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April 13, 2021
Tanner Bushnell
Washington State Department of Ecology
Northwest Regional Office
3190 160th Avenue Southeast
Bellevue, Washington 98008-5452

RE: PROGRESS REPORT FOR FIRST QUARTER 2021
BNSF FORMER MAINTENANCE AND FUELING FACILITY
SKYKOMISH, WASHINGTON
CONSENT DECREE NO. 07-2-33672-9 SEA
FARALLON PN: 683-071

Dear Tanner Bushnell:

This quarterly progress report has been prepared on behalf of BNSF Railway Company (BNSF) to document the activities conducted from January through March 2021 at the BNSF Former Maintenance and Fueling Facility in Skykomish, Washington (herein referred to as the Site). This quarterly progress report was prepared in accordance with the requirements of Section XI of Consent Decree No. 07-2-33672-9 SEA (Consent Decree) dated October 19, 2007 between the Washington State Department of Ecology (Ecology) and BNSF.

This quarterly progress report covers the period from January 1 through March 31, 2021 for the cleanup actions being conducted at the Site, and includes the following:

- A summary of on-Site activities conducted during the quarterly reporting period;
- A summary of the status of raw data (including laboratory analyses) received by BNSF during the quarterly reporting period and identification of the source of the samples;
- A summary of deviations from tasks required by the Consent Decree not otherwise documented in project plans or amendment requests;
- A description of deviations from the 2007 Cleanup Action Plan[1] and the schedule contained therein during the quarterly reporting period, and any planned deviations in the upcoming quarter;
- If deviations in the schedule are reported, a plan for recovering lost time and maintaining compliance with the schedule;
- A list of deliverables for the upcoming quarterly reporting period; and
- Results of the Skykomish School air sampling.

[1] *Cleanup Action Plan for BNSF Former Maintenance and Fueling Facility, Skykomish, Washington*, dated October 2007 prepared by Ecology for BNSF Railway Company.

ON-SITE ACTIVITIES

The following activities were conducted at the Site.

January 2021

- Active operation of the Hydraulic Control and Containment (HCC) System resumed on January 4, 2021.
- HCC System operation and maintenance, performance monitoring, and weekly National Pollutant Discharge Elimination System (NPDES) Permit effluent sampling were conducted.
- Shut-down of the HCC System occurred on January 6, 2021 due to a power loss resulting in a pumping system motor drive fault. The HCC System restarted approximately 48 hours after shut-down.
- Shut-down of the HCC System occurred on January 14, 2021 due to a power loss to the computer. The HCC System restarted approximately 10 hours after shut-down.

February 2021

- HCC System operation and maintenance, performance monitoring, and weekly NPDES Permit effluent sampling were performed.
- Shut-down of the HCC System occurred on February 7, 2021 due to a power loss to the computer. The HCC System restarted approximately 12 hours after shut-down.

March 2021

- HCC System operation and maintenance, performance monitoring, and weekly NPDES Permit effluent sampling were performed.
- Shut-down of the HCC System occurred on March 15, 2021 due to a power loss to the computer. The HCC System restarted approximately 1 hour after shut-down.
- Shut-down of the HCC System occurred on March 29, 2021 due to a power loss to the computer. The HCC System restarted approximately 40 hours after shut-down.
- Site-wide, liquid-level gauging and groundwater sampling was conducted on March 24, 25, and 26, 2021.

RAW DATA

Laboratory analytical data from the following sampling activities were independently validated by Sayler Data Solutions, Inc. of Kirkland, Washington: January and February 2021 HCC system and NPDES Permit compliance sampling events.

Analytical data from the following sampling activities were entered into the project-specific database: January, February, and March 2021 HCC system and NPDES Permit compliance sampling events.

DEVIATIONS AND CORRECTIONS

No deviations occurred, and no corrections were required.

DELIVERABLES

The following deliverables were submitted to Ecology:

- NPDES Discharge Monitoring Reports for December 2020 and January and February 2021, submitted through Ecology's web portal on January 22 and March 1 and 25, 2021, respectively;
- Progress Report for Fourth Quarter 2020, submitted on January 15, 2021;
- Draft 2020 Site-Wide Groundwater Monitoring Report, submitted on March 30, 2021; and
- Draft 2020 Annual Hydraulic Control and Containment System Operations Report, submitted on March 30, 2021.

DOCUMENTS PENDING AGENCY REVIEW

The following documents have been submitted as draft and are pending Ecology review:

- Biosparge Pilot Study and Engineering Design Work Plan, submitted on October 2, 2020;
- Draft 2020 Site-Wide Groundwater Monitoring Report, submitted on March 30, 2021; and
- Draft 2020 Annual Hydraulic Control and Containment System Operations Report, submitted on March 30, 2021.

SKYKOMISH SCHOOL FINAL INDOOR AIR SAMPLING RESULTS

Additionally, this report presents the results of eight quarters of post-treatment indoor air confirmational monitoring conducted at the Skykomish School in accordance with the 2007 Cleanup Action Plan. Indoor air samples were collected quarterly between December 2018 and September 2020 from six locations within the Skykomish School (Figures 1A, 1B, and 1C). There were no exceedances of the air cleanup level for total Air-Phase Hydrocarbons (1,346 micrograms per cubic meter) in any of the post-treatment, confirmational monitoring indoor air samples collected from six locations within the Skykomish School building (Table 1; Figures 1A, 1B, and 1C). The indoor air monitoring data demonstrate that vapor protection measures are not required at the Skykomish School. Indoor air monitoring at the Skykomish School is considered complete based on eight consecutive quarters (December 2018 through September 2020) of monitoring without exceedances of the air cleanup level in any of the post-treatment confirmational samples per the Cleanup Action Plan.

TECHNICAL AND REGULATORY MEETINGS

There were no technical or regulatory meetings.

SECOND QUARTER 2021 ACTIVITIES, MEETINGS, AND DELIVERABLES

Activities

The following activities are scheduled for the Site in the second quarter of 2021:

- NPDES compliance sampling is scheduled for April, May, and June 2021 if discharge occurs; and
- Per the approved Long-Term Monitoring Plan submitted to Ecology on November 9, 2020, 25 monitoring wells are scheduled to be decommissioned during the week of April 19, 2021. Notices of intent were filed on April 12, 2021 and requests for variances for three locations were submitted on April 12, 2021.

Meetings

There are no meetings currently scheduled for the second quarter of 2021.

Deliverables

The March, April, and May 2021 NPDES Discharge Monitoring Reports will be submitted through Ecology's web portal by April 28, May 28, and June 28, 2021, respectively.

CLOSING

Please contact either of the undersigned at (425) 295-0800 if you have questions regarding this progress report or the project.

Sincerely,

Farallon Consulting, L.L.C.

Amanda Meugniot, L.G.
Associate Geologist

Amy Essig Desai
Principal Scientist

Attachments: Figure 1A, Skykomish School Basement Indoor Air Sample Locations
Figure 1B, Skykomish School First Floor Indoor Air Sample Locations
Figure 1C, Skykomish School Second Floor Indoor Air Sample Locations
Table 1, Air-Phase Petroleum Hydrocarbons
Attachment A, Laboratory Analytical Reports

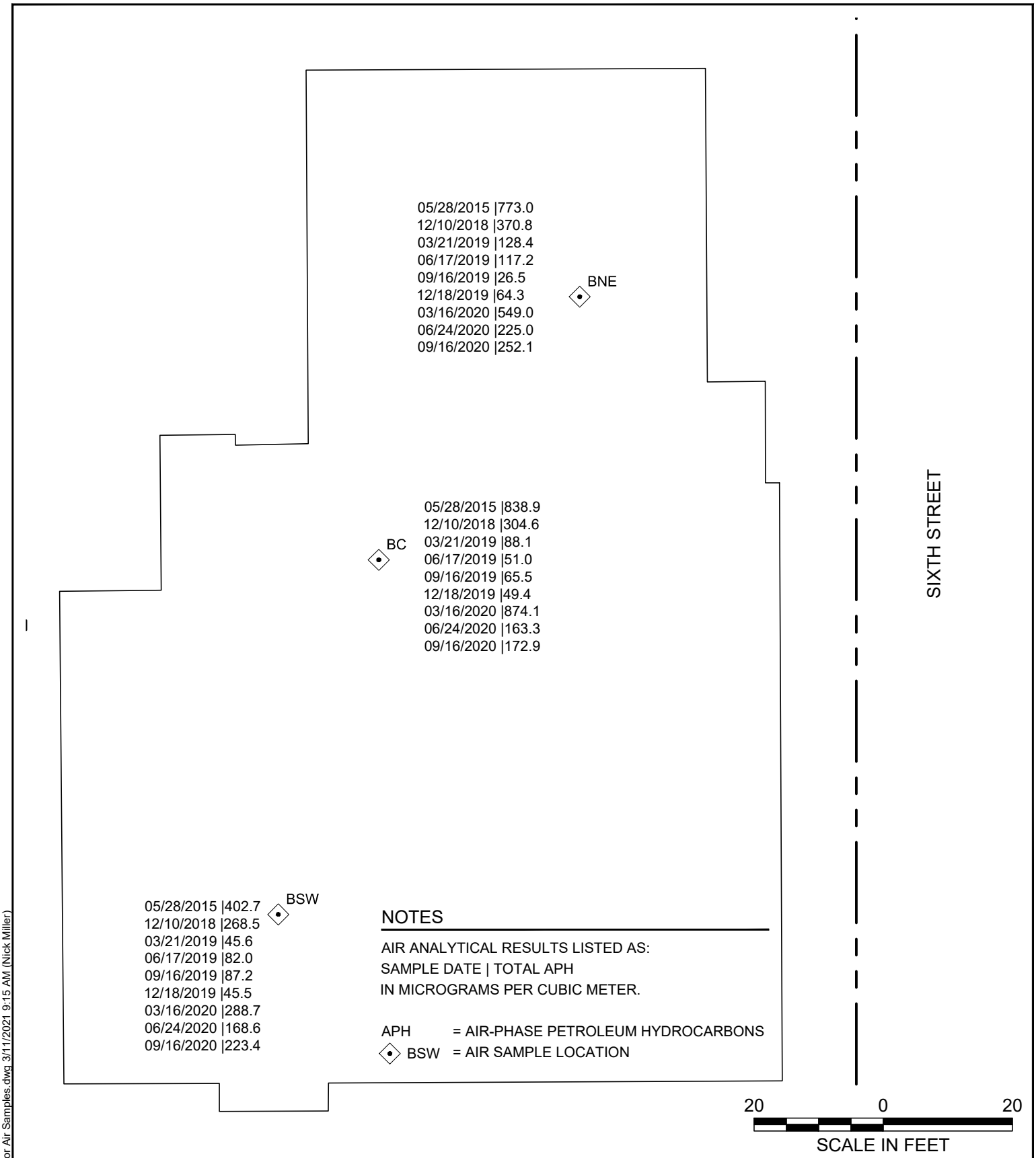
cc: Shane DeGross, BNSF
Brad Petrovich and Jeanne Tran, Ecology
Gary West and Teddy Jo Ryder, Skykomish Residents
Henry Sladek, Town of Skykomish
David Carson, Carson Law Group P.S.
Thomas Jay and Kimberly McCullough, Skykomish School District
John Robinson, U.S. Forest Service
Larry Johnson, FiberStory

AM/AED:eh

FIGURES

PROGRESS REPORT FOR FIRST QUARTER 2021
BNSF Former Maintenance and Fueling Facility
Skykomish, Washington
Consent Decree No. 07-2-33672-9 SEA

