On behalf of Endzone Inc. (Endzone), AECOM has prepared this semi-annual (6-month) Progress Report, which summarizes the results of the Operation and Maintenance (O&M) of the Soil Vapor Extraction (SVE) and Sub-slab Depressurization (SSD) remedial systems at the Former Ozone Industries, Inc. site (New York State Department of Environmental Conservation [NYSDEC] Site Number: 2-41-033). This report covers the 6-month period of June (system re-start) through November 2021. A report for the first six months of 2021 was not issued because the systems were off and there were on-going communications with NYSDEC as noted next.

Extensive re-bound site testing and monitoring was completed after the remedial systems were shut off in July 2019 per NYSDEC and in conjunction with an approved work plan by AECOM (dated August 21, 2019 and approved by NYSDEC on October 30, 2019). The results of the testing were provided in the January 2021 semi-annual Progress Report by AECOM. In the January 2021 report, AECOM recommended the completion of a Final Engineering Report that includes the shutdown and decommissioning of the SVE system and implementation of Engineering Controls. Subsequently, there were attempts to meet with NYSDEC and NYSDOH to discuss the results and site closure, and AECOM provided additional requested figures to NYSDEC for their evaluation. Eventually, AECOM had a call with NYSDEC in May 2021, and NYSDEC requested that the remedial systems (SVE and SSDs) be re-started and operated as they create a “P” site and launch an investigation into other off-site source areas and responsible parties (current time frame is unknown). Thus, submittal of this 6-month progress report summarizing system operations (which began in June 2021) consistent with the format of previous reports provided.

The site is located in a mixed commercial/industrial/residential area of the Ozone Park section of Queens County of New York City, New York and is identified as Block 9106 and Lot 70 on the New York City Tax Map. The site is bounded by 101st Avenue to the north, 103rd Avenue to the south, 99th Street to the west, and 100th Street to the east (see **Figures 1 and 2**). The site is located across the street from 101-32 101st Street, the location of the former Ozone Industries facility.

The monthly O&M visits and June and October 2021 sampling events reported herein were conducted by Clean Globe Environmental (Clean Globe) under sub-contract to AECOM. The results are discussed below.

All the data included in this report will be submitted electronically to the NYSDEC website.

2. SVE/SSD Operation and Maintenance

This section presents the evaluation of the system influent and effluent analytical air sampling data (two rounds during this 6-month period) and the field data collected during each of the O&M site visits during this period (June – November 2021). The O&M events were conducted on a monthly basis when the system was operational. **Figure 1** depicts the Bays and systems.

The monthly O&M site visits took place on June 16, July 27, August 25, September 20, October 26, and November 9, 2021. Additionally, AECOM conducted sporadic site visits throughout the 6-month reporting period to ensure that the eight Bays were secured and in good order.

O&M Events

The following information was primarily gathered during the O&M events:

- SSD vacuum blower, vacuum, flow, and temperature readings;
- SSD monitoring well head vacuums and PID concentrations;
- Effluent concentrations exiting the SSD carbon vessels;
- SVE vacuum blower, vacuum, flow, and temperature readings;
- SVE monitoring well head vacuums and PID concentrations;
- Effluent concentrations exiting the SVE carbon vessels;
- Total effluent concentrations being discharged from the exhaust stack; and
- Air samples collected for laboratory analysis from the influent of the SVE and SSD, and systems and total combined effluent following off gas treatment.

SSD

When the SSD system was in operation, it maintained an average flowrate of 263 standard cubic feet per minute (SCFM) (with a range between 189 SCFM and 301 SCFM) applied to the 8 SSD legs. The vacuum applied to each leg was individually adjusted to provide a minimum flowrate of at least 30 SCFM to each bay to maintain adequate protection from mitigation of potential subsurface vapor migration as outlined in the July 2016 Interim Site Management Plan (ISMP) for the site, as approved by NYSDEC on September 8, 2016. During each O&M visit when the system was running, the flowrate at each leg was measured with a hot wire anemometer to confirm that the minimum flowrate was being upheld. Flowrates in each of the individual legs ranged from a minimum of 45.8 SCFM to a maximum of 69.8 SCFM, all above the designed 30 SCFM.

Influent volatile organic compounds (VOCs) were measured with a calibrated photoionization detector (PID) from each of the SSD legs during each event. During this period, VOC readings from each individual SSD leg were below the detection limit for all regularly scheduled O&M events. Following the system restart on June 16 and the follow-up O&M event one week later on June 21, VOCs were detected at concentrations less than 0.02 parts per million (ppm) in some of the legs due to a PID which was able to detect VOCs in parts per billion (ppb) rather than ppm. Total VOC levels prior to carbon treatment were below detection limits during all O&M events, indicating the lack of VOCs present in the shallow soils. A summary of the readings taken each O&M visit are presented in **Appendix A**.

SVE

The SVE system maintained an average total flowrate of 402 SCFM during this period. Due to non-detect PID readings during monitoring and sub slab vapor sampling, eleven of the SVE legs (SVE-1, SVE-2, SVE-4, SVE-5, SVE-6, SVE-7, SVE-8, SVE-24, SVE-25, SVE-26, and SVE-27) have been shut off since 2019 to increase vacuum influence on the remaining legs. Like the SSD system, the vacuum applied to the SVE wells was manually adjusted so that each leg maintained a minimum flowrate of approximately 25 SCFM, as stated in the ISMP. Although the ISMP estimates that a vacuum of 10 inches of water column (IWC) be applied at each leg of the manifold, the actual vacuum measured averaged 4.2 IWC which is consistent with past operational conditions.

Influent VOCs from each of the SVE legs were measured with a calibrated PID during each event. VOC readings from individual SVE legs during this period ranged from non-detect to a maximum of 0.3 ppm. The highest PID readings recorded during the O&M events were reported from SVE-17.

The VOC concentrations collected following the end of the rebound period were less than what has previously been observed indicating that the majority of remediation has already occurred and results for the SVE appear to be approaching asymptotic levels. A summary of the readings taken each O&M visit are presented in **Appendix A**.

Combined Systems Operation

In each of the eight Bays, two shallow monitoring points, each at a depth of 1.5 feet below ground surface (bgs) were monitored to observe SSD system influence. Two deep monitoring points, each at a depth of approximately 15 feet bgs, were monitored in each Bay to observe SVE influence. In addition to these monitoring points, two wells each at a depth of 30 feet bgs were also monitored in Bay 12 because that Bay has bi-level SVE wells which extend to approximately 30 feet bgs. During each O&M event, the vacuum influence and the VOC concentrations were measured at each monitoring point with a manometer. During the period when the system was "Off", the mechanisms used to operate the overhead doors of several of the bays have become increasingly unusable. During each O&M visit, access to each bay was attempted but not all doors are able to be opened during every visit. Historic monitoring point data has shown that a vacuum is present in all locations within the bays. A summary of the monitoring point results is included in **Appendix A**. The points which were unable to be accessed due to overhead door issues during each O&M event have a 'NA' noted as their measurement.

Consistent vacuum influence was observed across all accessible shallow points at an average of 0.20 IWC and has remained above 0.05 IWC for the duration of the monitoring period this quarter, indicating that there is a constant negative pressure under the sub slab throughout the area of concern (8 Bays at site). Consistent vacuum influence was observed across all deep points at an average of approximately 0.36 IWC and has remained above 0.09 IWC in subsequent monitoring events indicating the installed SVE system achieves the predicted influence throughout the site or Bays. Because adequate measurable vacuum influence has been defined as 0.05 IWC for this project, it is confirmed that the SSD system is operating as designed and providing appropriate mitigation when operational. Additionally, the measured vacuums in the deeper monitoring points are significantly higher than necessary to facilitate removal of residual VOCs from soils and are also considered to be operating as designed.

Laboratory Analyses of Air Samples – Quarterly System Samples

Two rounds of quarterly air samples from the system were collected from the SVE influent, SSD influent (both before carbon treatment), and the total combined effluent (following carbon treatment), one on June 21, 2021 and September 20, 2021. Per compliance requirements established in a memorandum issued by the NYSDEC on February 28, 2003

(Substantive Compliance with Air Requirements), the emissions from the system is not to exceed 0.5 lbs/hr. The results of the completed air sampling events are shown in **Table 1**.

The laboratory analytical report from the air sampling is provided in **Appendix B**. The system samples were analyzed for the VOCs listed in the TO-15 method.

Analytically, effluent concentrations have remained below the effluent limit established by the NYSDEC regulations. Mass removal data at the influent of both SVE and SSD system as well as the combined effluent mass discharge rate following carbon treatment is presented in **Table 2**.

Mass removal achieved from the SVE system is approximately 0.0037 lbs/hr, whereas; the mass removal from the SSD system is approximately 0.0002 lbs/hr. When the mass removal rate for the SVE and SSD system are totaled for each sampling event, it is below the aforementioned discharge limit requiring pollution control. The mass of contaminants discharged to the atmosphere following carbon treatment was an average of 0.0006 lbs/hr.

Two graphs are included in **Appendix C** which depict VOC concentrations vs time for the influent (prior to treatment) SSD and SVE systems. Following the system restart in June 2021 after being shut down since August 2019, VOC concentrations did not rebound to the levels previously measured during past sampling events. The VOCs in the September 2021 sampling event continued to be low indicating the SVE portion of the system has been effective in its remedial actions. The SSD chart continues to show that VOC concentrations are typically non-detect during routine O&M events. A slight increase in concentrations of VOCs was observed directly following restart, but influent concentrations have remained below detection limits since the August 2021 O&M event. Analytical results are still well below the initial concentration observed at the startup of the systems.