Farallon PN: 683-071



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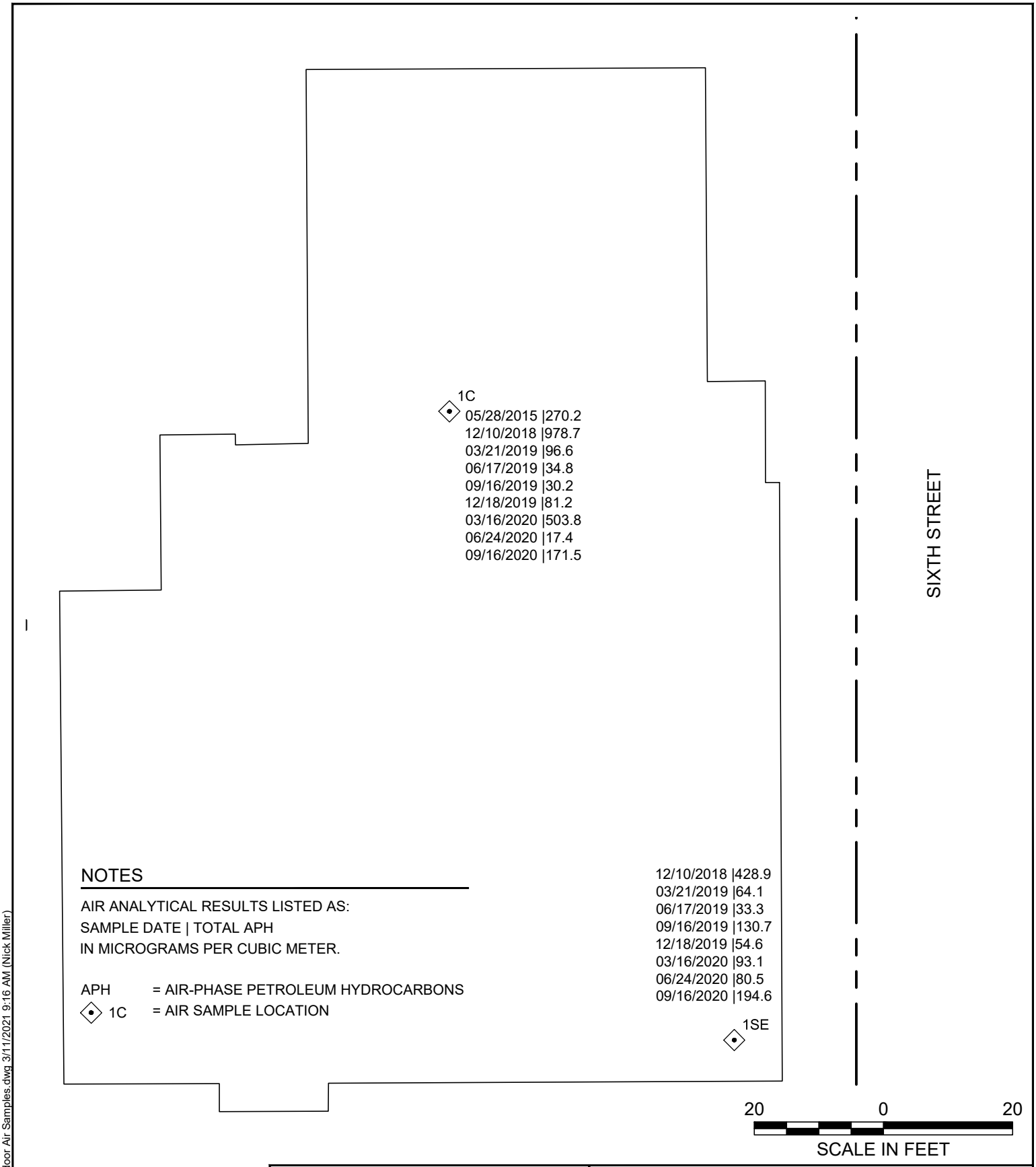
Drawn By: NM Checked By: AM

FIGURE 1A

SKYKOMISH SCHOOL BASEMENT
INDOOR AIR SAMPLE LOCATIONS
BNSF FORMER MAINTENANCE AND FUELING FACILITY
SKYKOMISH, WASHINGTON

FARALLON PN: 683-071



NOTES

AIR ANALYTICAL RESULTS LISTED AS:
SAMPLE DATE | TOTAL APH
IN MICROGRAMS PER CUBIC METER.

APH = AIR-PHASE PETROLEUM HYDROCARBONS
1C = AIR SAMPLE LOCATION

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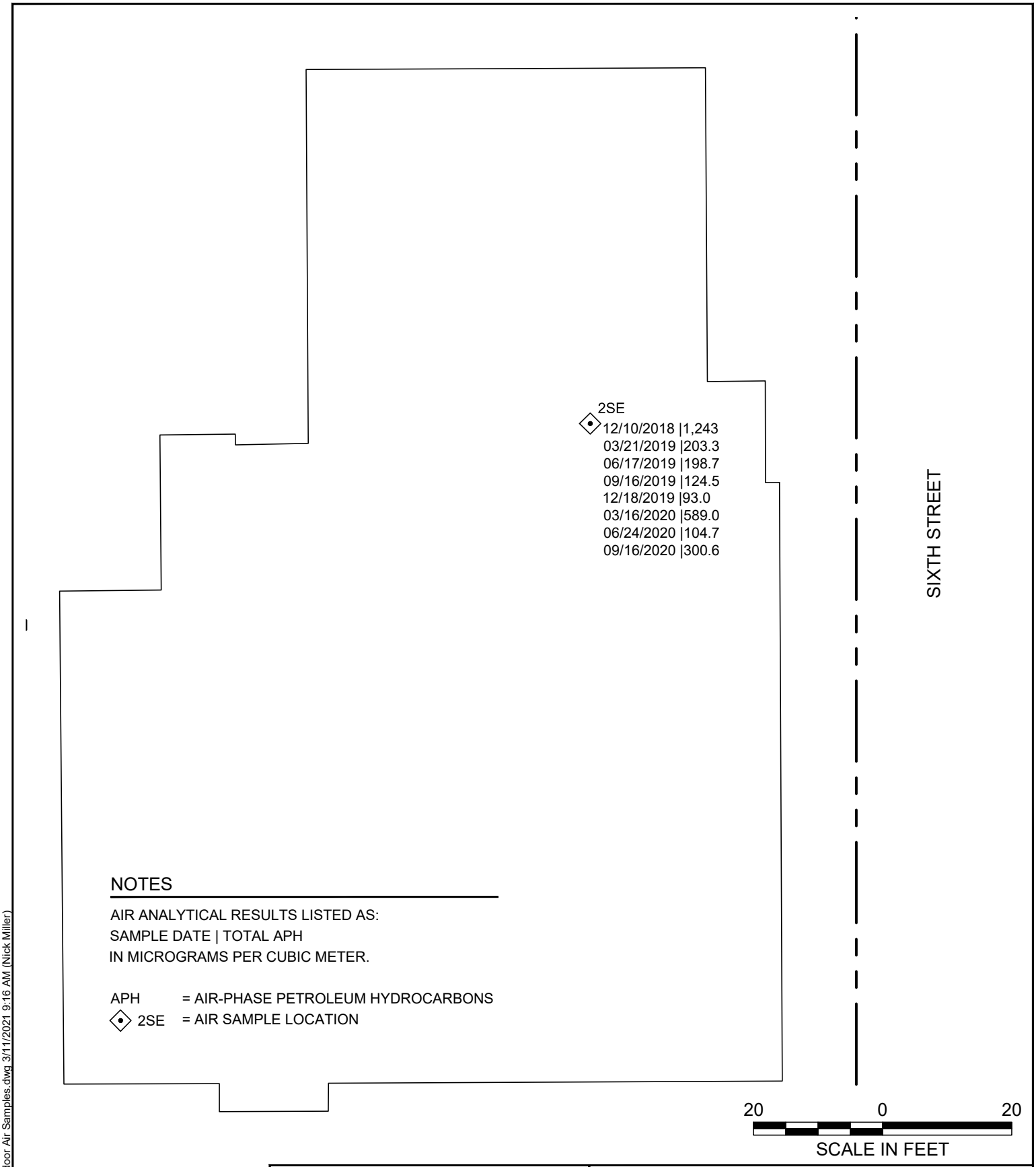
FIGURE 1B

SKYKOMISH SCHOOL FIRST FLOOR
INDOOR AIR SAMPLE LOCATIONS
BNSF FORMER MAINTENANCE AND FUELING FACILITY
SKYKOMISH, WASHINGTON

FARALLON PN: 683-071



NOTES

AIR ANALYTICAL RESULTS LISTED AS:
SAMPLE DATE | TOTAL APH
IN MICROGRAMS PER CUBIC METER.

APH = AIR-PHASE PETROLEUM HYDROCARBONS
2SE = AIR SAMPLE LOCATION

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FIGURE 1C

SKYKOMISH SCHOOL SECOND FLOOR
INDOOR AIR SAMPLE LOCATIONS
BNSF FORMER MAINTENANCE AND FUELING FACILITY
SKYKOMISH, WASHINGTON

FARALLON PN: 683-071

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TABLE

PROGRESS REPORT FOR FIRST QUARTER 2021
BNSF Former Maintenance and Fueling Facility
Skykomish, Washington
Consent Decree No. 07-2-33672-9 SEA

Farallon PN: 683-071

Table 1
Air-Phase Petroleum Hydrocarbons
Skykomish School Baseline and Post-Treatment Confirmational Monitoring Data
Skykomish, Washington
Farallon PN: 683-071

Sample ID	Sample Location	Date	1,3-Butadiene[1] (µg/m³)	Methyl tert-butyl ether (µg/m³)	Benzene[1,5] (µg/m³)	Toluene (µg/m³)	Ethylbenzene (µg/m³)	Xylene, p,m (µg/m³)	Xylene, o (µg/m³)	Naphthalene[1] (µg/m³)	Aliphatics, C5 to C8 (µg/m³)	Aliphatics, C9 to C12 (µg/m³)	Aromatics, C9 to C10 (µg/m³)	Total APH[4] (µg/m³)
Occupied School Baseline Monitoring Data														
052815-BNE	Basement - Northeast	5/28/2015	< 0.044	< 2.0	**1.33**	17	< 2.0	6.1	< 2.0	0.551	320	420	< 10	773.0
052815-BSW	Basement - Southwest	5/28/2015	< 0.044	< 2.0	**0.447**	150	< 2.0	< 4.0	< 2.0	0.267	150	92	< 10	402.7
052815-BC	Basement - Central	5/28/2015	< 0.044	< 2.0	**1.04**	230	2.2	6.7	2.4	0.540	250	340	< 10	838.9
052816-1NE	First Floor - Northeast	5/28/2015	< 0.044	< 2.0	**0.492**	12	< 2.0	5.2	2.0	0.461	120	280	< 10	427.2
052815-1SW	First Floor - Southwest	5/28/2015	< 0.044	< 2.0	**0.521**	12	< 2.0	4.7	< 2.0	0.094	170	250	< 10	445.3
052815-1C	First Floor- Central	5/28/2015	< 0.044	< 2.0	**0.700**	9.0	< 2.0	< 4.0	< 2.0	0.461	100	150	< 10	270.2
052815-2NE	Second Floor - Northeast	5/28/2015	< 0.044	< 2.0	**1.63**	12	< 2.0	6.2	2.0	0.456	170	270	< 10	469.3
052815-2SW	Second Floor - Southwest	5/28/2015	< 0.044	< 2.0	**0.470**	4.7	< 2.0	< 4.0	< 2.0	0.467	83	100	< 10	198.6
Project Action Level (µg/m³)			**0.08**[2]	**9.6**[2]	**0.32**[2]	**2,200**[2]	**460**[2]	**46**[2]	**46**[2]	**1.4**[2]	**No MTCA criteria available**			**1,346**[3]
Post-Treatment Confirmational Monitoring Data														
December 2018														
BNE	Basement - Northeast	12/10/2018	< 0.044	< 0.70	**1.61**	6.2	< 0.90	2.6	< 0.90	< 0.262	340	14	< 10	370.8
BSW	Basement - Southwest	12/10/2018	< 0.044	< 0.70	**1.27**	5.5	< 0.90	2.3	< 0.90	< 0.262	240	13	< 10	268.5
BC	Basement - Central	12/10/2018	< 0.044	< 0.70	**1.34**	6.5	< 0.90	2.9	0.96	< 0.262	270	17	< 10	304.6
1SE	First Floor - Southeast	12/10/2018	< 0.044	< 0.70	**1.81**	8.5	0.97	3.8	1.3	< 0.262	370	37	< 10	428.9
1C	First Floor - Central	12/10/2018	< 0.044	< 0.70	**2.25**	11	1.3	5.1	1.6	< 0.262	940	12	< 10	978.7
25E	Second Floor - Southeast	12/10/2018	< 0.044	< 0.70	**2.48**	12	1.4	5.7	1.7	0.278	1200	14	< 10	1,243
First Quarter 2019														
032119_BNE	Basement - Northeast	3/21/2019	0.060	< 0.70	**0.808**	26	1.5	2.7	0.93	< 0.262	55	36	< 10	128.4
032119_BSW	Basement - Southwest	3/21/2019	0.064	< 0.70	**0.808**	7.1	< 0.90	2.3	< 0.90	< 0.262	24	< 10	< 10	45.6
032119_BC	Basement - Central	3/21/2019	< 0.044	< 0.70	**1.69**	14	1.4	5.7	1.8	< 0.262	53	< 10	< 10	88.1
032119_1SE	First Floor - Southeast	3/21/2019	< 0.044	< 0.70	**1.26**	11	1.1	4.0	1.3	< 0.262	35	< 10	< 10	64.1
032119_1C	First Floor - Central	3/21/2019	< 0.044	< 0.70	**1.46**	13	1.3	4.9	1.5	< 0.262	58	11	< 10	96.6
032119_2SE	Second Floor - Southeast	3/21/2019	< 0.044	< 0.70	**1.65**	95	2.4	5.9	1.9	< 0.262	71	20	< 10	203.3
Second Quarter 2019														
061719_BNE	Basement - Northeast	6/17/2019	< 0.044	< 0.70	**1.1**	9.2	1.0	4.0	1.4	< 0.262	65	30	< 10	117.2
061719_BSW	Basement - Southwest	6/17/2019	< 0.044	< 0.70	**0.68**	5.6	< 0.90	2.3	< 0.90	< 0.262	44	23	< 10	82.0
061719_BC	Basement - Central	6/17/2019	< 0.044	< 0.70	**0.71**	4.7	< 0.90	2.2	< 0.90	< 0.262	32	< 10	< 10	51.0
061719_1SE	First Floor - Southeast	6/17/2019	< 0.044	< 0.70	< 0.6	1.6	< 0.90	0.96	< 0.90	< 0.262	19	< 10	< 10	33.3
061719_1C	First Floor - Central	6/17/2019	< 0.044	< 0.70	< 0.6	1.6	< 0.90	< 0.90	< 0.90	< 0.262	16	10	< 10	34.8
061719_2SE	Second Floor - Southeast	6/17/2019	< 0.044	< 0.70	**1.7**	16	1.7	6.6	2.2	< 0.262	120	45	< 10	198.7
Third Quarter 2019														
091619_BNE	Basement - Northeast	9/16/2019	< 0.044	< 0.70	**0.342**	1.3	< 0.90	< 0.90	< 0.90	< 0.262	13	< 10	< 10	26.5
091619_BSW	Basement - Southwest	9/16/2019	< 0.044	< 0.70	**0.818**	7.0	1.0	3.7	1.2	< 0.262	54	14	< 10	87.2
091619_BC	Basement - Central	9/16/2019	< 0.044	< 0.70	**0.674**	5.2	< 0.90	2.8	0.92	< 0.262	45	< 10	< 10	65.5
091619_1SE	First Floor - Southeast	9/16/2019	< 0.044	< 0.70	**1.00**	9.1	1.2	4.4	1.5	< 0.262	66	42	< 10	130.7
091619_1C	First Floor - Central	9/16/2019	< 0.044	< 0.70	**0.335**	2.2	< 0.90	1.3	< 0.90	< 0.262	15	< 10	< 10	30.2
091619_2SE	Second Floor - Southeast	9/16/2019	< 0.044	< 0.70	**1.27**	11	1.4	5.5	1.8	< 0.262	85	13	< 10	124.5
Fourth Quarter 2019														
121819_BNE	Basement - Northeast	12/18/2019	**0.164**	< 0.70	**0.821**	4.9	< 0.90	2.2	< 0.90	< 0.262	45	< 10	< 10	64.3
121819_BSW	Basement - Southwest	12/18/2019	< 0.044	< 0.70	**0.837**	5.8	< 0.90	2.5	< 0.90	< 0.262	25	< 10	< 10	45.5
121819_BC	Basement - Central	12/18/2019	0.049	< 0.70	**0.895**	6.6	< 0.90	3.0	0.96	< 0.262	27	< 10	< 10	49.4
121819_1SE	First Floor - Southeast	12/18/2019	0.051	< 0.70	**0.942**	7.4	< 0.90	3.3	1.0	< 0.262	31	< 10	< 10	54.6
121819_1C	First Floor - Central	12/18/2019	0.069	< 0.70	**1.20**	9.6	0.99	3.7	1.2	< 0.262	54	< 10	< 10	81.2
121819_2SE	Second Floor - Southeast	12/18/2019	0.060	< 0.70	**1.42**	12	1.5	5.8	1.8	< 0.262	60	< 10	< 10	93.0
Project Action Level (µg/m³)			**0.08**[2]	**9.6**[2]	**0.32**[2]	**2,200**[2]	**460**[2]	**46**[2]	**46**[2]	**1.4**[2]	**No MTCA criteria available**			**1,346**[3]