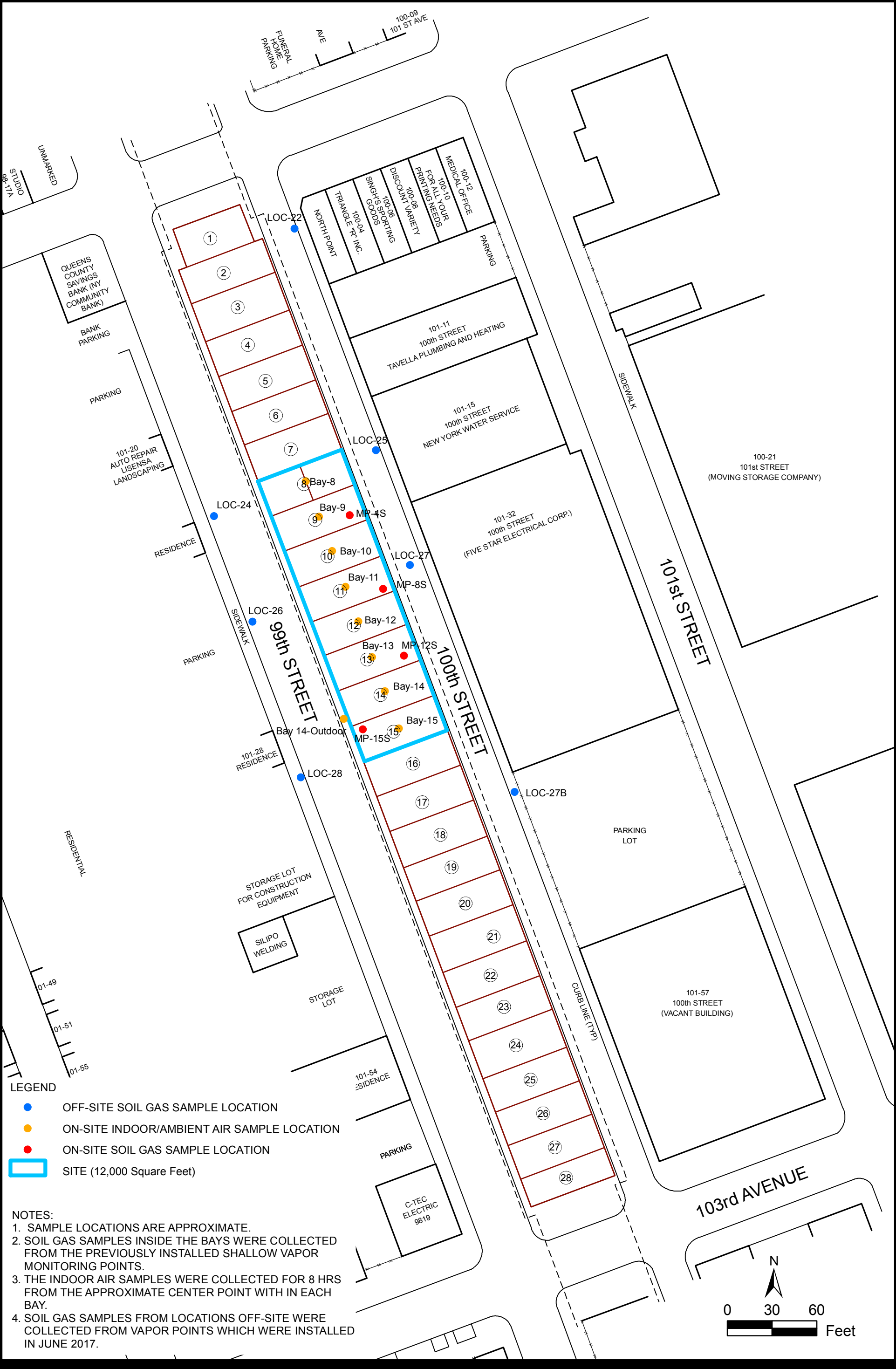
3. Summary and Future Actions

Upon restart, the SSD and SVE systems have operated as intended. The SVE and SSD influent levels from this reporting period are similar or “flat” after decreasing from higher levels in 2016.

Due to the consistency of the performance of the system, it is suggested that the O&M events decrease to a bi-monthly basis. Air samples will continue to be taken at the SVE influent, SSD influent, and total effluent following carbon treatment on a quarterly basis (December 2021, and March, June and September 2022), while the system is operational. The results of the monitoring will be provided in the semi-annual (6-month) reports to NYSDEC.

No additional assessment work is currently planned.

FIGURES



SITE and LOCATION OF SAMPLING POINTS FORMER OZONE INDUSTRIES, INC. OZONE PARK, NEW YORK, NY
Project No.: 60527976.1 Date: 2017-09-18

TABLES

Table 1- Summary O&M Air Sample Analytical Data
Former Ozone Industries, Inc. Site, Ozone Park,
Queens, NY

	LOCATION	SVE Influent		SSD Influent		Total Effluent	
		SVE INFLUENT 062121 6/21/2021	SVE INF 9/20/2021	SSD INFLUENT 062121 6/21/2021	SSD INF 9/20/2021	TOTAL EFFLUENT 062121 6/21/2021	EFF TOTAL 9/20/2021
		After system restart 5 days later	2021 Q3 Sampling Event	After system restart 5 days later	2021 Q3 Sampling Event	After system restart 5 days later	2021 Q3 Sampling Event
	LAB SAMPLE ID	L2134418-01	L2150935-03	L2134418-02	L2150935-02	L1906089-05	L2150935-01
ANALYTE	PID READING(ppm)	1.4	ND	0.7	ND	ND	ND
VOCs TO-15	Units						
Acetone*	ug/m ³	<11.9	NS	2.52	NS	<2.38	NS
Ethanol	ug/m ³	<47.1	NS	<9.42	NS	9.52	NS
Isopropyl Alcohol	ug/m ³	<6.15	NS	<1.23	NS	<1.23	NS
Tertiary butyl Alcohol	ug/m ³	7.58	NS	<1.52	NS	<1.52	NS
2-Butanone (MEK)	ug/m ³	NS	NS	NS	NS	<1.47	NS
Methylene Chloride	ug/m ³	<8.69	NS	<1.74	NS	<1.74	NS
Carbon Disulfide*	ug/m ³	<3.11	NS	<0.623	NS	<0.623	NS
trans-1,2-Dichloroethene	ug/m ³	<3.96	<5.67	<0.793	<0.793	3.45	2.62
Dichlorodifluoromethane	ug/m ³	<4.94	NS	2.24	NS	2.36	NS
Chloromethane	ug/m ³	<2.07	NS	0.85	NS	0.71	NS
Trichlorofluoromethane	ug/m ³	<5.62	NS	<1.12	NS	1.84	NS
cis-1,2-Dichloroethene	ug/m ³	167.00	161.00	4.80	3.89	99.5	254
n-Hexane	ug/m ³	<3.52	NS	<0.705	NS	1.71	NS
1,1,1-Trichloroethane	ug/m ³	<5.46	NS	<1.09	NS	<1.09	NS
Chloroform	ug/m ³	6.64	NS	<0.977	NS	1.88	NS
Tetrahydrofuran	ug/m ³	<7.37	NS	<1.47	NS	<1.47	NS
Benzene	ug/m ³	<3.19	NS	0.99	NS	0.64	NS
Trichloroethene	ug/m ³	1,840.00	2,290.00	82.20	101.00	11.00	<1.07
2,2,4-Trimethylpentane	ug/m ³	<4.67	NS	<0.934	NS	<0.934	NS
Toluene	ug/m ³	<3.77	NS	1.84	NS	<0.754	NS
Tetrachloroethene	ug/m ³	176.00	342.00	5.34	24.30	1.78	<1.36
1,4-Dichlorobenzene	ug/m ³	<6.01	NS	<1.2	NS	<1.2	NS
1,2,4-Trimethylbenzene	ug/m ³	<4.92	NS	<0.983	NS	<0.983	NS
Total VOCs	ug/m³	6,875	2,970	110	87	142	258

Notes:

- 1) -- = Non-existent data dependent on laboratory specific analyte list
- 2) * = As reported by laboratory this analyte is common laboratory background contaminant.
- 3) ug/m³ = micrograms per cubic meter
- 4) ppm = parts-per-million
- 5) NS = Not Sampled
- 6) **Bold** = Analyte detected in sample
- 7) Effluent samples were taken from the total effluent of both systems

Table 2 - Summary of Mass Removal
Former Ozone Industries, Inc. Site, Ozone Park
Queens New York

	LOCATION	SVE Influent		SSD Influent		Total Effluent	
	SAMPLE NAME	SVE INFLUENT 062121	SVE INF	SSD INFLUENT 062121	SSD INF	TOTAL EFFLUENT_062121	EFF TOTAL
	SAMPLING DATE	6/21/2021	9/20/2021	6/21/2021	9/20/2021	6/21/2021	9/20/2021
	LAB SAMPLE ID	L2134418-01	L2150935-03	L2134418-02	L2150935-02	L1906089-05	L2150935-01
ANALYTE	Flow Rate (CFM)	370	410	324	384	694	794
VOCs TO-15	Units						
Acetone	lbs/hr	0.000008	0.000000	0.000000	0.000000	0.000003	0.000000
Ethanol	lbs/hr	0.000033	0.000000	0.000006	0.000000	0.000025	0.000000
Isopropyl Alcohol	lbs/hr	0.000004	0.000000	0.000001	0.000000	0.000002	0.000000
Tertiary butyl Alcohol	lbs/hr	0.000011	0.000000	0.000001	0.000000	0.000002	0.000000
2-Butanone (MEK)	lbs/hr	0.000000	0.000000	0.000000	0.000000	0.000002	0.000000
Methylene Chloride	lbs/hr	0.000006	0.000000	0.000001	0.000000	0.000002	0.000000
Carbon Disulfide	lbs/hr	0.000002	0.000000	0.000000	0.000000	0.000001	0.000000
trans-1,2-Dichloroethene	lbs/hr	0.000003	0.000004	0.000000	0.000001	0.000009	0.000008
Dichlorodifluoromethane	lbs/hr	0.000003	0.000000	0.000003	0.000000	0.000006	0.000000
Chloromethane	lbs/hr	0.000001	0.000000	0.000001	0.000000	0.000002	0.000000
Trichlorofluoromethane	lbs/hr	0.000004	0.000000	0.000001	0.000000	0.000005	0.000000
cis-1,2-Dichloroethene	lbs/hr	0.000231	0.000247	0.000006	0.000006	0.000259	0.000755
n-Hexane	lbs/hr	0.000002	0.000000	0.000000	0.000000	0.000004	0.000000
1,1,1-Trichloroethane	lbs/hr	0.000004	0.000000	0.000001	0.000000	0.000001	0.000000
Chloroform	lbs/hr	0.000009	0.000000	0.000001	0.000000	0.000005	0.000000
Tetrahydrofuran	lbs/hr	0.000005	0.000000	0.000001	0.000000	0.000002	0.000000
Benzene	lbs/hr	0.000002	0.000000	0.000001	0.000000	0.000002	0.000000
Trichloroethene	lbs/hr	0.002550	0.003517	0.000100	0.000145	0.000029	0.000002
2,2,4-Trimethylpentane	lbs/hr	0.000003	0.000000	0.000001	0.000000	0.000001	0.000000
Toluene	lbs/hr	0.000003	0.000000	0.000002	0.000000	0.000001	0.000000
Tetrachloroethene	lbs/hr	0.000244	0.000525	0.000006	0.000035	0.000005	0.000002
1,4-Dichlorobenzene	lbs/hr	0.000004	0.000000	0.000001	0.000000	0.000002	0.000000
1,2,4-Trimethylbenzene	lbs/hr	0.000003	0.000000	0.000001	0.000000	0.000001	0.000000
Total Mass Removal Rate	lbs/hr	0.00314	0.00429	0.00013	0.00019	0.00037	0.00077