ATTACHMENT A
LABORATORY ANALTYCIAL REPORTS

PROGRESS REPORT FOR FIRST QUARTER 2021
BNSF Former Maintenance and Fueling Facility
Skykomish, Washington
Consent Decree No. 07-2-33672-9 SEA

Farallon PN: 683-071

ANALYTICAL REPORT

Lab Number:	L1852222
Client:	Farallon Consulting, L.L.C. 975 5th Avenue Northwest Issaquah, WA 98027
ATTN:	Robert Leet
Phone:	(425) 295-0800
Project Name:	SKYKOMISH
Project Number:	683-067
Report Date:	12/27/18

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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

Project Name: SKYKOMISH
Project Number: 683-067

Lab Number: L1852222
Report Date: 12/27/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1852222-01	25E	AIR	SKYKOMISH, WA	12/10/18 16:08	12/18/18
L1852222-02	1C	AIR	SKYKOMISH, WA	12/10/18 16:10	12/18/18
L1852222-03	1SE	AIR	SKYKOMISH, WA	12/10/18 16:12	12/18/18
L1852222-04	BC	AIR	SKYKOMISH, WA	12/10/18 15:55	12/18/18
L1852222-05	BNE	AIR	SKYKOMISH, WA	12/10/18 15:59	12/18/18
L1852222-06	BSW	AIR	SKYKOMISH, WA	12/10/18 16:15	12/18/18

Project Name: SKYKOMISH
Project Number: 683-067

Lab Number: L1852222
Report Date: 12/27/18

Case Narrative

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

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

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

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

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

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

Project Name:	SKYKOMISH	**Lab Number:**	L1852222
Project Number:	683-067	**Report Date:**	12/27/18

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on December 5, 2018. The canister certification results are provided as an addendum.

Petroleum Hydrocarbons in Air

L1852222-01, -02, -05, and -06: Isopropyl Alcohol, Ethyl Acetate, Hexanal, and siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1852222-01 through -06: Alpha-Pinene, D-Limonene and Siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1852222-03 and -04: Isopropyl Alcohol and siloxanes are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

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: 12/27/18

AIR

Project Name: SKYKOMISH
Project Number: 683-067

Lab Number: L1852222
Report Date: 12/27/18

SAMPLE RESULTS

Lab ID: L1852222-01
Client ID: 25E
Sample Location: SKYKOMISH, WA

Date Collected: 12/10/18 16:08
Date Received: 12/18/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/22/18 21:07
Analyst: EW

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.775	0.100	--	2.48	0.319	--		1
Naphthalene	0.053	0.050	--	0.278	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	75		60-140
bromochloromethane	84		60-140
chlorobenzene-d5	87		60-140

Project Name: SKYKOMISH
Project Number: 683-067

Lab Number: L1852222
Report Date: 12/27/18

SAMPLE RESULTS

Lab ID: L1852222-02
Client ID: 1C
Sample Location: SKYKOMISH, WA

Date Collected: 12/10/18 16:10
Date Received: 12/18/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/22/18 21:39
Analyst: EW

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.705	0.100	--	2.25	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	76		60-140
bromochloromethane	81		60-140
chlorobenzene-d5	86		60-140

Project Name: SKYKOMISH
Project Number: 683-067

Lab Number: L1852222
Report Date: 12/27/18

SAMPLE RESULTS

Lab ID: L1852222-03
Client ID: 1SE
Sample Location: SKYKOMISH, WA

Date Collected: 12/10/18 16:12
Date Received: 12/18/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/22/18 22:11
Analyst: EW

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.567	0.100	--	1.81	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	74		60-140
bromochloromethane	84		60-140
chlorobenzene-d5	85		60-140

Project Name: SKYKOMISH
Project Number: 683-067

Lab Number: L1852222
Report Date: 12/27/18

SAMPLE RESULTS

Lab ID: L1852222-04
Client ID: BC
Sample Location: SKYKOMISH, WA

Date Collected: 12/10/18 15:55
Date Received: 12/18/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/22/18 22:43
Analyst: EW

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.421	0.100	--	1.34	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	82		60-140
bromochloromethane	80		60-140
chlorobenzene-d5	87		60-140

Project Name: SKYKOMISH
Project Number: 683-067

Lab Number: L1852222
Report Date: 12/27/18

SAMPLE RESULTS

Lab ID: L1852222-05
Client ID: BNE
Sample Location: SKYKOMISH, WA

Date Collected: 12/10/18 15:59
Date Received: 12/18/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/22/18 23:15
Analyst: EW

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.504	0.100	--	1.61	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	68		60-140
bromochloromethane	80		60-140
chlorobenzene-d5	83		60-140

Project Name: SKYKOMISH
Project Number: 683-067

Lab Number: L1852222
Report Date: 12/27/18

SAMPLE RESULTS

Lab ID: L1852222-06
Client ID: BSW
Sample Location: SKYKOMISH, WA

Date Collected: 12/10/18 16:15
Date Received: 12/18/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/22/18 23:48
Analyst: EW

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.399	0.100	--	1.27	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	74		60-140
bromochloromethane	85		60-140
chlorobenzene-d5	87		60-140

Project Name: SKYKOMISH
Project Number: 683-067

Lab Number: L1852222
Report Date: 12/27/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 12/22/18 15:18

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1192443-4								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Lab Control Sample Analysis
Batch Quality Control

Project Name: SKYKOMISH
Project Number: 683-067

Lab Number: L1852222
Report Date: 12/27/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1192443-3								
Propylene	102		-		70-130	-		25
Dichlorodifluoromethane	98		-		70-130	-		25
Chloromethane	98		-		70-130	-		25
1,2-Dichloro-1,1,2,2-tetrafluoroethane	99		-		70-130	-		25
Vinyl chloride	100		-		70-130	-		25
1,3-Butadiene	106		-		70-130	-		25
Bromomethane	99		-		70-130	-		25
Chloroethane	97		-		70-130	-		25
Ethyl Alcohol	90		-		70-130	-		25
Vinyl bromide	99		-		70-130	-		25
Acetone	102		-		70-130	-		25
Trichlorofluoromethane	100		-		70-130	-		25
iso-Propyl Alcohol	112		-		70-130	-		25
Acrylonitrile	91		-		70-130	-		25
1,1-Dichloroethene	92		-		70-130	-		25
tert-Butyl Alcohol[1]	88		-		70-130	-		25
Methylene chloride	97		-		70-130	-		25
3-Chloropropene	101		-		70-130	-		25
Carbon disulfide	90		-		70-130	-		25
1,1,2-Trichloro-1,2,2-Trifluoroethane	93		-		70-130	-		25
trans-1,2-Dichloroethene	89		-		70-130	-		25
1,1-Dichloroethane	92		-		70-130	-		25
Methyl tert butyl ether	91		-		70-130	-		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: SKYKOMISH
Project Number: 683-067

Lab Number: L1852222
Report Date: 12/27/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1192443-3								
Vinyl acetate	96		-		70-130	-		25
2-Butanone	96		-		70-130	-		25
cis-1,2-Dichloroethene	92		-		70-130	-		25
Ethyl Acetate	100		-		70-130	-		25
Chloroform	94		-		70-130	-		25
Tetrahydrofuran	88		-		70-130	-		25
1,2-Dichloroethane	90		-		70-130	-		25
n-Hexane	94		-		70-130	-		25
1,1,1-Trichloroethane	96		-		70-130	-		25
Benzene	94		-		70-130	-		25
Carbon tetrachloride	100		-		70-130	-		25
Cyclohexane	97		-		70-130	-		25
Dibromomethane[1]	83		-		70-130	-		25
1,2-Dichloropropane	98		-		70-130	-		25
Bromodichloromethane	103		-		70-130	-		25
1,4-Dioxane	106		-		70-130	-		25
Trichloroethene	96		-		70-130	-		25
2,2,4-Trimethylpentane	102		-		70-130	-		25
cis-1,3-Dichloropropene	100		-		70-130	-		25
4-Methyl-2-pentanone	102		-		70-130	-		25
trans-1,3-Dichloropropene	87		-		70-130	-		25
1,1,2-Trichloroethane	100		-		70-130	-		25
Toluene	95		-		70-130	-		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: SKYKOMISH
Project Number: 683-067

Lab Number: L1852222
Report Date: 12/27/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1192443-3								
2-Hexanone	101		-		70-130	-		25
Dibromochloromethane	108		-		70-130	-		25
1,2-Dibromoethane	99		-		70-130	-		25
Tetrachloroethene	97		-		70-130	-		25
1,1,1,2-Tetrachloroethane	96		-		70-130	-		25
Chlorobenzene	98		-		70-130	-		25
Ethylbenzene	96		-		70-130	-		25
p/m-Xylene	96		-		70-130	-		25
Bromoform	110		-		70-130	-		25
Styrene	97		-		70-130	-		25
1,1,2,2-Tetrachloroethane	105		-		70-130	-		25
o-Xylene	98		-		70-130	-		25
1,2,3-Trichloropropane[1]	96		-		70-130	-		25
Isopropylbenzene	97		-		70-130	-		25
Bromobenzene[1]	95		-		70-130	-		25
4-Ethyltoluene	104		-		70-130	-		25
1,3,5-Trimethylbenzene	100		-		70-130	-		25
1,2,4-Trimethylbenzene	106		-		70-130	-		25
Benzyl chloride	108		-		70-130	-		25
1,3-Dichlorobenzene	107		-		70-130	-		25
1,4-Dichlorobenzene	106		-		70-130	-		25
sec-Butylbenzene	101		-		70-130	-		25
p-Isopropyltoluene	96		-		70-130	-		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: SKYKOMISH
Project Number: 683-067