Notes:

- 1) Compliance with Air Requirements = Per DEC memorandum issued 2/28/2003, remediation systems that have the potential to discharged greater than 0.5 lb/hr shall require pollution controls.
- 2) Mass Removal = VOC conc. ug/m3*flow rate (CFM)*(60 mins/hr)/(453,590,000 ug/lb)/(35.32 ft3/m3)
- 3) ug/m3 = micrograms per cubic meter
- 4) ppm = parts-per-million
- 5) **Bold** = Analyte detected in sample
- 6) Effluent samples were taken from the total effluent of both systems

Appendix A

System Summary Tables

Monitoring Point Summary
Former Ozone Industries, Inc.
Ozone Park, Queens NY

DATE OF O&M VISIT	06/16/21	07/27/21	08/25/21	09/20/21	10/26/21	11/09/21
TYPE OF SYSTEM CHECK	Full	Full	Full	Full	Full	Full
FIELD TECHNICIAN	MP	CG	CG	CG	CG	CG
Monitoring Well Network						
Pressure ("H ₂ O)						
MP-1S	-0.13	-0.10	-0.10	0.00	0.00	0.00
MP-1D	-0.31	-0.20	-0.20	-0.05	0.00	0.00
MP-2S	-0.24	0.00	0.00	0.00	0.00	0.00
MP-2D	-0.53	0.00	0.00	-0.05	-0.60	-0.60
MP-3S	NA	NA	0.00	-0.50	-0.50	-0.50
MP-3D	NA	NA	0.00	-0.90	-0.90	-0.80
MP-4S	NA	NA	0.00	0.00	0.00	0.00
MP-4D	NA	NA	-0.10	0.00	0.00	0.00
MP-5S	-0.27	0.00	0.00	0.00	0.00	0.00
MP-5D	-0.24	0.00	0.00	0.00	0.00	0.00
MP-6S	-0.28	0.00	0.00	0.00	0.00	0.00
MP-6D	-0.54	0.00	0.00	-0.80	-0.80	-0.70
MP-7S	-0.25	0.00	0.00	NA	NA	NA
MP-7D	-0.11	0.00	-0.10	NA	NA	NA
MP-8S	-0.43	0.00	0.00	NA	NA	NA
MP-8D	-0.76	-0.10	-0.10	NA	NA	NA
MP-9S	-0.43	0.00	0.00	-0.60	-0.60	-0.50
MP-9M	-0.48	0.00	0.00	-1.30	-1.30	-1.30
MP-9D	-0.79	-0.10	-0.10	-1.10	-1.00	-1.00
MP-10S	-0.44	0.00	0.00	-0.90	-0.80	-0.80
MP-10M	-0.74	0.00	0.00	-0.60	-0.60	-0.60
MP-10D	-0.83	-0.10	-0.10	-1.10	-1.10	-1.00
MP-11S	-0.41	NA	NA	NA	NA	NA
MP-11D	-0.84	NA	NA	NA	NA	NA
MP-12S	-0.24	NA	NA	NA	NA	NA
MP-12D	-0.46	NA	NA	NA	NA	NA
MP-13S	-0.32	-0.10	-0.10	NA	NA	NA
MP-13D	-0.40	-0.20	-0.20	NA	NA	NA
MP-14S	-0.32	0.00	0.00	NA	NA	NA
MP-14D	-0.42	-0.10	-0.10	NA	NA	NA
MP-15S	-0.22	0.00	0.00	NA	NA	NA
MP-15D	-0.24	-0.10	-0.10	NA	NA	NA
MP-16S	-0.20	0.00	0.00	NA	NA	NA
MP-16D	-0.36	-0.10	-0.10	NA	NA	NA

Notes

NA - Not Accessible

"H₂O - Inches of water column

SVE System Summary

Former Ozone Industries, Inc.

Ozone Park, Queens NY

DATE OF O&M VISIT		06/16/21	07/27/21	08/25/21	09/20/21	10/26/21	11/09/21
SVE System Status (Up / Down / Off)							
	Status On Arrival	RESTART	UP	UP	UP	UP	UP
	Overall Up Time Since Start Up	100%	100%	100%	100%	100%	100%
System Status Between O&M Events							
	On Arrival						
	% Up Time	#N/A	100%	100%	100%	100%	100%
	% Down Time	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	% Off Time	100%	#N/A	#N/A	#N/A	#N/A	#N/A
Soil Vapor Extraction Blower (B-1)							
	Days Between O&M Events	0	41	29	26	36	14
	Days Of Operations	0	41	70	96	132	146
SVE Blower Operation							
	Hour Meter (hrs)	16,188.8	17,174.3	17,867.3	18,494.6	19,358.1	19,637.0
	Hours Between Events	0.8	985.5	693.0	627.3	863.5	278.9
	Time Between Events (hrs)	1.0	985.5	694.5	624.0	866.0	333.5
	Time Since Restart (hrs)	1.0	986.5	1,681.0	2,305.0	3,171.0	3,504.5
	VFD Frequency (Hz)	60.0	60.0	60.0	60.0	60.0	60.0
	VFD Load (Amps)	51.9	53.2	52.2	53.7	51.2	54.6
Vacuum ("H ₂ O)							
	SVE-8	NA	NA	NA	NA	NA	NA
	SVE-7	NA	NA	NA	NA	NA	NA
	SVE-11	-2.5	-2.2	-2.3	-3.1	-3.1	-3.0
	SVE-10	-2.5	-2.2	-2.3	-3.1	-3.1	-3.0
	SVE-15	-4.1	-3.6	-3.7	-5.1	-5.0	-5.1
	SVE-13	-3.4	-3.2	-3.5	-4.4	-4.3	-4.4
	SVE-14	-6.7	-6.4	-6.5	-9.1	-9.0	-9.2
	SVE-16	-2.7	-2.4	-2.4	-3.6	-3.6	-3.5
	SVE-18	-2.6	-2.3	-2.4	-3.3	-3.2	-3.2
	SVE-17	-2.7	-1.5	-1.5	-2.0	-2.0	-2.0
	SVE-12	-3.5	-3.2	-3.0	-4.5	-4.4	-9.3
	SVE-9	-6.8	-6.6	-6.7	-9.2	-9.3	-9.2
	SVE-21	-6.0	-5.4	-5.4	-8.1	-8.2	-8.1
	SVE-3	-2.7	-2.5	-2.5	-3.3	-3.5	-3.5
	SVE-1	7.8	-7.5	-7.6	-10.7	-10.9	-10.8
	SVE-4	NA	NA	NA	NA	NA	NA
	SVE-2	NA	NA	NA	NA	NA	NA
	SVE-5	NA	NA	NA	NA	NA	NA
	SVE-20	-5.8	-6.3	-6.4	-9.7	-9.6	-9.5
	SVE-19	-1.8	-1.5	-1.5	-2.2	-2.2	-2.2
	SVE-23	-1.2	-0.7	-1.0	-1.4	-1.4	-1.5
	SVE-22	-0.6	-0.5	-0.2	-0.6	-0.6	-0.7
	SVE-25	NA	NA	NA	NA	NA	NA
	SVE-26	NA	NA	NA	NA	NA	NA
	SVE-27	NA	NA	NA	NA	NA	NA
	SVE-24	NA	NA	NA	NA	NA	NA
	SVE-6	NA	NA	NA	NA	NA	NA
Soil Vapor Velocity (ft/min)							
	SVE-8	NA	NA	NA	NA	NA	NA
	SVE-7	NA	NA	NA	NA	NA	NA
	SVE-11	1911	1301	NM	1660	1638	1599
	SVE-10	2319	1787	NM	2100	2010	1999
	SVE-15	1928	1685	NM	1750	1610	1585
	SVE-13	2516	1298	NM	2700	2800	2700
	SVE-14	1308	959	NM	1525	1510	1500
	SVE-16	1561	901	NM	1260	1276	1293
	SVE-18	761.2	667	NM	500	500	498
	SVE-17	1851	1599	NM	2050	2043	2031
	SVE-12	2182	2938	NM	3790	3690	3535
	SVE-9	5812	2981	NM	3760	3150	3019
	SVE-21	1630	1402	NM	1480	1882	1478
	SVE-3	5886	1397	NM	5045	5070	4398
	SVE-1	NA	NA	NA	NA	NA	NA
	SVE-4	NA	NA	NA	NA	NA	NA
	SVE-2	NA	NA	NA	NA	NA	NA
	SVE-5	NA	NA	NA	NA	NA	NA
	SVE-20	3541	2450	NM	2898	2919	2839
	SVE-19	912	901	NM	1020	1037	1010
	SVE-23	3849	610	NM	910	700	658
	SVE-22	296.1	650	NM	285	289	267
	SVE-25	NA	NA	NA	NA	NA	NA
	SVE-26	NA	NA	NA	NA	NA	NA
	SVE-27	NA	NA	NA	NA	NA	NA
	SVE-24	NA	NA	NA	NA	NA	NA
	SVE-6	NA	NA	NA	NA	NA	NA

SVE System Summary

Former Ozone Industries, Inc.