Lab Number: L1852222
Report Date: 12/27/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1192443-3								
1,2-Dichlorobenzene	107		-		70-130	-		25
n-Butylbenzene	112		-		70-130	-		25
1,2,4-Trichlorobenzene	**135**	Q	-		70-130	-		25
Naphthalene	108		-		70-130	-		25
1,2,3-Trichlorobenzene	**131**	Q	-		70-130	-		25
Hexachlorobutadiene	126		-		70-130	-		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: SKYKOMISH
Project Number: 683-067

Lab Number: L1852222
Report Date: 12/27/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1192443-5 QC Sample: L1852186-02 Client ID: DUP Sample						
Vinyl chloride	ND	ND	ppbV	NC		25
1,1-Dichloroethene	ND	ND	ppbV	NC		25
cis-1,2-Dichloroethene	ND	ND	ppbV	NC		25
1,1,1-Trichloroethane	ND	ND	ppbV	NC		25
Carbon tetrachloride	0.078	0.080	ppbV	3		25
Trichloroethene	ND	ND	ppbV	NC		25
Tetrachloroethene	ND	ND	ppbV	NC		25
1,2-Dichloroethene (total)	ND	ND	ppbV	NC		25

Project Name: SKYKOMISH
Project Number: 683-067
Lab Number: L1852222
Report Date: 12/27/18

SAMPLE RESULTS

Lab ID: L1852222-01
Client ID: 25E
Sample Location: SKYKOMISH, WA
Date Collected: 12/10/18 16:08
Date Received: 12/18/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 96,APH
Analytical Date: 12/22/18 21:07
Analyst: RY

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	2.6		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	1200		ug/m3	10	--	1
Toluene	12		ug/m3	0.90	--	1
Ethylbenzene	1.4		ug/m3	0.90	--	1
p/m-Xylene	5.7		ug/m3	0.90	--	1
o-Xylene	1.7		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	14		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	76		50-200
Bromochloromethane	86		50-200
Chlorobenzene-d5	90		50-200

Project Name: SKYKOMISH
Project Number: 683-067
Lab Number: L1852222
Report Date: 12/27/18

SAMPLE RESULTS

Lab ID: L1852222-02
Client ID: 1C
Sample Location: SKYKOMISH, WA
Date Collected: 12/10/18 16:10
Date Received: 12/18/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 96,APH
Analytical Date: 12/22/18 21:39
Analyst: RY

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	2.4		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	940		ug/m3	10	--	1
Toluene	11		ug/m3	0.90	--	1
Ethylbenzene	1.3		ug/m3	0.90	--	1
p/m-Xylene	5.1		ug/m3	0.90	--	1
o-Xylene	1.6		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	12		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	78		50-200
Bromochloromethane	81		50-200
Chlorobenzene-d5	88		50-200

Project Name: SKYKOMISH
Project Number: 683-067
Lab Number: L1852222
Report Date: 12/27/18

SAMPLE RESULTS

Lab ID: L1852222-03
Client ID: 1SE
Sample Location: SKYKOMISH, WA
Date Collected: 12/10/18 16:12
Date Received: 12/18/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 96,APH
Analytical Date: 12/22/18 22:11
Analyst: RY

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	2.0		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	370		ug/m3	10	--	1
Toluene	8.5		ug/m3	0.90	--	1
Ethylbenzene	0.97		ug/m3	0.90	--	1
p/m-Xylene	3.8		ug/m3	0.90	--	1
o-Xylene	1.3		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	37		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	75		50-200
Bromochloromethane	84		50-200
Chlorobenzene-d5	88		50-200

Project Name: SKYKOMISH
Project Number: 683-067
Lab Number: L1852222
Report Date: 12/27/18

SAMPLE RESULTS

Lab ID: L1852222-04
Client ID: BC
Sample Location: SKYKOMISH, WA
Date Collected: 12/10/18 15:55
Date Received: 12/18/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 96,APH
Analytical Date: 12/22/18 22:43
Analyst: RY

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	1.5		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	270		ug/m3	10	--	1
Toluene	6.5		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	2.9		ug/m3	0.90	--	1
o-Xylene	0.96		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	17		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	83		50-200
Bromochloromethane	81		50-200
Chlorobenzene-d5	88		50-200

Project Name: SKYKOMISH
Project Number: 683-067
Lab Number: L1852222
Report Date: 12/27/18

SAMPLE RESULTS

Lab ID: L1852222-05
Client ID: BNE
Sample Location: SKYKOMISH, WA
Date Collected: 12/10/18 15:59
Date Received: 12/18/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 96,APH
Analytical Date: 12/22/18 23:15
Analyst: RY

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	1.8		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	340		ug/m3	10	--	1
Toluene	6.2		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	2.6		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	14		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	69		50-200
Bromochloromethane	80		50-200
Chlorobenzene-d5	86		50-200

Project Name: SKYKOMISH
Project Number: 683-067
Lab Number: L1852222
Report Date: 12/27/18

SAMPLE RESULTS

Lab ID: L1852222-06
Client ID: BSW
Sample Location: SKYKOMISH, WA
Date Collected: 12/10/18 16:15
Date Received: 12/18/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 96,APH
Analytical Date: 12/22/18 23:48
Analyst: RY

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	1.4		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	240		ug/m3	10	--	1
Toluene	5.5		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	2.3		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	13		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	76		50-200
Bromochloromethane	87		50-200
Chlorobenzene-d5	88		50-200

Project Name: SKYKOMISH
Project Number: 683-067
Lab Number: L1852222
Report Date: 12/27/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 96,APH
Analytical Date: 12/22/18 15:18
Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-06 Batch: WG1192441-4					
1,3-Butadiene	ND		ug/m3	0.50	--
Methyl tert butyl ether	ND		ug/m3	0.70	--
Benzene	ND		ug/m3	0.60	--
C5-C8 Aliphatics, Adjusted	ND		ug/m3	10	--
Toluene	ND		ug/m3	0.90	--
Ethylbenzene	ND		ug/m3	0.90	--
p/m-Xylene	ND		ug/m3	0.90	--
o-Xylene	ND		ug/m3	0.90	--
Naphthalene	ND		ug/m3	1.1	--
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--
C9-C10 Aromatics Total	ND		ug/m3	10	--

Lab Control Sample Analysis
Batch Quality Control

Project Name: SKYKOMISH
Project Number: 683-067

Lab Number: L1852222
Report Date: 12/27/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG1192441-3								
1,3-Butadiene	105		-		70-130	-		
Methyl tert butyl ether	94		-		70-130	-		
Benzene	99		-		70-130	-		
C5-C8 Aliphatics, Adjusted	97		-		70-130	-		
Toluene	108		-		70-130	-		
Ethylbenzene	107		-		70-130	-		
p/m-Xylene	109		-		70-130	-		
o-Xylene	111		-		70-130	-		
Naphthalene	140		-		50-150	-		
C9-C12 Aliphatics, Adjusted	116		-		70-130	-		
C9-C10 Aromatics Total	98		-		70-130	-		

Lab Duplicate Analysis
Batch Quality Control

Project Name: SKYKOMISH
Project Number: 683-067

Lab Number: L1852222
Report Date: 12/27/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1192441-5 QC Sample: L1852157-02 Client ID: DUP Sample						
1,3-Butadiene	0.60	0.69	ug/m3	14		30
Methyl tert butyl ether	ND	ND	ug/m3	NC		30
Benzene	2.2	2.3	ug/m3	4		30
C5-C8 Aliphatics, Adjusted	130	130	ug/m3	0		30
Toluene	1.6	1.5	ug/m3	6		30
Ethylbenzene	ND	ND	ug/m3	NC		30
p/m-Xylene	1.3	1.3	ug/m3	0		30
o-Xylene	ND	ND	ug/m3	NC		30
Naphthalene	ND	ND	ug/m3	NC		30
C9-C12 Aliphatics, Adjusted	250	250	ug/m3	0		30
C9-C10 Aromatics Total	ND	ND	ug/m3	NC		30

Project Name: SKYKOMISH

Project Number: 683-067

Lab Number: L1852222

Report Date: 12/27/18

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1852222-01	25E	0321	Flow 5	12/05/18	279925		-	-	-	Pass	4.5	3.9	14
L1852222-01	25E	2434	2.7L Can	12/20/18	281625	L1852029-01	Pass	-29.7	-6.8	-	-	-	-
L1852222-02	1C	0833	Flow 5	12/05/18	279925		-	-	-	Pass	4.5	4.2	7
L1852222-02	1C	2520	2.7L Can	12/05/18	279925	L1848913-02	Pass	-29.8	-6.0	-	-	-	-
L1852222-03	1SE	0635	Flow 5	12/05/18	279925		-	-	-	Pass	4.5	3.9	14
L1852222-03	1SE	2042	2.7L Can	12/05/18	279925	L1849158-01	Pass	-29.5	-7.6	-	-	-	-
L1852222-04	BC	0337	Flow 5	12/05/18	279925		-	-	-	Pass	4.5	5.1	13
L1852222-04	BC	2552	2.7L Can	12/05/18	279925	L1849158-01	Pass	-29.5	-2.3	-	-	-	-
L1852222-05	BNE	0762	Flow 5	12/05/18	279925		-	-	-	Pass	4.5	4.7	4
L1852222-05	BNE	2027	2.7L Can	12/05/18	279925	L1849158-01	Pass	-29.6	-9.5	-	-	-	-
L1852222-06	BSW	0960	Flow 5	12/05/18	279925		-	-	-	Pass	4.5	4.4	2
L1852222-06	BSW	108	2.7L Can	12/05/18	279925	L1849158-01	Pass	-29.5	-6.2	-	-	-	-

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

Lab Number: L1848913
Report Date: 12/27/18

Air Canister Certification Results

Lab ID: L1848913-02
Client ID: CAN 1729 SHELF 3
Sample Location:

Date Collected: 11/29/18 16:00
Date Received: 11/30/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 11/30/18 10:31
Analyst: RY

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1848913
Report Date: 12/27/18

Air Canister Certification Results

Lab ID: L1848913-02
Client ID: CAN 1729 SHELF 3
Sample Location:

Date Collected: 11/29/18 16:00
Date Received: 11/30/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
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
1,1,1-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
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1848913

Project Number: CANISTER QC BAT **Report Date:** 12/27/18

Air Canister Certification Results

Lab ID: L1848913-02
Client ID: CAN 1729 SHELF 3
Sample Location:

Date Collected: 11/29/18 16:00
Date Received: 11/30/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
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
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1848913
Report Date: 12/27/18

Air Canister Certification Results

Lab ID: L1848913-02
Client ID: CAN 1729 SHELF 3
Sample Location:

Date Collected: 11/29/18 16:00
Date Received: 11/30/18
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1848913
Report Date: 12/27/18

Air Canister Certification Results

Lab ID: L1848913-02
Client ID: CAN 1729 SHELF 3
Sample Location:

Date Collected: 11/29/18 16:00
Date Received: 11/30/18
Field Prep: Not Specified

Sample Depth:

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

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	77		60-140
Bromochloromethane	84		60-140
chlorobenzene-d5	80		60-140

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

Lab Number: L1848913
Report Date: 12/27/18

Air Canister Certification Results

Lab ID: L1848913-02
Client ID: CAN 1729 SHELF 3
Sample Location:

Date Collected: 11/29/18 16:00
Date Received: 11/30/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 11/30/18 10:31
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
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
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

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

Lab Number: L1848913
Report Date: 12/27/18

Air Canister Certification Results

Lab ID: L1848913-02
Client ID: CAN 1729 SHELF 3
Sample Location:

Date Collected: 11/29/18 16:00
Date Received: 11/30/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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
1,1,2,2-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
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1848913
Report Date: 12/27/18

Air Canister Certification Results

Lab ID: L1848913-02
Client ID: CAN 1729 SHELF 3
Sample Location:

Date Collected: 11/29/18 16:00
Date Received: 11/30/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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	80		60-140
bromochloromethane	87		60-140
chlorobenzene-d5	82		60-140

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

Lab Number: L1849158
Report Date: 12/27/18

Air Canister Certification Results

Lab ID: L1849158-01
Client ID: CAN 253 SHELF 4
Sample Location:

Date Collected: 11/29/18 16:00
Date Received: 12/01/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 12/01/18 17:47
Analyst: EW

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1849158
Report Date: 12/27/18

Air Canister Certification Results

Lab ID: L1849158-01
Client ID: CAN 253 SHELF 4
Sample Location:

Date Collected: 11/29/18 16:00
Date Received: 12/01/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
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
1,1,1-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
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1849158
Report Date: 12/27/18

Air Canister Certification Results

Lab ID: L1849158-01
Client ID: CAN 253 SHELF 4
Sample Location:

Date Collected: 11/29/18 16:00
Date Received: 12/01/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
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
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1

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

Lab Number: L1849158
Report Date: 12/27/18

Air Canister Certification Results

Lab ID: L1849158-01
Client ID: CAN 253 SHELF 4
Sample Location:

Date Collected: 11/29/18 16:00
Date Received: 12/01/18
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1849158
Report Date: 12/27/18

Air Canister Certification Results

Lab ID: L1849158-01
Client ID: CAN 253 SHELF 4
Sample Location:

Date Collected: 11/29/18 16:00
Date Received: 12/01/18
Field Prep: Not Specified

Sample Depth:

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

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	96		60-140
Bromochloromethane	99		60-140
chlorobenzene-d5	95		60-140

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

Lab Number: L1849158
Report Date: 12/27/18

Air Canister Certification Results

Lab ID: L1849158-01
Client ID: CAN 253 SHELF 4
Sample Location:

Date Collected: 11/29/18 16:00
Date Received: 12/01/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/01/18 17:47
Analyst: EW

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
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
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

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

Lab Number: L1849158
Report Date: 12/27/18

Air Canister Certification Results

Lab ID: L1849158-01
Client ID: CAN 253 SHELF 4
Sample Location:

Date Collected: 11/29/18 16:00
Date Received: 12/01/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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
1,1,2,2-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
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1849158
Report Date: 12/27/18

Air Canister Certification Results

Lab ID: L1849158-01
Client ID: CAN 253 SHELF 4
Sample Location:

Date Collected: 11/29/18 16:00
Date Received: 12/01/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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	98		60-140
bromochloromethane	101		60-140
chlorobenzene-d5	98		60-140

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

Lab Number: L1852029
Report Date: 12/27/18

Air Canister Certification Results

Lab ID: L1852029-01
Client ID: CAN 383 SHELF 3
Sample Location:

Date Collected: 12/18/18 07:00
Date Received: 12/18/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 12/18/18 17:53
Analyst: MB

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

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1852029

Project Number: CANISTER QC BAT **Report Date:** 12/27/18

Air Canister Certification Results

Lab ID: L1852029-01
Client ID: CAN 383 SHELF 3
Sample Location:

Date Collected: 12/18/18 07:00
Date Received: 12/18/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Xylenes, total	ND	0.600	--	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: L1852029
Report Date: 12/27/18

Air Canister Certification Results

Lab ID: L1852029-01
Client ID: CAN 383 SHELF 3
Sample Location:

Date Collected: 12/18/18 07:00
Date Received: 12/18/18
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1852029
Report Date: 12/27/18

Air Canister Certification Results

Lab ID: L1852029-01
Client ID: CAN 383 SHELF 3
Sample Location:

Date Collected: 12/18/18 07:00
Date Received: 12/18/18
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1852029
Report Date: 12/27/18

Air Canister Certification Results

Lab ID: L1852029-01
Client ID: CAN 383 SHELF 3
Sample Location:

Date Collected: 12/18/18 07:00
Date Received: 12/18/18
Field Prep: Not Specified

Sample Depth:

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

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	101		60-140
Bromochloromethane	102		60-140
chlorobenzene-d5	102		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1852029
Report Date: 12/27/18

Air Canister Certification Results

Lab ID: L1852029-01
Client ID: CAN 383 SHELF 3
Sample Location:

Date Collected: 12/18/18 07:00
Date Received: 12/18/18
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/18/18 17:53
Analyst: MB

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
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
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1852029

Project Number: CANISTER QC BAT **Report Date:** 12/27/18

Air Canister Certification Results

Lab ID: L1852029-01
Client ID: CAN 383 SHELF 3
Sample Location:

Date Collected: 12/18/18 07:00
Date Received: 12/18/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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
1,1,2,2-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
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1852029
Report Date: 12/27/18

Air Canister Certification Results

Lab ID: L1852029-01
Client ID: CAN 383 SHELF 3
Sample Location:

Date Collected: 12/18/18 07:00
Date Received: 12/18/18
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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	105		60-140
bromochloromethane	104		60-140
chlorobenzene-d5	104		60-140

AIR Petro Can Certification

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1848913

Project Number: CANISTER QC BAT **Report Date:** 12/27/18

AIR CAN CERTIFICATION RESULTS

Lab ID:	L1848913-02	Date Collected:	11/29/18 16:00
Client ID:	CAN 1729 SHELF 3	Date Received:	11/30/18
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	11/30/18 10:31		
Analyst:	RY		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	ND		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/m3	10	--	1
Toluene	ND		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	ND		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1849158

Project Number: CANISTER QC BAT **Report Date:** 12/27/18

AIR CAN CERTIFICATION RESULTS

Lab ID:	L1849158-01	Date Collected:	11/29/18 16:00
Client ID:	CAN 253 SHELF 4	Date Received:	12/01/18
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	12/01/18 17:47		
Analyst:	MB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	ND		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/m3	10	--	1
Toluene	ND		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	ND		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1852029

Project Number: CANISTER QC BAT **Report Date:** 12/27/18

AIR CAN CERTIFICATION RESULTS

Lab ID:	L1852029-01	Date Collected:	12/18/18 07:00
Client ID:	CAN 383 SHELF 3	Date Received:	12/18/18
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	12/18/18 17:53		
Analyst:	MB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	ND		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/m3	10	--	1
Toluene	ND		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	ND		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Project Name: SKYKOMISH
Project Number: 683-067

Lab Number: L1852222
Report Date: 12/27/18

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
N/A	Present/Intact

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1852222-01A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		APH-10(30),TO15-SIM(30)
L1852222-02A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		APH-10(30),TO15-SIM(30)
L1852222-03A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		APH-10(30),TO15-SIM(30)
L1852222-04A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		APH-10(30),TO15-SIM(30)
L1852222-05A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		APH-10(30),TO15-SIM(30)
L1852222-06A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		APH-10(30),TO15-SIM(30)

*Values in parentheses indicate holding time in days

Project Name:	SKYKOMISH	**Lab Number:**	L1852222
Project Number:	683-067	**Report Date:**	12/27/18

GLOSSARY

Acronyms

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.
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.
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.
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.

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.

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.

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.

Report Format: Data Usability Report

Project Name:	SKYKOMISH	**Lab Number:**	L1852222
Project Number:	683-067	**Report Date:**	12/27/18

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

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.

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.

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

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

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

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

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

Report Format: Data Usability Report

Project Name:	SKYKOMISH	**Lab Number:**	L1852222
Project Number:	683-067	**Report Date:**	12/27/18

REFERENCES

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

96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

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
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

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

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

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
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.**

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.

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

PAGE ___ OF ___

Date Rec'd in Lab: 12/19/18

ALPHA Job #: L1852222

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

Client Information

Client: FARALLON
Address: 975 5th AVE NW
Issaquah, WA 98027
Phone: 425-295-0800
Fax: 425-295-0850
Email: PKingston@farallonconsulting.com

❑ These samples have been previously analyzed by Alpha

Project Information

Project Name: Skykomish Hot Water Plume
Project Location: Skykomish, WA
Project #: 683-067
Project Manager: Pete Kingston
ALPHA Quote #:

Turn-Around Time

☒ Standard ❑ RUSH (only confirmed if pre-approved!)

Date Due: Time:

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)

Billing Information

❑ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☒

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	I D Can	I D - Flow Controller	TO-15	TO-15 SIM	APH	Fixed Gases	Sulfides & Mercaptans by TO-15	❑	Sample Comments (i.e. PID)
52222.01	2SE	12/10/18	0808	1608	29.48	7.02	AA	GP	2.7	2434	0321	X	X					Confirm analyses with project Manager.
.02	1C		0810	1610	29.51	6.17	AA	GP		2520	0833	X	X					
.03	1SE		0812	1612	29.62	8.24	AA	GP		2042	0635	X	X					
.04	BC		0755	1555	29.18	2.72	AA	GP		2552	0337	X	X					
.05	BNE		0759	1559	29.68	9.52	AA	GP		2027	0672	X	X					
.06	BSW		0815	1615	29.68	6.63	AA	GP		0108	0960	X	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:
[signature]	12/10/18 1200	~~UPS~~ FedEx	
~~UPS~~ FedEx		[signature] AAL	12/18/18 ~~15:02~~ 11:46

Form No: 101-02 Rev. (25-Sep-15)

ANALYTICAL REPORT

Lab Number:	L1912514
Client:	Farallon Consulting, L.L.C. 975 5th Avenue Northwest Issaquah, WA 98027
ATTN:	Peter Kingston
Phone:	(425) 295-0800
Project Name:	SKYKOMISH HOT WATER FLUSHING
Project Number:	683-067
Report Date:	04/08/19

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067

Lab Number: L1912514
Report Date: 04/08/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1912514-01	032119_2SE	AIR	SKYKOMISH, WA	03/21/19 15:14	03/28/19
L1912514-02	032119_1C	AIR	SKYKOMISH, WA	03/21/19 15:10	03/28/19
L1912514-03	032119_1SE	AIR	SKYKOMISH, WA	03/21/19 15:12	03/28/19
L1912514-04	032119_BC	AIR	SKYKOMISH, WA	03/21/19 15:17	03/28/19
L1912514-05	032119_BSW	AIR	SKYKOMISH, WA	03/21/19 15:19	03/28/19
L1912514-06	032119_BNE	AIR	SKYKOMISH, WA	03/21/19 15:20	03/28/19

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L1912514
Project Number:	683-067	**Report Date:**	04/08/19

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:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L1912514
Project Number:	683-067	**Report Date:**	04/08/19

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on March 15, 2019. The canister certification results are provided as an addendum.

Petroleum Hydrocarbons in Air

L1912514-01: Alpha-Pinene and D-Limonene are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1912514-01, -02, -04, and -06: Acetone, Isopropyl Alcohol, Siloxanes, 2-Butanone, Ethyl Acetate, Tetrahydrofuran, and Hexanal are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1912514-02 and -03: Alpha-Pinene, Siloxanes and D-Limonene are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1912514-03: Acetone, Isopropyl Alcohol, Siloxanes, 2-Butanone, and Hexanal are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1912514-04, -05, and -06: Alpha-Pinene, Siloxanes, 3-Carene and D-Limonene are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1912514-05: Acetone, Isopropyl Alcohol and Siloxanes are present in the C5-C8 Aliphatic Hydrocarbon

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L1912514
Project Number:	683-067	**Report Date:**	04/08/19

Case Narrative (continued)

range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

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: Susan E O'Neil Susan O' Neil

Title: Technical Director/Representative Date: 04/08/19

AIR

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L1912514
Report Date: 04/08/19

SAMPLE RESULTS

Lab ID: L1912514-01
Client ID: 032119_2SE
Sample Location: SKYKOMISH, WA

Date Collected: 03/21/19 15:14
Date Received: 03/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 04/05/19 19:05
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.515	0.100	--	1.65	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	98		60-140
bromochloromethane	100		60-140
chlorobenzene-d5	98		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L1912514
Report Date: 04/08/19

SAMPLE RESULTS

Lab ID: L1912514-02
Client ID: 032119_1C
Sample Location: SKYKOMISH, WA

Date Collected: 03/21/19 15:10
Date Received: 03/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 04/05/19 19:45
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.458	0.100	--	1.46	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

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

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L1912514
Report Date: 04/08/19

SAMPLE RESULTS

Lab ID: L1912514-03
Client ID: 032119_1SE
Sample Location: SKYKOMISH, WA

Date Collected: 03/21/19 15:12
Date Received: 03/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 04/05/19 21:05
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.393	0.100	--	1.26	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	95		60-140
bromochloromethane	97		60-140
chlorobenzene-d5	94		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L1912514
Report Date: 04/08/19

SAMPLE RESULTS

Lab ID: L1912514-04
Client ID: 032119_BC
Sample Location: SKYKOMISH, WA

Date Collected: 03/21/19 15:17
Date Received: 03/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 04/05/19 21:45
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.528	0.100	--	1.69	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

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

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L1912514
Report Date: 04/08/19

SAMPLE RESULTS

Lab ID: L1912514-05
Client ID: 032119_BSW
Sample Location: SKYKOMISH, WA

Date Collected: 03/21/19 15:19
Date Received: 03/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 04/05/19 22:25
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	0.029	0.020	--	0.064	0.044	--		1
Benzene	0.253	0.100	--	0.808	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	96		60-140
bromochloromethane	98		60-140
chlorobenzene-d5	95		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L1912514
Report Date: 04/08/19

SAMPLE RESULTS

Lab ID: L1912514-06
Client ID: 032119_BNE
Sample Location: SKYKOMISH, WA

Date Collected: 03/21/19 15:20
Date Received: 03/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 04/05/19 23:05
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	0.027	0.020	--	0.060	0.044	--		1
Benzene	0.253	0.100	--	0.808	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	93		60-140
bromochloromethane	95		60-140
chlorobenzene-d5	93		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L1912514
Report Date: 04/08/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 04/05/19 17:02

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1223651-4								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: SKYKOMISH HOT WATER FLUSHING

Project Number: 683-067

Lab Number: L1912514

Report Date: 04/08/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1223651-3								
1,3-Butadiene	91		-		70-130	-		25
Benzene	91		-		70-130	-		25
Naphthalene	84		-		70-130	-		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067