Ozone Park, Queens NY

DATE OF O&M VISIT		06/16/21	07/27/21	08/25/21	09/20/21	10/26/21	11/09/21
SVE System Status (Up / Down / Off)							
	Status On Arrival	RESTART	UP	UP	UP	UP	UP
	Overall Up Time Since Start Up	100%	100%	100%	100%	100%	100%
Soil Vapor Flow Rate (ft ³ /min)							
	SVE-8	NR	NR	NR	NR	NR	NR
	SVE-7	NR	NR	NR	NR	NR	NR
	SVE-11	NR	NR	NR	NR	NR	NR
	SVE-10	NR	NR	NR	NR	NR	NR
	SVE-15	NR	NR	NR	NR	NR	NR
	SVE-13	NR	NR	NR	NR	NR	NR
	SVE-14	NR	NR	NR	NR	NR	NR
	SVE-16	NR	NR	NR	NR	NR	NR
	SVE-18	NR	NR	NR	NR	NR	NR
	SVE-17	NR	NR	NR	NR	NR	NR
	SVE-12	NR	NR	NR	NR	NR	NR
	SVE-9	NR	NR	NR	NR	NR	NR
	SVE-21	NR	NR	NR	NR	NR	NR
	SVE-3	NR	NR	NR	NR	NR	NR
	SVE-1	NR	NR	NR	NR	NR	NR
	SVE-4	NR	NR	NR	NR	NR	NR
	SVE-2	NR	NR	NR	NR	NR	NR
	SVE-5	NR	NR	NR	NR	NR	NR
	SVE-20	NR	NR	NR	NR	NR	NR
	SVE-19	NR	NR	NR	NR	NR	NR
	SVE-23	NR	NR	NR	NR	NR	NR
	SVE-22	NR	NR	NR	NR	NR	NR
	SVE-25	NR	NR	NR	NR	NR	NR
	SVE-26	NR	NR	NR	NR	NR	NR
	SVE-27	NR	NR	NR	NR	NR	NR
	SVE-24	NR	NR	NR	NR	NR	NR
	SVE-6	NR	NR	NR	NR	NR	NR
VOCs (ppm _v)							
	SVE-8	NA	NA	NA	NA	NA	NA
	SVE-7	NA	NA	NA	NA	NA	NA
	SVE-11	0.1	0.1	0.1	0.0	0.0	0.0
	SVE-10	0.1	0.1	0.0	0.0	0.0	0.0
	SVE-15	0.1	0.1	0.1	0.0	0.0	0.0
	SVE-13	0.1	0.1	0.1	0.0	0.0	0.0
	SVE-14	0.1	0.1	0.1	0.0	0.0	0.0
	SVE-16	0.1	0.1	0.1	0.0	0.0	0.0
	SVE-18	0.4	0.2	0.2	0.0	0.0	0.0
	SVE-17	0.3	0.2	0.2	0.0	0.0	0.0
	SVE-12	0.1	0.1	0.1	0.0	0.0	0.0
	SVE-9	0.1	0.1	0.1	0.0	0.0	0.0
	SVE-21	0.1	0.1	0.1	0.0	0.0	0.0
	SVE-3	0.1	0.1	0.1	0.0	0.0	0.0
	SVE-1	0.1	0.1	0.1	0.0	0.0	0.0
	SVE-4	NA	NA	NA	NA	NA	NA
	SVE-2	NA	NA	NA	NA	NA	NA
	SVE-5	NA	NA	NA	NA	NA	NA
	SVE-20	0.1	0.0	0.0	0.0	0.0	0.0
	SVE-19	0.1	0.0	0.0	0.0	0.0	0.0
	SVE-23	0.1	0.0	0.0	0.0	0.0	0.0
	SVE-22	0.1	0.0	0.0	0.0	0.0	0.0
	SVE-25	NA	NA	NA	NA	NA	NA
	SVE-26	NA	NA	NA	NA	NA	NA
	SVE-27	NA	NA	NA	NA	NA	NA
	SVE-24	NA	NA	NA	NA	NA	NA
	SVE-6	NA	NA	NA	NA	NA	NA
SVE Sample Ports							
		0.3	0.2	0.2	0.0	0.0	0.0
		0.1	0.0	0.0	0.0	0.0	0.0
VOCs (ppm _v)							
	SVE-SP01	NM	NM	NM	NM	NM	NM
	SVE-SP04	NM	NM	NM	NM	NM	NM

- Notes:
- 1) Soil Vapor Velocity taken form individual SVE Wells is from a 2.0-inch diameter pipe.

2) Soil Vapor Velocity taken with pitot tube assuming soil vapor temp of 65 deg F, from SVE-SP-03, which is from a 4.0-inch diameter pipe.

3) Soil Vapor Velocity taken form SVE-SP-04 is from a 3.0-inch diameter pipe.

4) Dilution is calculated by subtracting Blower Inlet and Discharge Soil Vapor Flow Rate.

5) Mass removal based following calculation: #/hr = Flow Rate x 111 (MW of Benzene) x VOC x 1.53x10⁻⁷) .

6) NR= Not Recorded, #N/A = Not recorded placeholder for calculation purposes.

SSD System Summary
Former Ozone Industries, Inc.
Ozone Park, Queens NY

DATE OF O&M VISIT		06/16/21	07/27/21	08/25/21	09/20/21	10/26/21	11/09/21
SSD System Status (Up / Down / Off)							
	Status On Arrival	OFF	Up	Up	Up	Up	Up
	Overall Up Time Since Restart	0%	100%	100%	100%	100%	100%
System Operation Status Between O&M Events							
	On Arrival						
	% Up Time	#N/A	100%	100%	100%	100%	100%
	% Down Time	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
	% Off Time	100%	#N/A	#N/A	#N/A	#N/A	#N/A
Sub Slab Depression Blower (B-2)							
	Days Between O&M Events	749	771	774	770	132	105
	Days Of Operations	1875	1916	1945	1971	2007	2021
SSD Blower Operation							
	Hour Meter (hrs)	21,666.4	22,252.0	22,945.0	23,572.0	24,434.6	24,713.1
	Hours Between Events	1,294.5	1,427.2	1,446.1	1,911.0	2,768.2	2,461.1
	Time Between Events (hrs)	17,971.8	18,504.2	18,575.2	18,476.4	3,169.9	2,518.3
	Time Since Start Up (hrs)	45,000.3	45,985.3	46,682.3	47,304.5	48,170.2	48,503.5
	VFD Frequency (Hz)	59.9	59.9	59.9	59.9	59.9	59.9
	VFD Load (Amps)	16.2	16.2	15.7	15.8	15.2	16.0
Pressure ("H ₂ O)							
	SSD-1	-3.0	-3.0	-2.0	-2.3	-2.3	-2.4
	SSD-2	-4.5	-4.5	-2.6	-3.0	-3.0	-3.0
	SSD-3	-4.3	-4.3	-3.4	-3.6	-3.5	-3.4
	SSD-4	-2.9	-2.9	-3.5	-3.9	-3.8	-3.7
	SSD-5	-4.7	-4.7	-3.5	-3.9	-3.9	-3.8
	SSD-6	-4.9	-4.9	-3.5	-3.9	-3.9	-3.9
	SSD-7	-4.8	-4.8	-3.6	-3.9	-3.9	-3.9
	SSD-8	-4.9	-4.9	-3.6	-3.8	-3.9	-3.9
Soil Vapor Velocity (ft/min)							
	SSD-1	3,648	3,648	NM	2,913	2,910	2,889
	SSD-2	1,799	1,799	NM	2,840	2,845	2,705
	SSD-3	2,690	2,690	NM	2,800	2,807	2,798
	SSD-4	3,588	3,588	NM	3,100	3,095	2,938
	SSD-5	2,387	2,387	NM	2,325	2,321	2,400
	SSD-6	2,420	2,420	NM	2,220	2,219	2,241
	SSD-7	2,431	2,431	NM	2,016	2,019	2,015
	SSD-8	2,306	2,306	NM	1,910	1,998	1,973
Soil Vapor Flow Rate (ft ³ /min)							
	SSD-1	79.59	79.59	NM	63.55	63.49	63.03
	SSD-2	39.25	39.25	NM	61.96	62.07	59.01
	SSD-3	58.69	58.69	NM	61.09	61.24	61.04
	SSD-4	78.28	78.28	NM	67.63	67.52	64.10
	SSD-5	52.08	52.08	NM	50.72	50.64	52.36
	SSD-6	52.80	52.80	NM	48.43	48.41	48.89
	SSD-7	53.04	53.04	NM	43.98	44.05	43.96
	SSD-8	50.31	50.31	NM	41.67	43.59	43.04
VOCs (ppm _v)							
	SSD-1	0.1	0.1	0.0	0.0	0.0	0.0
	SSD-2	0.1	0.1	0.0	0.0	0.0	0.0
	SSD-3	0.1	0.1	0.0	0.0	0.0	0.0
	SSD-4	0.1	0.1	0.0	0.0	0.0	0.0
	SSD-5	0.1	0.1	0.0	0.0	0.0	0.0
	SSD-6	0.1	0.1	0.0	0.0	0.0	0.0
	SSD-7	0.2	0.2	0.0	0.0	0.0	0.0
	SSD-8	0.1	0.1	0.0	0.0	0.0	0.0
SSD Sample Ports							
	VOCs (ppm _v)						
	SSD-SP01	0.1	0.1	0.1	1.0	2.0	2.0
	SSD-SP04	0.7	0.7	0.0	1.0	0.0	0.0

- Notes:
- 1) Soil Vapor Velocity taken form individual SSD Wells is from a 2.0-inch diameter pipe.
 - 2) Soil Vapor Velocity taken with pitot tube assuming soil vapor temp of 65 deg F, from SSD SP-03, which is from a 4.0" diameter pipe.
 - 3) Soil Vapor Velocity taken form SSD-SP-04 is from a 3.0-inch diameter pipe.
 - 4) Dilution is calculated by subtracting Blower Inlet and Discharge Soil Vapor Flow Rate.
 - 5) NR= Not Recorded, #N/A = Not recorded placeholder for calculation purposes.

Appendix B
System Air Sample Lab Results – June and September 2021



ANALYTICAL REPORT

Lab Number:	L2134418
Client:	AECOM 250 Apollo Dr. Chelmsford, MA 01824
ATTN:	Raimundo Matos
Phone:	(978) 905-2100
Project Name:	OZONE
Project Number:	Not Specified
Report Date:	06/30/21

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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: OZONE
Project Number: Not Specified

Lab Number: L2134418
Report Date: 06/30/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2134418-01	SVE INFLUENT 062121	SOIL_VAPOR	QUEENS, NY	06/21/21 16:47	06/24/21
L2134418-02	SSD INFLUENT 062121	SOIL_VAPOR	QUEENS, NY	06/21/21 17:03	06/24/21
L2134418-03	TOTAL EFFLUENT 062121	SOIL_VAPOR	QUEENS, NY	06/21/21 17:12	06/24/21

Project Name: OZONE
Project Number: Not Specified

Lab Number: L2134418
Report Date: 06/30/21

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: OZONE
Project Number: Not Specified

Lab Number: L2134418
Report Date: 06/30/21

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on June 18, 2021. 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: 06/30/21

AIR

Project Name: OZONE
Project Number: Not Specified

Lab Number: L2134418
Report Date: 06/30/21

SAMPLE RESULTS

Lab ID: L2134418-01 D
 Client ID: SVE INFLUENT 062121
 Sample Location: QUEENS, NY

Date Collected: 06/21/21 16:47
 Date Received: 06/24/21
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil_Vapor
 Analytical Method: 48,TO-15
 Analytical Date: 06/29/21 03:08
 Analyst: RY

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	ND	1.00	--	ND	4.94	--		5
Chloromethane	ND	1.00	--	ND	2.07	--		5
Freon-114	ND	1.00	--	ND	6.99	--		5
Vinyl chloride	ND	1.00	--	ND	2.56	--		5
1,3-Butadiene	ND	1.00	--	ND	2.21	--		5
Bromomethane	ND	1.00	--	ND	3.88	--		5
Chloroethane	ND	1.00	--	ND	2.64	--		5
Ethanol	ND	25.0	--	ND	47.1	--		5
Vinyl bromide	ND	1.00	--	ND	4.37	--		5
Acetone	ND	5.00	--	ND	11.9	--		5
Trichlorofluoromethane	ND	1.00	--	ND	5.62	--		5
Isopropanol	ND	2.50	--	ND	6.15	--		5
1,1-Dichloroethene	ND	1.00	--	ND	3.96	--		5
Tertiary butyl Alcohol	ND	2.50	--	ND	7.58	--		5
Methylene chloride	ND	2.50	--	ND	8.69	--		5
3-Chloropropene	ND	1.00	--	ND	3.13	--		5
Carbon disulfide	ND	1.00	--	ND	3.11	--		5
Freon-113	ND	1.00	--	ND	7.66	--		5
trans-1,2-Dichloroethene	ND	1.00	--	ND	3.96	--		5
1,1-Dichloroethane	ND	1.00	--	ND	4.05	--		5
Methyl tert butyl ether	ND	1.00	--	ND	3.61	--		5
2-Butanone	ND	2.50	--	ND	7.37	--		5
cis-1,2-Dichloroethene	42.2	1.00	--	167	3.96	--		5



Project Name: OZONE
Project Number: Not Specified

Lab Number: L2134418
Report Date: 06/30/21

SAMPLE RESULTS

Lab ID: L2134418-01 D
 Client ID: SVE INFLUENT 062121
 Sample Location: QUEENS, NY

Date Collected: 06/21/21 16:47
 Date Received: 06/24/21
 Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Ethyl Acetate	ND	2.50	--	ND	9.01	--		5
Chloroform	1.36	1.00	--	6.64	4.88	--		5
Tetrahydrofuran	ND	2.50	--	ND	7.37	--		5
1,2-Dichloroethane	ND	1.00	--	ND	4.05	--		5
n-Hexane	ND	1.00	--	ND	3.52	--		5
1,1,1-Trichloroethane	ND	1.00	--	ND	5.46	--		5
Benzene	ND	1.00	--	ND	3.19	--		5
Carbon tetrachloride	ND	1.00	--	ND	6.29	--		5
Cyclohexane	ND	1.00	--	ND	3.44	--		5
1,2-Dichloropropane	ND	1.00	--	ND	4.62	--		5
Bromodichloromethane	2.50	1.00	--	16.7	6.70	--		5
1,4-Dioxane	ND	1.00	--	ND	3.60	--		5
Trichloroethene	343	1.00	--	1840	5.37	--		5
2,2,4-Trimethylpentane	ND	1.00	--	ND	4.67	--		5
Heptane	ND	1.00	--	ND	4.10	--		5
cis-1,3-Dichloropropene	ND	1.00	--	ND	4.54	--		5
4-Methyl-2-pentanone	ND	2.50	--	ND	10.2	--		5
trans-1,3-Dichloropropene	ND	1.00	--	ND	4.54	--		5
1,1,2-Trichloroethane	ND	1.00	--	ND	5.46	--		5
Toluene	ND	1.00	--	ND	3.77	--		5
2-Hexanone	ND	1.00	--	ND	4.10	--		5
Dibromochloromethane	ND	1.00	--	ND	8.52	--		5
1,2-Dibromoethane	ND	1.00	--	ND	7.69	--		5
Tetrachloroethene	25.9	1.00	--	176	6.78	--		5
Chlorobenzene	ND	1.00	--	ND	4.61	--		5
Ethylbenzene	ND	1.00	--	ND	4.34	--		5



Project Name: OZONE
Project Number: Not Specified

Lab Number: L2134418
Report Date: 06/30/21

SAMPLE RESULTS

Lab ID: L2134418-01 D
 Client ID: SVE INFLUENT 062121
 Sample Location: QUEENS, NY

Date Collected: 06/21/21 16:47
 Date Received: 06/24/21
 Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
p/m-Xylene	ND	2.00	--	ND	8.69	--		5
Bromoform	ND	1.00	--	ND	10.3	--		5
Styrene	ND	1.00	--	ND	4.26	--		5
1,1,2,2-Tetrachloroethane	ND	1.00	--	ND	6.87	--		5
o-Xylene	ND	1.00	--	ND	4.34	--		5
4-Ethyltoluene	ND	1.00	--	ND	4.92	--		5
1,3,5-Trimethylbenzene	ND	1.00	--	ND	4.92	--		5
1,2,4-Trimethylbenzene	ND	1.00	--	ND	4.92	--		5
Benzyl chloride	ND	1.00	--	ND	5.18	--		5
1,3-Dichlorobenzene	ND	1.00	--	ND	6.01	--		5
1,4-Dichlorobenzene	ND	1.00	--	ND	6.01	--		5
1,2-Dichlorobenzene	ND	1.00	--	ND	6.01	--		5
1,2,4-Trichlorobenzene	ND	1.00	--	ND	7.42	--		5
Hexachlorobutadiene	ND	1.00	--	ND	10.7	--		5

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	111		60-140
Bromochloromethane	105		60-140
chlorobenzene-d5	104		60-140



Project Name: OZONE
Project Number: Not Specified

Lab Number: L2134418
Report Date: 06/30/21

SAMPLE RESULTS

Lab ID: L2134418-02
 Client ID: SSD INFLUENT 062121
 Sample Location: QUEENS, NY

Date Collected: 06/21/21 17:03
 Date Received: 06/24/21
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil_Vapor
 Analytical Method: 48,TO-15
 Analytical Date: 06/29/21 02:31
 Analyst: RY

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.453	0.200	--	2.24	0.989	--		1
Chloromethane	0.413	0.200	--	0.853	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		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
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	1.06	1.00	--	2.52	2.38	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
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
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	1.21	0.200	--	4.80	0.793	--		1



Project Name: OZONE
Project Number: Not Specified

Lab Number: L2134418
Report Date: 06/30/21

SAMPLE RESULTS

Lab ID: L2134418-02
 Client ID: SSD INFLUENT 062121
 Sample Location: QUEENS, NY

Date Collected: 06/21/21 17:03
 Date Received: 06/24/21
 Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
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
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	0.311	0.200	--	0.994	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	0.290	0.200	--	0.998	0.688	--		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	15.3	0.200	--	82.2	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		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	0.487	0.200	--	1.84	0.754	--		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
Tetrachloroethene	0.788	0.200	--	5.34	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1



Project Name: OZONE
Project Number: Not Specified

Lab Number: L2134418
Report Date: 06/30/21

SAMPLE RESULTS

Lab ID: L2134418-02
 Client ID: SSD INFLUENT 062121
 Sample Location: QUEENS, NY

Date Collected: 06/21/21 17:03
 Date Received: 06/24/21
 Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
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
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		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
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	112		60-140
Bromochloromethane	108		60-140
chlorobenzene-d5	105		60-140



Project Name: OZONE
Project Number: Not Specified

Lab Number: L2134418
Report Date: 06/30/21

SAMPLE RESULTS

Lab ID: L2134418-03
 Client ID: TOTAL EFFLUENT 062121
 Sample Location: QUEENS, NY