Lab Number: L1912514
Report Date: 04/08/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1223651-5 QC Sample: L1912514-02 Client ID: 032119_1C						
1,3-Butadiene	ND	ND	ppbV	NC		25
Benzene	0.458	0.461	ppbV	1		25
Naphthalene	ND	ND	ppbV	NC		25

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1912514

Project Number: 683-067 **Report Date:** 04/08/19

SAMPLE RESULTS

Lab ID:	L1912514-01	Date Collected:	03/21/19 15:14
Client ID:	032119_2SE	Date Received:	03/28/19
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	04/05/19 19:05		
Analyst:	RY		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	1.8		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	71		ug/m3	10	--	1
Toluene	95		ug/m3	0.90	--	1
Ethylbenzene	2.4		ug/m3	0.90	--	1
p/m-Xylene	5.9		ug/m3	0.90	--	1
o-Xylene	1.9		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	20		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	101		50-200
Bromochloromethane	103		50-200
Chlorobenzene-d5	104		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1912514

Project Number: 683-067 **Report Date:** 04/08/19

SAMPLE RESULTS

Lab ID:	L1912514-02	Date Collected:	03/21/19 15:10
Client ID:	032119_1C	Date Received:	03/28/19
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	04/05/19 19:45		
Analyst:	RY		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	1.5		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	58		ug/m3	10	--	1
Toluene	13		ug/m3	0.90	--	1
Ethylbenzene	1.3		ug/m3	0.90	--	1
p/m-Xylene	4.9		ug/m3	0.90	--	1
o-Xylene	1.5		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	11		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	100		50-200
Bromochloromethane	101		50-200
Chlorobenzene-d5	101		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1912514

Project Number: 683-067 **Report Date:** 04/08/19

SAMPLE RESULTS

Lab ID:	L1912514-03	Date Collected:	03/21/19 15:12
Client ID:	032119_1SE	Date Received:	03/28/19
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	04/05/19 21:05		
Analyst:	RY		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	1.3		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	35		ug/m3	10	--	1
Toluene	11		ug/m3	0.90	--	1
Ethylbenzene	1.1		ug/m3	0.90	--	1
p/m-Xylene	4.0		ug/m3	0.90	--	1
o-Xylene	1.3		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	98		50-200
Bromochloromethane	98		50-200
Chlorobenzene-d5	99		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1912514

Project Number: 683-067 **Report Date:** 04/08/19

SAMPLE RESULTS

Lab ID:	L1912514-04	Date Collected:	03/21/19 15:17
Client ID:	032119_BC	Date Received:	03/28/19
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	04/05/19 21:45		
Analyst:	RY		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	1.8		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	53		ug/m3	10	--	1
Toluene	14		ug/m3	0.90	--	1
Ethylbenzene	1.4		ug/m3	0.90	--	1
p/m-Xylene	5.7		ug/m3	0.90	--	1
o-Xylene	1.8		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	98		50-200
Bromochloromethane	100		50-200
Chlorobenzene-d5	100		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1912514

Project Number: 683-067 **Report Date:** 04/08/19

SAMPLE RESULTS

Lab ID:	L1912514-05	Date Collected:	03/21/19 15:19
Client ID:	032119_BSW	Date Received:	03/28/19
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	04/05/19 22:25		
Analyst:	RY		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	0.88		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	24		ug/m3	10	--	1
Toluene	7.1		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	2.3		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	98		50-200
Bromochloromethane	100		50-200
Chlorobenzene-d5	100		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1912514

Project Number: 683-067 **Report Date:** 04/08/19

SAMPLE RESULTS

Lab ID:	L1912514-06	Date Collected:	03/21/19 15:20
Client ID:	032119_BNE	Date Received:	03/28/19
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	04/05/19 23:05		
Analyst:	RY		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	0.86		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	55		ug/m3	10	--	1
Toluene	26		ug/m3	0.90	--	1
Ethylbenzene	1.5		ug/m3	0.90	--	1
p/m-Xylene	2.7		ug/m3	0.90	--	1
o-Xylene	0.93		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	36		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	96		50-200
Bromochloromethane	98		50-200
Chlorobenzene-d5	99		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1912514

Project Number: 683-067 **Report Date:** 04/08/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 96,APH
Analytical Date: 04/05/19 16:22
Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-06 Batch: WG1223643-4					
1,3-Butadiene	ND		ug/m3	0.50	--
Methyl tert butyl ether	ND		ug/m3	0.70	--
Benzene	ND		ug/m3	0.60	--
C5-C8 Aliphatics, Adjusted	ND		ug/m3	10	--
Toluene	ND		ug/m3	0.90	--
Ethylbenzene	ND		ug/m3	0.90	--
p/m-Xylene	ND		ug/m3	0.90	--
o-Xylene	ND		ug/m3	0.90	--
Naphthalene	ND		ug/m3	1.1	--
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--
C9-C10 Aromatics Total	ND		ug/m3	10	--

Lab Control Sample Analysis

Batch Quality Control

Project Name: SKYKOMISH HOT WATER FLUSHING

Project Number: 683-067

Lab Number: L1912514

Report Date: 04/08/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG1223643-3								
1,3-Butadiene	87		-		70-130	-		
Methyl tert butyl ether	83		-		70-130	-		
Benzene	101		-		70-130	-		
C5-C8 Aliphatics, Adjusted	98		-		70-130	-		
Toluene	123		-		70-130	-		
Ethylbenzene	120		-		70-130	-		
p/m-Xylene	117		-		70-130	-		
o-Xylene	121		-		70-130	-		
Naphthalene	122		-		50-150	-		
C9-C12 Aliphatics, Adjusted	130		-		70-130	-		
C9-C10 Aromatics Total	111		-		70-130	-		

Lab Duplicate Analysis
Batch Quality Control

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067

Lab Number: L1912514
Report Date: 04/08/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1223643-5 QC Sample: L1912514-02 Client ID: 032119_1C						
1,3-Butadiene	ND	ND	ug/m3	NC		30
Methyl tert butyl ether	ND	ND	ug/m3	NC		30
Benzene	1.5	1.6	ug/m3	6		30
C5-C8 Aliphatics, Adjusted	58	60	ug/m3	3		30
Toluene	13	13	ug/m3	0		30
Ethylbenzene	1.3	1.2	ug/m3	8		30
p/m-Xylene	4.9	4.8	ug/m3	2		30
o-Xylene	1.5	1.6	ug/m3	6		30
Naphthalene	ND	ND	ug/m3	NC		30
C9-C12 Aliphatics, Adjusted	11	13	ug/m3	17		30
C9-C10 Aromatics Total	ND	ND	ug/m3	NC		30

Project Name: SKYKOMISH HOT WATER FLUSHING

Lab Number: L1912514

Project Number: 683-067

Report Date: 04/08/19

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1912514-01	032119_2SE	0811	Flow 3	03/15/19	286597		-	-	-	Pass	4.5	5.0	11
L1912514-01	032119_2SE	118	2.7L Can	03/15/19	286597	L1901590-01	Pass	-29.7	-4.5	-	-	-	-
L1912514-02	032119_1C	0301	Flow 4	03/15/19	286597		-	-	-	Pass	4.5	4.9	9
L1912514-02	032119_1C	549	2.7L Can	03/15/19	286597	L1901586-02	Pass	-29.7	-1.4	-	-	-	-
L1912514-03	032119_1SE	0471	Flow 5	03/15/19	286597		-	-	-	Pass	4.5	5.1	13
L1912514-03	032119_1SE	334	2.7L Can	03/15/19	286597	L1901664-01	Pass	-29.8	-4.8	-	-	-	-
L1912514-04	032119_BC	0795	Flow 4	03/15/19	286597		-	-	-	-	4.5	4.8	-
L1912514-04	032119_BC	356	2.7L Can	03/15/19	286597	L1901364-01	Pass	-29.7	-5.3	-	-	-	-
L1912514-05	032119_BSW	0272	Flow 5	03/15/19	286597		-	-	-	Pass	4.5	5.1	13
L1912514-05	032119_BSW	469	2.7L Can	03/15/19	286597	L1905106-02	Pass	-30.0	-5.1	-	-	-	-
L1912514-06	032119_BNE	0722	Flow 5	-	-		-	-	-	-	-	5.0	-
L1912514-06	032119_BNE	461	2.7L Can	03/15/19	286597	L1906364-02	Pass	-30.0	-6.4	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901364
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901364-01
Client ID: CAN 356 SHELF 2
Sample Location:

Date Collected: 01/10/19 16:00
Date Received: 01/11/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 01/11/19 19:46
Analyst: RY

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901364
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901364-01
Client ID: CAN 356 SHELF 2
Sample Location:

Date Collected: 01/10/19 16:00
Date Received: 01/11/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Xylenes, total	ND	0.600	--	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: L1901364
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901364-01
Client ID: CAN 356 SHELF 2
Sample Location:

Date Collected: 01/10/19 16:00
Date Received: 01/11/19
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901364
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901364-01
Client ID: CAN 356 SHELF 2
Sample Location:

Date Collected: 01/10/19 16:00
Date Received: 01/11/19
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901364
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901364-01
Client ID: CAN 356 SHELF 2
Sample Location:

Date Collected: 01/10/19 16:00
Date Received: 01/11/19
Field Prep: Not Specified

Sample Depth:

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

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	78		60-140
Bromochloromethane	79		60-140
chlorobenzene-d5	77		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901364
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901364-01
Client ID: CAN 356 SHELF 2
Sample Location:

Date Collected: 01/10/19 16:00
Date Received: 01/11/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 01/11/19 19:46
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
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
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901364
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901364-01
Client ID: CAN 356 SHELF 2
Sample Location:

Date Collected: 01/10/19 16:00
Date Received: 01/11/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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
1,1,2,2-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
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901364
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901364-01
Client ID: CAN 356 SHELF 2
Sample Location:

Date Collected: 01/10/19 16:00
Date Received: 01/11/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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	85		60-140
bromochloromethane	89		60-140
chlorobenzene-d5	83		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901586
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901586-02
Client ID: CAN 549 SHELF 4
Sample Location:

Date Collected: 01/11/19 16:00
Date Received: 01/12/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 01/12/19 17:45
Analyst: MB

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

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

Lab Number: L1901586
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901586-02
Client ID: CAN 549 SHELF 4
Sample Location:

Date Collected: 01/11/19 16:00
Date Received: 01/12/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Xylenes, total	ND	0.600	--	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: L1901586
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901586-02
Client ID: CAN 549 SHELF 4
Sample Location:

Date Collected: 01/11/19 16:00
Date Received: 01/12/19
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901586
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901586-02
Client ID: CAN 549 SHELF 4
Sample Location:

Date Collected: 01/11/19 16:00
Date Received: 01/12/19
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901586
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901586-02
Client ID: CAN 549 SHELF 4
Sample Location:

Date Collected: 01/11/19 16:00
Date Received: 01/12/19
Field Prep: Not Specified

Sample Depth:

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

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	87		60-140
Bromochloromethane	89		60-140
chlorobenzene-d5	87		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901586
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901586-02
Client ID: CAN 549 SHELF 4
Sample Location:

Date Collected: 01/11/19 16:00
Date Received: 01/12/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 01/12/19 17:45
Analyst: EW

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
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
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901586
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901586-02
Client ID: CAN 549 SHELF 4
Sample Location:

Date Collected: 01/11/19 16:00
Date Received: 01/12/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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
1,1,2,2-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
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901586
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901586-02
Client ID: CAN 549 SHELF 4
Sample Location:

Date Collected: 01/11/19 16:00
Date Received: 01/12/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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	86		60-140
bromochloromethane	89		60-140
chlorobenzene-d5	84		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901590
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901590-01
Client ID: CAN 118 SHELF 5
Sample Location:

Date Collected: 01/11/19 16:00
Date Received: 01/14/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 01/14/19 15:53
Analyst: MB

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901590
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901590-01
Client ID: CAN 118 SHELF 5
Sample Location:

Date Collected: 01/11/19 16:00
Date Received: 01/14/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Xylenes, total	ND	0.600	--	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: L1901590
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901590-01
Client ID: CAN 118 SHELF 5
Sample Location:

Date Collected: 01/11/19 16:00
Date Received: 01/14/19
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901590
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901590-01
Client ID: CAN 118 SHELF 5
Sample Location:

Date Collected: 01/11/19 16:00
Date Received: 01/14/19
Field Prep: Not Specified

Sample Depth:

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

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

Lab Number: L1901590
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901590-01
Client ID: CAN 118 SHELF 5
Sample Location:

Date Collected: 01/11/19 16:00
Date Received: 01/14/19
Field Prep: Not Specified

Sample Depth:

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

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	92		60-140
Bromochloromethane	93		60-140
chlorobenzene-d5	94		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901590
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901590-01
Client ID: CAN 118 SHELF 5
Sample Location:

Date Collected: 01/11/19 16:00
Date Received: 01/14/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 01/14/19 17:45
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
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
Butane	ND	0.200	--	ND	0.475	--		1
Acetaldehyde	ND	2.50	--	ND	4.50	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	2.50	--	ND	4.71	--		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
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
tert-Butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	1.00	--	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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901590
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901590-01
Client ID: CAN 118 SHELF 5
Sample Location:

Date Collected: 01/11/19 16:00
Date Received: 01/14/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
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
Chloroform	ND	0.200	--	ND	0.977	--		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
Thiophene	ND	0.200	--	ND	0.688	--		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-Methylthiophene	ND	0.200	--	ND	0.803	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
3-Methylthiophene	ND	0.200	--	ND	0.803	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901590
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901590-01
Client ID: CAN 118 SHELF 5
Sample Location:

Date Collected: 01/11/19 16:00
Date Received: 01/14/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Octane	ND	0.200	--	ND	0.934	--		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
2-Ethylthiophene	ND	0.200	--	ND	0.918	--		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
o-Xylene	ND	0.200	--	ND	0.869	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
2-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
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,3-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
Indane	ND	0.200	--	ND	0.967	--		1
Indene	ND	0.200	--	ND	0.951	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
1,2,4,5-Tetramethylbenzene	ND	0.200	--	ND	1.10	--		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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901590
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901590-01
Client ID: CAN 118 SHELF 5
Sample Location:

Date Collected: 01/11/19 16:00
Date Received: 01/14/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Benzothiophene	ND	0.500	--	ND	2.74	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1
2-Methylnaphthalene	ND	1.00	--	ND	5.82	--		1
1-Methylnaphthalene	ND	1.00	--	ND	5.82	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	100		60-140
Bromochloromethane	99		60-140
chlorobenzene-d5	101		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901590
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901590-01
Client ID: CAN 118 SHELF 5
Sample Location:

Date Collected: 01/11/19 16:00
Date Received: 01/14/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 01/14/19 15:53
Analyst: MB

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
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
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901590
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901590-01
Client ID: CAN 118 SHELF 5
Sample Location:

Date Collected: 01/11/19 16:00
Date Received: 01/14/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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
1,1,2,2-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
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901590
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901590-01
Client ID: CAN 118 SHELF 5
Sample Location:

Date Collected: 01/11/19 16:00
Date Received: 01/14/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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	94		60-140
chlorobenzene-d5	94		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901664
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901664-01
Client ID: CAN 334 SHELF 3
Sample Location:

Date Collected: 01/14/19 09:00
Date Received: 01/14/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 01/14/19 18:29
Analyst: MB

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901664
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901664-01
Client ID: CAN 334 SHELF 3
Sample Location:

Date Collected: 01/14/19 09:00
Date Received: 01/14/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Xylenes, total	ND	0.600	--	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: L1901664
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901664-01
Client ID: CAN 334 SHELF 3
Sample Location:

Date Collected: 01/14/19 09:00
Date Received: 01/14/19
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901664
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901664-01
Client ID: CAN 334 SHELF 3
Sample Location:

Date Collected: 01/14/19 09:00
Date Received: 01/14/19
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901664
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901664-01
Client ID: CAN 334 SHELF 3
Sample Location:

Date Collected: 01/14/19 09:00
Date Received: 01/14/19
Field Prep: Not Specified

Sample Depth:

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

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	88		60-140
Bromochloromethane	91		60-140
chlorobenzene-d5	93		60-140

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

Lab Number: L1901664
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901664-01
Client ID: CAN 334 SHELF 3
Sample Location:

Date Collected: 01/14/19 09:00
Date Received: 01/14/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 01/14/19 18:29
Analyst: MB

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
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
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901664
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901664-01
Client ID: CAN 334 SHELF 3
Sample Location:

Date Collected: 01/14/19 09:00
Date Received: 01/14/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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
1,1,2,2-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
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1901664
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1901664-01
Client ID: CAN 334 SHELF 3
Sample Location:

Date Collected: 01/14/19 09:00
Date Received: 01/14/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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	89		60-140
bromochloromethane	92		60-140
chlorobenzene-d5	91		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1905106
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1905106-02
Client ID: CAN 469 SHELF 1
Sample Location:

Date Collected: 02/07/19 16:00
Date Received: 02/08/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 02/08/19 18:15
Analyst: RY

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1905106
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1905106-02
Client ID: CAN 469 SHELF 1
Sample Location:

Date Collected: 02/07/19 16:00
Date Received: 02/08/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Xylenes, total	ND	0.600	--	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: L1905106
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1905106-02
Client ID: CAN 469 SHELF 1
Sample Location:

Date Collected: 02/07/19 16:00
Date Received: 02/08/19
Field Prep: Not Specified

Sample Depth:

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

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

Lab Number: L1905106
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1905106-02
Client ID: CAN 469 SHELF 1
Sample Location:

Date Collected: 02/07/19 16:00
Date Received: 02/08/19
Field Prep: Not Specified

Sample Depth:

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

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

Lab Number: L1905106
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1905106-02
Client ID: CAN 469 SHELF 1
Sample Location:

Date Collected: 02/07/19 16:00
Date Received: 02/08/19
Field Prep: Not Specified

Sample Depth:

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

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	101		60-140
Bromochloromethane	103		60-140
chlorobenzene-d5	96		60-140

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

Lab Number: L1905106
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1905106-02
Client ID: CAN 469 SHELF 1
Sample Location:

Date Collected: 02/07/19 16:00
Date Received: 02/08/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 02/08/19 18:15
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
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
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

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

Lab Number: L1905106
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1905106-02
Client ID: CAN 469 SHELF 1
Sample Location:

Date Collected: 02/07/19 16:00
Date Received: 02/08/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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
1,1,2,2-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
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1905106
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1905106-02
Client ID: CAN 469 SHELF 1
Sample Location:

Date Collected: 02/07/19 16:00
Date Received: 02/08/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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	99		60-140
bromochloromethane	102		60-140
chlorobenzene-d5	98		60-140

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

Lab Number: L1906364
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1906364-02
Client ID: CAN 461 SHELF 2
Sample Location:

Date Collected: 02/18/19 09:00
Date Received: 02/18/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 02/19/19 08:59
Analyst: TS

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1906364
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1906364-02
Client ID: CAN 461 SHELF 2
Sample Location:

Date Collected: 02/18/19 09:00
Date Received: 02/18/19
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1906364
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1906364-02
Client ID: CAN 461 SHELF 2
Sample Location:

Date Collected: 02/18/19 09:00
Date Received: 02/18/19
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1906364
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1906364-02
Client ID: CAN 461 SHELF 2
Sample Location:

Date Collected: 02/18/19 09:00
Date Received: 02/18/19
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1906364
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1906364-02
Client ID: CAN 461 SHELF 2
Sample Location:

Date Collected: 02/18/19 09:00
Date Received: 02/18/19
Field Prep: Not Specified

Sample Depth:

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

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	96		60-140
Bromochloromethane	98		60-140
chlorobenzene-d5	90		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1906364
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1906364-02
Client ID: CAN 461 SHELF 2
Sample Location:

Date Collected: 02/18/19 09:00
Date Received: 02/18/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 02/19/19 08:59
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
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
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

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

Lab Number: L1906364
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1906364-02
Client ID: CAN 461 SHELF 2
Sample Location:

Date Collected: 02/18/19 09:00
Date Received: 02/18/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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
1,1,2,2-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
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1906364
Report Date: 04/08/19

Air Canister Certification Results

Lab ID: L1906364-02
Client ID: CAN 461 SHELF 2
Sample Location:

Date Collected: 02/18/19 09:00
Date Received: 02/18/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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	94		60-140
bromochloromethane	95		60-140
chlorobenzene-d5	92		60-140

AIR Petro Can Certification

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1901364

Project Number: CANISTER QC BAT **Report Date:** 04/08/19

AIR CAN CERTIFICATION RESULTS

Lab ID:	L1901364-01	Date Collected:	01/10/19 16:00
Client ID:	CAN 356 SHELF 2	Date Received:	01/11/19
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	01/11/19 19:46		
Analyst:	RY		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	ND		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/m3	10	--	1
Toluene	ND		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	ND		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1901586

Project Number: CANISTER QC BAT **Report Date:** 04/08/19

AIR CAN CERTIFICATION RESULTS

Lab ID:	L1901586-02	Date Collected:	01/11/19 16:00
Client ID:	CAN 549 SHELF 4	Date Received:	01/12/19
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	01/12/19 17:45		
Analyst:	MB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	ND		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/m3	10	--	1
Toluene	ND		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	ND		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1901590

Project Number: CANISTER QC BAT **Report Date:** 04/08/19

AIR CAN CERTIFICATION RESULTS

Lab ID:	L1901590-01	Date Collected:	01/11/19 16:00
Client ID:	CAN 118 SHELF 5	Date Received:	01/14/19
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	01/14/19 15:53		
Analyst:	MB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	ND		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/m3	10	--	1
Toluene	ND		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	ND		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1901664

Project Number: CANISTER QC BAT **Report Date:** 04/08/19

AIR CAN CERTIFICATION RESULTS

Lab ID:	L1901664-01	Date Collected:	01/14/19 09:00
Client ID:	CAN 334 SHELF 3	Date Received:	01/14/19
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	01/14/19 18:29		
Analyst:	MB		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	ND		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/m3	10	--	1
Toluene	ND		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	ND		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1905106

Project Number: CANISTER QC BAT **Report Date:** 04/08/19

AIR CAN CERTIFICATION RESULTS

Lab ID:	L1905106-02	Date Collected:	02/07/19 16:00
Client ID:	CAN 469 SHELF 1	Date Received:	02/08/19
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	02/08/19 18:15		
Analyst:	RY		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	ND		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/m3	10	--	1
Toluene	ND		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	ND		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1906364

Project Number: CANISTER QC BAT **Report Date:** 04/08/19

AIR CAN CERTIFICATION RESULTS

Lab ID:	L1906364-02	Date Collected:	02/18/19 09:00
Client ID:	CAN 461 SHELF 2	Date Received:	02/18/19
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	02/19/19 08:59		
Analyst:	RY		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	ND		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/m3	10	--	1
Toluene	ND		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	ND		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067

Lab Number: L1912514
Report Date: 04/08/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
N/A	Present/Intact

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1912514-01A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		APH-10(30),TO15-SIM(30)
L1912514-02A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		APH-10(30),TO15-SIM(30)
L1912514-03A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		APH-10(30),TO15-SIM(30)
L1912514-04A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		APH-10(30),TO15-SIM(30)
L1912514-05A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		APH-10(30),TO15-SIM(30)
L1912514-06A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		APH-10(30),TO15-SIM(30)

*Values in parentheses indicate holding time in days

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L1912514
Project Number:	683-067	**Report Date:**	04/08/19

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.

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.

Footnotes

Report Format: Data Usability Report

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L1912514
Project Number:	683-067	**Report Date:**	04/08/19

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.

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.

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. If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

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.

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 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.

Report Format: Data Usability Report

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L1912514
Project Number:	683-067	**Report Date:**	04/08/19

REFERENCES

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

96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

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
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

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

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

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
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.**

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.

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

PAGE 1 OF 1

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

Date Rec'd in Lab: 3/28/19

ALPHA Job #: L1912154

Client Information

Client: Farallon Consulting
Address: 975 5th Avenue Northwest
Issaquah, Washington 98027
Phone: 425-295-0800
Fax: 425-295-0850
Email: Pkingston@farallonconsulting.c

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Skykomish Hot Water Flushing
Project Location: Skykomish, Washington
Project #: 683-067
Project Manager: Pete Kingston
ALPHA Quote #:

Turn-Around-Time

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

Date Due: Time:

Report/Data Deliverables Information

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Residential/Commercial

Other Project Specific Requirements/Comments:
☒ Project-Specific Target Compound List
SIM: Benzene, Naphthalene, 1,3 Butadiene

Analysis

All Columns Below Must Be Filled Out

Alpha Lab Use Only	Sample ID	Collection: End Date	Start Time	End Time	Initial Vac	Final Vac	Sample Matrix*	Sampler Initials	Can Size	ID Can	ID Flow Controller	TO-15	TO-15 SIM	Subtract non-petroleum HCs APH	FIXED GASES	Sulfides & Mercaptans by TO-15			Sample Specific Comments (i.e. PID)
1251401	032119 _2SE	3/21/19	0714	1514	-28.16	-3.94	AA	GP	2.7	118	0811	☐	☒	☒	☐	☐	☐	☐	
02	032119 _1C		0710	1510	-29.17	-0.39	AA	GP	2.7	549	0301	☐	☒	☒	☐	☐	☐	☐	
03	032119 _1SE		0712	1512	-29.30	-4.07	AA	GP	2.7	334	0471	☐	☒	☒	☐	☐	☐	☐	
04	032119 _BC		0717	1517	-28.78	-4.08	AA	GP	2.7	356	0795	☐	☒	☒	☐	☐	☐	☐	
05	032119 _BSW		0719	1519	-29.20	-4.23	AA	GP	2.7	469	0272	☐	☒	☒	☐	☐	☐	☐	
06	032119 _BNE		0720	1520	-29.61	-5.41	AA	GP	2.7	461	0722	☐	☒	☒	☐	☐	☐	☐	
											Container Type	C	C	C	C	C	C	C	

***SAMPLE MATRIX CODES:**

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Relinquished By	Date/Time	Received By:	Date/Time
[signature]	3/28/19 0800	FedEx	
FedEx		[signature]	3/28/19 1030

Please print clearly & legibly and completely. Samples cannot be logged in and turn around time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

Form 101-02 (I) Rev: 25-Sept-15

ANALYTICAL REPORT

Lab Number:	L1928389
Client:	Farallon Consulting, L.L.C. 975 5th Avenue Northwest Issaquah, WA 98027
ATTN:	Peter Kingston
Phone:	(425) 295-0800
Project Name:	SKYKOMISH HOT WATER FLUSHING
Project Number:	683-067
Report Date:	07/10/19

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067

Lab Number: L1928389
Report Date: 07/10/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1928389-01	061719_2SE	AIR	SKYKOMISH, WA	06/17/19 15:31	06/27/19
L1928389-02	061719_1C	AIR	SKYKOMISH, WA	06/17/19 15:33	06/27/19
L1928389-03	061719_1SE	AIR	SKYKOMISH, WA	06/17/19 15:29	06/27/19
L1928389-04	061719_BC	AIR	SKYKOMISH, WA	06/17/19 15:24	06/27/19
L1928389-05	061719_BSW	AIR	SKYKOMISH, WA	06/17/19 15:25	06/27/19
L1928389-06	061719_BNE	AIR	SKYKOMISH, WA	06/17/19 15:27	06/27/19

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L1928389
Project Number:	683-067	**Report Date:**	07/10/19

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:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L1928389
Project Number:	683-067	**Report Date:**	07/10/19

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on June 13, 2019. The canister certification results are provided as an addendum.