Date Collected: 06/21/21 17:12
 Date Received: 06/24/21
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil_Vapor
 Analytical Method: 48,TO-15
 Analytical Date: 06/29/21 01:51
 Analyst: RY

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.478	0.200	--	2.36	0.989	--		1
Chloromethane	0.343	0.200	--	0.708	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	5.05	5.00	--	9.52	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	0.327	0.200	--	1.84	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
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	0.871	0.200	--	3.45	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		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	25.1	0.200	--	99.5	0.793	--		1



Project Name: OZONE
Project Number: Not Specified

Lab Number: L2134418
Report Date: 06/30/21

SAMPLE RESULTS

Lab ID: L2134418-03
 Client ID: TOTAL EFFLUENT 062121
 Sample Location: QUEENS, NY

Date Collected: 06/21/21 17:12
 Date Received: 06/24/21
 Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	0.384	0.200	--	1.88	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	0.485	0.200	--	1.71	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	0.211	0.200	--	0.726	0.688	--		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	2.05	0.200	--	11.0	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		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
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
Tetrachloroethene	0.263	0.200	--	1.78	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1



Project Name: OZONE
Project Number: Not Specified

Lab Number: L2134418
Report Date: 06/30/21

SAMPLE RESULTS

Lab ID: L2134418-03
 Client ID: TOTAL EFFLUENT 062121
 Sample Location: QUEENS, NY

Date Collected: 06/21/21 17:12
 Date Received: 06/24/21
 Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
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
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		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
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	108		60-140
Bromochloromethane	109		60-140
chlorobenzene-d5	104		60-140



Project Name: OZONE
Project Number: Not Specified

Lab Number: L2134418
Report Date: 06/30/21

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 06/28/21 14:44

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab for sample(s): 01-03 Batch: WG1517870-4								
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
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		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
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
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
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



Project Name: OZONE
Project Number: Not Specified

Lab Number: L2134418
Report Date: 06/30/21

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 06/28/21 14:44

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab for sample(s): 01-03 Batch: WG1517870-4								
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		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
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
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
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
Tetrachloroethene	ND	0.200	--	ND	1.36	--		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



Project Name: OZONE
Project Number: Not Specified

Lab Number: L2134418
Report Date: 06/30/21

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 06/28/21 14:44

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab for sample(s): 01-03 Batch: WG1517870-4								
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
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		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
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: OZONE
Project Number: Not Specified

Lab Number: L2134418
Report Date: 06/30/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-03 Batch: WG1517870-3								
Dichlorodifluoromethane	90		-		70-130	-		
Chloromethane	90		-		70-130	-		
Freon-114	90		-		70-130	-		
Vinyl chloride	85		-		70-130	-		
1,3-Butadiene	91		-		70-130	-		
Bromomethane	86		-		70-130	-		
Chloroethane	88		-		70-130	-		
Ethanol	86		-		40-160	-		
Vinyl bromide	99		-		70-130	-		
Acetone	66		-		40-160	-		
Trichlorofluoromethane	76		-		70-130	-		
Isopropanol	72		-		40-160	-		
1,1-Dichloroethene	83		-		70-130	-		
Tertiary butyl Alcohol	76		-		70-130	-		
Methylene chloride	92		-		70-130	-		
3-Chloropropene	94		-		70-130	-		
Carbon disulfide	82		-		70-130	-		
Freon-113	87		-		70-130	-		
trans-1,2-Dichloroethene	87		-		70-130	-		
1,1-Dichloroethane	91		-		70-130	-		
Methyl tert butyl ether	92		-		70-130	-		
2-Butanone	99		-		70-130	-		
cis-1,2-Dichloroethene	93		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: OZONE
Project Number: Not Specified

Lab Number: L2134418
Report Date: 06/30/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-03 Batch: WG1517870-3								
Ethyl Acetate	100		-		70-130	-		
Chloroform	93		-		70-130	-		
Tetrahydrofuran	98		-		70-130	-		
1,2-Dichloroethane	85		-		70-130	-		
n-Hexane	92		-		70-130	-		
1,1,1-Trichloroethane	92		-		70-130	-		
Benzene	95		-		70-130	-		
Carbon tetrachloride	92		-		70-130	-		
Cyclohexane	94		-		70-130	-		
1,2-Dichloropropane	100		-		70-130	-		
Bromodichloromethane	98		-		70-130	-		
1,4-Dioxane	95		-		70-130	-		
Trichloroethene	97		-		70-130	-		
2,2,4-Trimethylpentane	97		-		70-130	-		
Heptane	103		-		70-130	-		
cis-1,3-Dichloropropene	105		-		70-130	-		
4-Methyl-2-pentanone	104		-		70-130	-		
trans-1,3-Dichloropropene	88		-		70-130	-		
1,1,2-Trichloroethane	102		-		70-130	-		
Toluene	103		-		70-130	-		
2-Hexanone	100		-		70-130	-		
Dibromochloromethane	105		-		70-130	-		
1,2-Dibromoethane	103		-		70-130	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: OZONE
Project Number: Not Specified

Lab Number: L2134418
Report Date: 06/30/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-03 Batch: WG1517870-3								
Tetrachloroethene	105		-		70-130	-		
Chlorobenzene	101		-		70-130	-		
Ethylbenzene	100		-		70-130	-		
p/m-Xylene	100		-		70-130	-		
Bromoform	112		-		70-130	-		
Styrene	100		-		70-130	-		
1,1,2,2-Tetrachloroethane	105		-		70-130	-		
o-Xylene	101		-		70-130	-		
4-Ethyltoluene	99		-		70-130	-		
1,3,5-Trimethylbenzene	99		-		70-130	-		
1,2,4-Trimethylbenzene	102		-		70-130	-		
Benzyl chloride	96		-		70-130	-		
1,3-Dichlorobenzene	101		-		70-130	-		
1,4-Dichlorobenzene	98		-		70-130	-		
1,2-Dichlorobenzene	100		-		70-130	-		
1,2,4-Trichlorobenzene	102		-		70-130	-		
Hexachlorobutadiene	107		-		70-130	-		

Project Name: OZONE

Project Number:

Serial_No:06302114:37
Lab Number: L2134418

Report Date: 06/30/21

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 Controller Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2134418-01	SVE INFLUENT 062121	2801	6.0L Can	06/18/21	355877	L2131138-03	Pass	-29.2	-7.0	-	-	-	-
L2134418-02	SSD INFLUENT 062121	1524	6.0L Can	06/18/21	355877	L2131138-05	Pass	-29.3	-7.2	-	-	-	-
L2134418-03	TOTAL EFFLUENT 062121	3122	6.0L Can	06/18/21	355877	L2131138-05	Pass	-29.2	-9.0	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2131138
Report Date: 06/30/21

Air Canister Certification Results

Lab ID: L2131138-03
Client ID: CAN 2715 SHELF 41
Sample Location:

Date Collected: 06/09/21 16:00
Date Received: 06/10/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 48,TO-15
Analytical Date: 06/10/21 23:15
Analyst: AW

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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: L2131138
Report Date: 06/30/21

Air Canister Certification Results

Lab ID: L2131138-03
Client ID: CAN 2715 SHELF 41
Sample Location:

Date Collected: 06/09/21 16:00
Date Received: 06/10/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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: L2131138
Report Date: 06/30/21

Air Canister Certification Results

Lab ID: L2131138-03
Client ID: CAN 2715 SHELF 41
Sample Location:

Date Collected: 06/09/21 16:00
Date Received: 06/10/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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: L2131138
Report Date: 06/30/21

Air Canister Certification Results

Lab ID: L2131138-03
Client ID: CAN 2715 SHELF 41
Sample Location:

Date Collected: 06/09/21 16:00
Date Received: 06/10/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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**Lab Number:** L2131138**Project Number:** CANISTER QC BAT**Report Date:** 06/30/21**Air Canister Certification Results**

Lab ID: L2131138-03

Date Collected: 06/09/21 16:00

Client ID: CAN 2715 SHELF 41

Date Received: 06/10/21

Sample Location:

Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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	93		60-140
Bromochloromethane	96		60-140
chlorobenzene-d5	92		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2131138
Report Date: 06/30/21

Air Canister Certification Results

Lab ID: L2131138-03
Client ID: CAN 2715 SHELF 41
Sample Location:

Date Collected: 06/09/21 16:00
Date Received: 06/10/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 48,TO-15-SIM
Analytical Date: 06/10/21 23:15
Analyst: AW

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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
Project Number: CANISTER QC BAT

Lab Number: L2131138
Report Date: 06/30/21

Air Canister Certification Results

Lab ID: L2131138-03
Client ID: CAN 2715 SHELF 41
Sample Location:

Date Collected: 06/09/21 16:00
Date Received: 06/10/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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	0.050	--	ND	0.188	--		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
1,1,1,2,2-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	0.200	--	ND	1.04	--		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:** L2131138**Project Number:** CANISTER QC BAT**Report Date:** 06/30/21**Air Canister Certification Results**

Lab ID: L2131138-03

Date Collected: 06/09/21 16:00

Client ID: CAN 2715 SHELF 41

Date Received: 06/10/21

Sample Location:

Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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	93		60-140
bromochloromethane	95		60-140
chlorobenzene-d5	92		60-140



Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2131138
Report Date: 06/30/21

Air Canister Certification Results

Lab ID: L2131138-05
Client ID: CAN 2486 SHELF 43
Sample Location:

Date Collected: 06/09/21 16:00
Date Received: 06/10/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 48,TO-15
Analytical Date: 06/11/21 00:33
Analyst: AW

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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: L2131138
Report Date: 06/30/21

Air Canister Certification Results

Lab ID: L2131138-05
Client ID: CAN 2486 SHELF 43
Sample Location:

Date Collected: 06/09/21 16:00
Date Received: 06/10/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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: L2131138
Report Date: 06/30/21

Air Canister Certification Results

Lab ID: L2131138-05
Client ID: CAN 2486 SHELF 43
Sample Location:

Date Collected: 06/09/21 16:00
Date Received: 06/10/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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: L2131138
Report Date: 06/30/21

Air Canister Certification Results

Lab ID: L2131138-05
Client ID: CAN 2486 SHELF 43
Sample Location:

Date Collected: 06/09/21 16:00
Date Received: 06/10/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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**Lab Number:** L2131138**Project Number:** CANISTER QC BAT**Report Date:** 06/30/21**Air Canister Certification Results**

Lab ID: L2131138-05

Date Collected: 06/09/21 16:00

Client ID: CAN 2486 SHELF 43

Date Received: 06/10/21

Sample Location:

Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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	91		60-140
Bromochloromethane	94		60-140
chlorobenzene-d5	90		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2131138
Report Date: 06/30/21

Air Canister Certification Results

Lab ID: L2131138-05
Client ID: CAN 2486 SHELF 43
Sample Location:

Date Collected: 06/09/21 16:00
Date Received: 06/10/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 48,TO-15-SIM
Analytical Date: 06/11/21 00:33
Analyst: AW

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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
Project Number: CANISTER QC BAT

Lab Number: L2131138
Report Date: 06/30/21

Air Canister Certification Results

Lab ID: L2131138-05
Client ID: CAN 2486 SHELF 43
Sample Location:

Date Collected: 06/09/21 16:00
Date Received: 06/10/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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	0.050	--	ND	0.188	--		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
1,1,1,2,2-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	0.200	--	ND	1.04	--		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
Project Number: CANISTER QC BAT

Lab Number: L2131138
Report Date: 06/30/21

Air Canister Certification Results

Lab ID: L2131138-05
Client ID: CAN 2486 SHELF 43
Sample Location:

Date Collected: 06/09/21 16:00
Date Received: 06/10/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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	90		60-140
bromochloromethane	93		60-140
chlorobenzene-d5	90		60-140



Project Name: OZONE**Lab Number:** L2134418**Project Number:** Not Specified**Report Date:** 06/30/21**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information**Cooler** **Custody Seal**

NA Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2134418-01A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-LL(30)
L2134418-02A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-LL(30)
L2134418-03A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-LL(30)

Project Name: OZONE
Project Number: Not Specified

Lab Number: L2134418
Report Date: 06/30/21

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: OZONE
Project Number: Not Specified

Lab Number: L2134418
Report Date: 06/30/21

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.

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'.

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.

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.)

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.
- 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

Report Format: Data Usability Report



Project Name: OZONE
Project Number: Not Specified

Lab Number: L2134418
Report Date: 06/30/21

Data Qualifiers

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.

Project Name: OZONE
Project Number: Not Specified

Lab Number: L2134418
Report Date: 06/30/21

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, SM4500CI-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.



AIR ANALYSIS

CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: AFCON
Address: 250 Abelle Drive
CHELSEA, MA
Phone: 978-865-7140
Fax: 978-865-7141
Email: afcon@afcon.com

These samples have been previously analyzed by Alpha
Other Project Specific Requirements/Comments:
Project-Specific Target Compound List: ☐

Project Information

Project Name: CELE
Project Location: QUEENS, NY
Project #: 101
Project Manager: JOE NAUS
ALPHA Quote #: 101

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due:

Time:

Date Rec'd in Lab:

6/25/21

Report Information - Data Deliverables

☐ FAX

☐ ADEx

Criteria Checker: _____

(Default based on Regulatory Criteria Indicated)

Other Formats: _____

☒ EMAIL (standard pdf report)

☐ Additional Deliverables: _____

Report to: (if different than Project Manager)

101@afcon.com

Serial No: 06302114:37

ALPHA Job #: L2134418

Billing Information

☒ Same as Client info PO #: _____

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

ANALYSIS

All Columns Below Must Be Filled Out

ALPHA Lab ID* (Lab Use Only)	Sample ID	End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	ID Can	10-Flow Controller	TO-15 TO-15 SM	TO-15 SM Subtract Non-Hydrocarbons (NHC)	Fixed Gases	Subtract & Memorize by TO-15	Sample Comments (i.e. PID)
34418.01	SID-CELEST-00121	✓	1700	1703	211	-464	SV	MP	6.1	201	150	X				
.02	SV-INDOOR OUT 10-2121	✓	1700	1703	211	-438						X				
.03	SID-CELEST-00121	✓	1710	1712	-211	-110	✓	✓	✓	3122	170	X				

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)

SV = Soil Vapor/Landfill Gas/SVE

Other = Please Specify

Container Type

Relinquished By:

Date/Time

Received By:

Date/Time

Joe Naus

6/24/21

Joe Naus

6-24-21 14:57

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.



ANALYTICAL REPORT

Lab Number:	L2150935
Client:	AECOM 250 Apollo Drive Chelmsford, MA 01824
ATTN:	Matthew Pearsall
Phone:	(860) 263-5763
Project Name:	OZONE
Project Number:	60527976
Report Date:	09/27/21

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: OZONE
Project Number: 60527976

Lab Number: L2150935
Report Date: 09/27/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2150935-01	EFF TOTAL	SOIL_VAPOR	QUEENS, NY	09/20/21 11:10	09/21/21
L2150935-02	SSD INF	SOIL_VAPOR	QUEENS, NY	09/20/21 12:20	09/21/21
L2150935-03	SVE INF	SOIL_VAPOR	QUEENS, NY	09/20/21 11:45	09/21/21

Project Name: OZONE
Project Number: 60527976

Lab Number: L2150935
Report Date: 09/27/21

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: OZONE
Project Number: 60527976

Lab Number: L2150935
Report Date: 09/27/21

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on September 16, 2021. The canister certification results are provided as an addendum.

L2150935-03D: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

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: 09/27/21

AIR

Project Name: OZONE
Project Number: 60527976

Lab Number: L2150935
Report Date: 09/27/21

SAMPLE RESULTS

Lab ID: L2150935-01
 Client ID: EFF TOTAL
 Sample Location: QUEENS, NY

Date Collected: 09/20/21 11:10
 Date Received: 09/21/21
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil_Vapor
 Analytical Method: 48,TO-15
 Analytical Date: 09/26/21 16:02
 Analyst: RY

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
trans-1,2-Dichloroethene	0.661	0.200	--	2.62	0.793	--		1
cis-1,2-Dichloroethene	64.1	0.200	--	254	0.793	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	96		60-140
Bromochloromethane	98		60-140
chlorobenzene-d5	93		60-140



Project Name: OZONE
Project Number: 60527976

Lab Number: L2150935
Report Date: 09/27/21

SAMPLE RESULTS

Lab ID: L2150935-02
 Client ID: SSD INF
 Sample Location: QUEENS, NY

Date Collected: 09/20/21 12:20
 Date Received: 09/21/21
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil_Vapor
 Analytical Method: 48,TO-15
 Analytical Date: 09/26/21 16:41
 Analyst: RY

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
cis-1,2-Dichloroethene	0.981	0.200	--	3.89	0.793	--		1
Trichloroethene	18.8	0.200	--	101	1.07	--		1
Tetrachloroethene	3.58	0.200	--	24.3	1.36	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	99		60-140
Bromochloromethane	95		60-140
chlorobenzene-d5	97		60-140



Project Name: OZONE
Project Number: 60527976

Lab Number: L2150935
Report Date: 09/27/21

SAMPLE RESULTS

Lab ID: L2150935-03 D
 Client ID: SVE INF
 Sample Location: QUEENS, NY

Date Collected: 09/20/21 11:45
 Date Received: 09/21/21
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil_Vapor
 Analytical Method: 48,TO-15
 Analytical Date: 09/26/21 17:19
 Analyst: RY

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Vinyl chloride	ND	1.43	--	ND	3.66	--		7.143
trans-1,2-Dichloroethene	ND	1.43	--	ND	5.67	--		7.143
cis-1,2-Dichloroethene	40.5	1.43	--	161	5.67	--		7.143
Trichloroethene	426	1.43	--	2290	7.69	--		7.143
Tetrachloroethene	50.4	1.43	--	342	9.70	--		7.143

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	98		60-140
Bromochloromethane	98		60-140
chlorobenzene-d5	96		60-140



Project Name: OZONE
Project Number: 60527976

Lab Number: L2150935
Report Date: 09/27/21

Method Blank Analysis Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 09/26/21 13:55

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab for sample(s): 01-03 Batch: WG1550985-4								
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: OZONE
Project Number: 60527976

Lab Number: L2150935
Report Date: 09/27/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-03 Batch: WG1550985-3								
Vinyl chloride	101		-		70-130	-		
trans-1,2-Dichloroethene	95		-		70-130	-		
cis-1,2-Dichloroethene	100		-		70-130	-		
Trichloroethene	102		-		70-130	-		
Tetrachloroethene	93		-		70-130	-		

Lab Duplicate Analysis

Batch Quality Control

Project Name: OZONE
Project Number: 60527976

Lab Number: L2150935
Report Date: 09/27/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1550985-5 QC Sample: L2150935-03 Client ID: SVE INF						
Vinyl chloride	ND	ND	ppbV	NC		25
trans-1,2-Dichloroethene	ND	ND	ppbV	NC		25
cis-1,2-Dichloroethene	40.5	40.5	ppbV	0		25
Trichloroethene	426	422	ppbV	1		25
Tetrachloroethene	50.4	49.3	ppbV	2		25

Project Name: OZONE
Project Number: 60527976

Serial_No:09272115:23
Lab Number: L2150935
Report Date: 09/27/21

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 Controller Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2150935-01	EFF TOTAL	2656	6.0L Can	09/16/21	364189	L2147494-03	Pass	-29.7	-1.1	-	-	-	-
L2150935-02	SSD INF	1583	6.0L Can	09/16/21	364189	L2148282-04	Pass	-29.4	4.5	-	-	-	-
L2150935-03	SVE INF	648	6.0L Can	09/16/21	364189	L2147494-03	Pass	-29.6	12.5	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2147494
Report Date: 09/27/21

Air Canister Certification Results

Lab ID: L2147494-03
Client ID: CAN 3138 SHELF 32
Sample Location:

Date Collected: 09/03/21 09:00
Date Received: 09/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 48,TO-15
Analytical Date: 09/06/21 23:38
Analyst: TS

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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: L2147494
Report Date: 09/27/21

Air Canister Certification Results

Lab ID: L2147494-03
Client ID: CAN 3138 SHELF 32
Sample Location:

Date Collected: 09/03/21 09:00
Date Received: 09/03/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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: L2147494
Report Date: 09/27/21

Air Canister Certification Results

Lab ID: L2147494-03
Client ID: CAN 3138 SHELF 32
Sample Location:

Date Collected: 09/03/21 09:00
Date Received: 09/03/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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: L2147494
Report Date: 09/27/21

Air Canister Certification Results

Lab ID: L2147494-03
Client ID: CAN 3138 SHELF 32
Sample Location:

Date Collected: 09/03/21 09:00
Date Received: 09/03/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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**Lab Number:** L2147494**Project Number:** CANISTER QC BAT**Report Date:** 09/27/21**Air Canister Certification Results**

Lab ID: L2147494-03

Date Collected: 09/03/21 09:00

Client ID: CAN 3138 SHELF 32

Date Received: 09/03/21

Sample Location:

Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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	89		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2147494
Report Date: 09/27/21

Air Canister Certification Results

Lab ID: L2147494-03
Client ID: CAN 3138 SHELF 32
Sample Location:

Date Collected: 09/03/21 09:00
Date Received: 09/03/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 48,TO-15-SIM
Analytical Date: 09/06/21 23:38
Analyst: TS

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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
Project Number: CANISTER QC BAT

Lab Number: L2147494
Report Date: 09/27/21

Air Canister Certification Results

Lab ID: L2147494-03
Client ID: CAN 3138 SHELF 32
Sample Location:

Date Collected: 09/03/21 09:00
Date Received: 09/03/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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	0.050	--	ND	0.188	--		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
1,1,1,2,2-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	0.200	--	ND	1.04	--		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
Project Number: CANISTER QC BAT

Lab Number: L2147494
Report Date: 09/27/21

Air Canister Certification Results

Lab ID: L2147494-03
Client ID: CAN 3138 SHELF 32
Sample Location:

Date Collected: 09/03/21 09:00
Date Received: 09/03/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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	93		60-140
bromochloromethane	95		60-140
chlorobenzene-d5	88		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2148282
Report Date: 09/27/21

Air Canister Certification Results

Lab ID: L2148282-04
Client ID: CAN 978 SHELF 31
Sample Location:

Date Collected: 09/08/21 16:00
Date Received: 09/09/21
Field Prep: Not Specified

Sample Depth:

Matrix: Air
Analytical Method: 48,TO-15
Analytical Date: 09/10/21 00:49
Analyst: RY

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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: L2148282
Report Date: 09/27/21

Air Canister Certification Results

Lab ID: L2148282-04
Client ID: CAN 978 SHELF 31
Sample Location:

Date Collected: 09/08/21 16:00
Date Received: 09/09/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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	0.600	--	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	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: L2148282
Report Date: 09/27/21

Air Canister Certification Results

Lab ID: L2148282-04
Client ID: CAN 978 SHELF 31
Sample Location:

Date Collected: 09/08/21 16:00
Date Received: 09/09/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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: L2148282
Report Date: 09/27/21

Air Canister Certification Results

Lab ID: L2148282-04
Client ID: CAN 978 SHELF 31
Sample Location:

Date Collected: 09/08/21 16:00
Date Received: 09/09/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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**Lab Number:** L2148282**Project Number:** CANISTER QC BAT**Report Date:** 09/27/21**Air Canister Certification Results**

Lab ID: L2148282-04

Date Collected: 09/08/21 16:00

Client ID: CAN 978 SHELF 31

Date Received: 09/09/21

Sample Location:

Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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	81		60-140
Bromochloromethane	86		60-140
chlorobenzene-d5	83		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L2148282
Report Date: 09/27/21

Air Canister Certification Results

Lab ID: L2148282-04
Client ID: CAN 978 SHELF 31
Sample Location:

Date Collected: 09/08/21 16:00
Date Received: 09/09/21
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 48,TO-15-SIM
Analytical Date: 09/10/21 00:49
Analyst: RY

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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
Project Number: CANISTER QC BAT

Lab Number: L2148282
Report Date: 09/27/21

Air Canister Certification Results

Lab ID: L2148282-04
Client ID: CAN 978 SHELF 31
Sample Location:

Date Collected: 09/08/21 16:00
Date Received: 09/09/21
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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
1,1,1,2,2-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	0.200	--	ND	1.04	--		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:** L2148282**Project Number:** CANISTER QC BAT**Report Date:** 09/27/21**Air Canister Certification Results**

Lab ID: L2148282-04

Date Collected: 09/08/21 16:00

Client ID: CAN 978 SHELF 31

Date Received: 09/09/21

Sample Location:

Field Prep: Not Specified

Sample Depth:

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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	81		60-140
bromochloromethane	85		60-140
chlorobenzene-d5	83		60-140



Project Name: OZONE
Project Number: 60527976

Serial_No:09272115:23
Lab Number: L2150935
Report Date: 09/27/21

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
NA	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2150935-01A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-LL(30)
L2150935-02A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-LL(30)
L2150935-03A	Canister - 6 Liter	NA	NA			Y	Absent		TO15-LL(30)

Project Name: OZONE
Project Number: 60527976

Lab Number: L2150935
Report Date: 09/27/21

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: OZONE
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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.

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'.

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.

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.)

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.
- 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

Report Format: Data Usability Report



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Data Qualifiers

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.)

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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, SM4500CI-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.

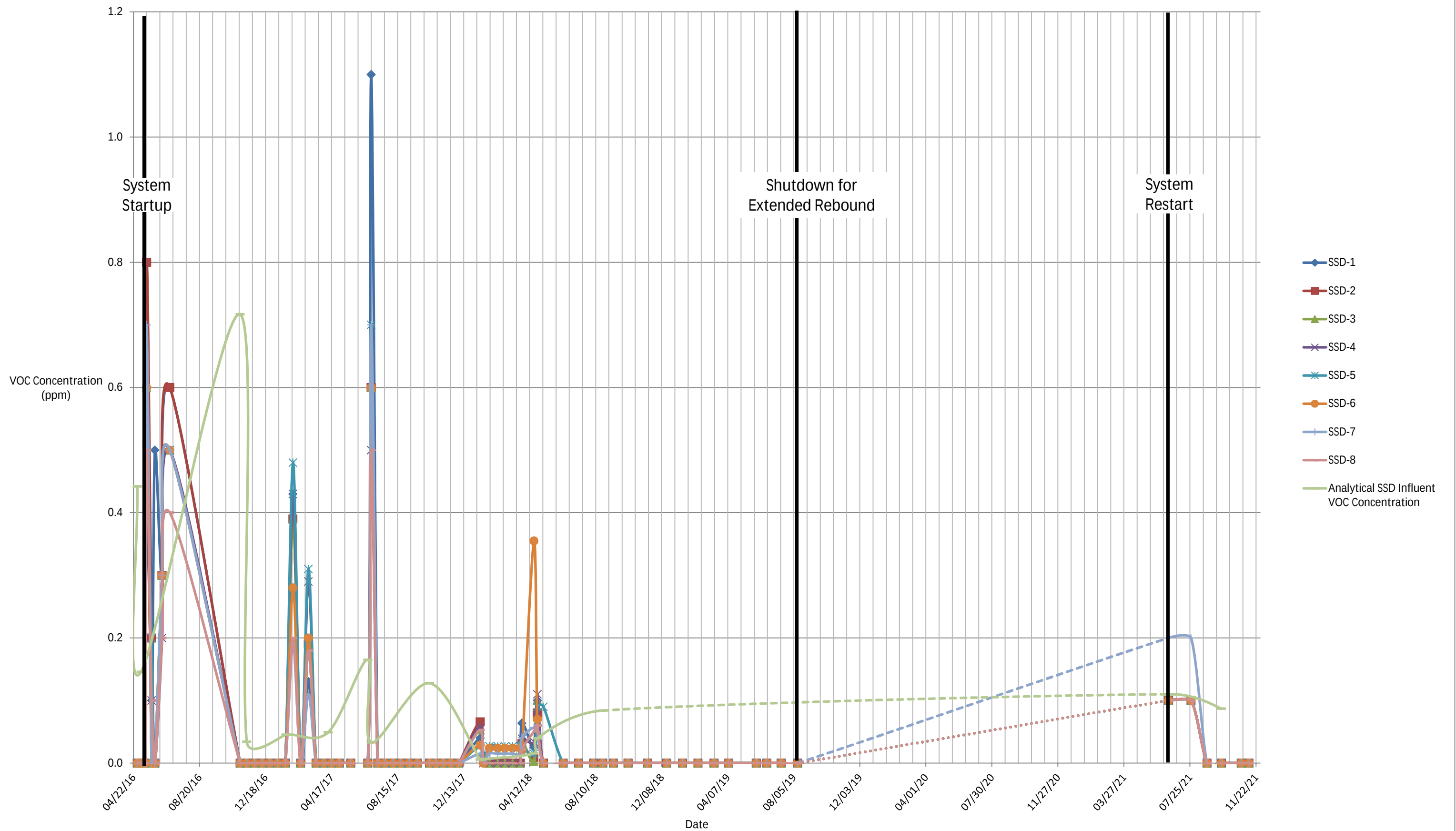
EPA 245.1 Hg.

SM2340B

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

Appendix C
Graphs depicting VOCs Screening and Lab Results – SSD and SVE
Systems

Influent SSD VOC Concentrations (ppm) - field screening and laboratory results



Influent SVE VOC Concentrations (ppm) - field screening and laboratory results