Petroleum Hydrocarbons in Air

L1928389-01 through -06: D-limonene, alpha-Pinene, siloxanes are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1928389-01: acetone, siloxanes, 2-butanone, isopropyl alcohol, hexanal and tetrachloroethane are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1928389-02, -04, and -06: acetone, siloxanes, 2-butanone, isopropyl alcohol, hexanal and tetrahydrofuran are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1928389-03: acetone, siloxanes, 2-butanone, isopropyl alcohol, pentanal, hexanal and tetrahydrofuran are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1928389-05: acetone, siloxanes, 2-butanone, isopropyl alcohol, ethyl acetate, hexanal and tetrahydrofuran are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

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: 07/10/19

AIR

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L1928389
Report Date: 07/10/19

SAMPLE RESULTS

Lab ID: L1928389-01
Client ID: 061719_2SE
Sample Location: SKYKOMISH, WA

Date Collected: 06/17/19 15:31
Date Received: 06/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 07/06/19 20:07
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.481	0.100	--	1.54	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	83		60-140
bromochloromethane	86		60-140
chlorobenzene-d5	86		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L1928389
Report Date: 07/10/19

SAMPLE RESULTS

Lab ID: L1928389-02
Client ID: 061719_1C
Sample Location: SKYKOMISH, WA

Date Collected: 06/17/19 15:33
Date Received: 06/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 07/06/19 20:47
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	86		60-140
bromochloromethane	88		60-140
chlorobenzene-d5	88		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L1928389
Report Date: 07/10/19

SAMPLE RESULTS

Lab ID: L1928389-03
Client ID: 061719_1SE
Sample Location: SKYKOMISH, WA

Date Collected: 06/17/19 15:29
Date Received: 06/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 07/06/19 21:28
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	87		60-140
bromochloromethane	89		60-140
chlorobenzene-d5	88		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L1928389
Report Date: 07/10/19

SAMPLE RESULTS

Lab ID: L1928389-04
Client ID: 061719_BC
Sample Location: SKYKOMISH, WA

Date Collected: 06/17/19 15:24
Date Received: 06/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 07/06/19 22:48
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.191	0.100	--	0.610	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	88		60-140
bromochloromethane	90		60-140
chlorobenzene-d5	89		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L1928389
Report Date: 07/10/19

SAMPLE RESULTS

Lab ID: L1928389-05
Client ID: 061719_BSW
Sample Location: SKYKOMISH, WA

Date Collected: 06/17/19 15:25
Date Received: 06/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 07/06/19 23:29
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.201	0.100	--	0.642	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	84		60-140
bromochloromethane	87		60-140
chlorobenzene-d5	87		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L1928389
Report Date: 07/10/19

SAMPLE RESULTS

Lab ID: L1928389-06
Client ID: 061719_BNE
Sample Location: SKYKOMISH, WA

Date Collected: 06/17/19 15:27
Date Received: 06/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 07/07/19 00:09
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.295	0.100	--	0.942	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	86		60-140
bromochloromethane	87		60-140
chlorobenzene-d5	89		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L1928389
Report Date: 07/10/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 07/06/19 14:53

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1256741-4								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: SKYKOMISH HOT WATER FLUSHING

Project Number: 683-067

Lab Number: L1928389

Report Date: 07/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1256741-3								
1,3-Butadiene	100		-		70-130	-		25
Benzene	91		-		70-130	-		25
Naphthalene	77		-		70-130	-		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067

Lab Number: L1928389
Report Date: 07/10/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1256741-5 QC Sample: L1928389-03 Client ID: 061719_1SE						
1,3-Butadiene	ND	ND	ppbV	NC		25
Benzene	ND	ND	ppbV	NC		25
Naphthalene	ND	ND	ppbV	NC		25

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1928389

Project Number: 683-067 **Report Date:** 07/10/19

SAMPLE RESULTS

Lab ID:	L1928389-01	Date Collected:	06/17/19 15:31
Client ID:	061719_2SE	Date Received:	06/27/19
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	07/06/19 20:07		
Analyst:	RY		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	1.7		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	120		ug/m3	10	--	1
Toluene	16		ug/m3	0.90	--	1
Ethylbenzene	1.7		ug/m3	0.90	--	1
p/m-Xylene	6.6		ug/m3	0.90	--	1
o-Xylene	2.2		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	45		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	82		50-200
Bromochloromethane	82		50-200
Chlorobenzene-d5	86		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1928389

Project Number: 683-067 **Report Date:** 07/10/19

SAMPLE RESULTS

Lab ID:	L1928389-02	Date Collected:	06/17/19 15:33
Client ID:	061719_1C	Date Received:	06/27/19
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	07/06/19 20:47		
Analyst:	RY		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	ND		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	16		ug/m3	10	--	1
Toluene	1.6		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	ND		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	10		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	85		50-200
Bromochloromethane	85		50-200
Chlorobenzene-d5	87		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1928389

Project Number: 683-067 **Report Date:** 07/10/19

SAMPLE RESULTS

Lab ID:	L1928389-03	Date Collected:	06/17/19 15:29
Client ID:	061719_1SE	Date Received:	06/27/19
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	07/06/19 21:28		
Analyst:	RY		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	ND		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	19		ug/m3	10	--	1
Toluene	1.6		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	0.96		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	87		50-200
Bromochloromethane	88		50-200
Chlorobenzene-d5	87		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1928389

Project Number: 683-067 **Report Date:** 07/10/19

SAMPLE RESULTS

Lab ID:	L1928389-04	Date Collected:	06/17/19 15:24
Client ID:	061719_BC	Date Received:	06/27/19
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	07/06/19 22:48		
Analyst:	RY		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	0.71		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	32		ug/m3	10	--	1
Toluene	4.7		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	2.2		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	86		50-200
Bromochloromethane	89		50-200
Chlorobenzene-d5	90		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1928389

Project Number: 683-067 **Report Date:** 07/10/19

SAMPLE RESULTS

Lab ID:	L1928389-05	Date Collected:	06/17/19 15:25
Client ID:	061719_BSW	Date Received:	06/27/19
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	07/06/19 23:29		
Analyst:	RY		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	0.68		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	44		ug/m3	10	--	1
Toluene	5.6		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	2.3		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	23		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	86		50-200
Bromochloromethane	85		50-200
Chlorobenzene-d5	87		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1928389

Project Number: 683-067 **Report Date:** 07/10/19

SAMPLE RESULTS

Lab ID:	L1928389-06	Date Collected:	06/17/19 15:27
Client ID:	061719_BNE	Date Received:	06/27/19
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	07/07/19 00:09		
Analyst:	RY		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	1.1		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	65		ug/m3	10	--	1
Toluene	9.2		ug/m3	0.90	--	1
Ethylbenzene	1.0		ug/m3	0.90	--	1
p/m-Xylene	4.0		ug/m3	0.90	--	1
o-Xylene	1.4		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	30		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	86		50-200
Bromochloromethane	86		50-200
Chlorobenzene-d5	89		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1928389

Project Number: 683-067 **Report Date:** 07/10/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 96,APH
Analytical Date: 07/06/19 14:13
Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-06 Batch: WG1256740-4					
1,3-Butadiene	ND		ug/m3	0.50	--
Methyl tert butyl ether	ND		ug/m3	0.70	--
Benzene	ND		ug/m3	0.60	--
C5-C8 Aliphatics, Adjusted	ND		ug/m3	10	--
Toluene	ND		ug/m3	0.90	--
Ethylbenzene	ND		ug/m3	0.90	--
p/m-Xylene	ND		ug/m3	0.90	--
o-Xylene	ND		ug/m3	0.90	--
Naphthalene	ND		ug/m3	1.1	--
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--
C9-C10 Aromatics Total	ND		ug/m3	10	--

Lab Control Sample Analysis

Batch Quality Control

Project Name: SKYKOMISH HOT WATER FLUSHING

Project Number: 683-067

Lab Number: L1928389

Report Date: 07/10/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG1256740-3								
1,3-Butadiene	127		-		70-130	-		
Methyl tert butyl ether	110		-		70-130	-		
Benzene	104		-		70-130	-		
C5-C8 Aliphatics, Adjusted	115		-		70-130	-		
Toluene	107		-		70-130	-		
Ethylbenzene	110		-		70-130	-		
p/m-Xylene	104		-		70-130	-		
o-Xylene	105		-		70-130	-		
Naphthalene	90		-		50-150	-		
C9-C12 Aliphatics, Adjusted	108		-		70-130	-		
C9-C10 Aromatics Total	87		-		70-130	-		

Lab Duplicate Analysis
Batch Quality Control

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067

Lab Number: L1928389
Report Date: 07/10/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1256740-5 QC Sample: L1928389-03 Client ID: 061719_1SE						
1,3-Butadiene	ND	ND	ug/m3	NC		30
Methyl tert butyl ether	ND	ND	ug/m3	NC		30
Benzene	ND	ND	ug/m3	NC		30
C5-C8 Aliphatics, Adjusted	19	16	ug/m3	17		30
Toluene	1.6	1.6	ug/m3	0		30
Ethylbenzene	ND	ND	ug/m3	NC		30
p/m-Xylene	0.96	0.92	ug/m3	4		30
o-Xylene	ND	ND	ug/m3	NC		30
Naphthalene	ND	ND	ug/m3	NC		30
C9-C12 Aliphatics, Adjusted	ND	ND	ug/m3	NC		30
C9-C10 Aromatics Total	ND	ND	ug/m3	NC		30

Project Name: SKYKOMISH HOT WATER FLUSHING

Lab Number: L1928389

Project Number: 683-067

Report Date: 07/10/19

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1928389-01	061719_2SE	0702	Flow 5	06/13/19	294201		-	-	-	Pass	4.5	5.6	22
L1928389-01	061719_2SE	3006	2.7L Can	06/13/19	294201	L1924400-01	Pass	-29.5	-3.2	-	-	-	-
L1928389-02	061719_1C	0048	Flow 4	06/13/19	294201		-	-	-	Pass	4.5	4.8	6
L1928389-02	061719_1C	2995	2.7L Can	06/13/19	294201	L1924400-01	Pass	-29.4	-5.8	-	-	-	-
L1928389-03	061719_1SE	0385	Flow 5	06/13/19	294201		-	-	-	Pass	4.5	6.2	32
L1928389-03	061719_1SE	2341	2.7L Can	06/13/19	294201	L1924400-01	Pass	-29.5	0.0	-	-	-	-
L1928389-04	061719_BC	0084	Flow 5	06/13/19	294201		-	-	-	Pass	4.5	6.2	32
L1928389-04	061719_BC	3007	2.7L Can	06/13/19	294201	L1924400-01	Pass	-29.5	-1.3	-	-	-	-
L1928389-05	061719_BSW	0715	Flow 5	06/13/19	294201		-	-	-	Pass	4.5	5.1	13
L1928389-05	061719_BSW	2993	2.7L Can	06/13/19	294201	L1924400-01	Pass	-29.3	-6.3	-	-	-	-
L1928389-06	061719_BNE	0766	Flow 5	06/13/19	294201		-	-	-	Pass	4.5	4.9	9
L1928389-06	061719_BNE	2824	2.7L Can	06/13/19	294201	L1924400-01	Pass	-29.6	-7.1	-	-	-	-

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

Lab Number: L1924400
Report Date: 07/10/19

Air Canister Certification Results

Lab ID: L1924400-01
Client ID: CAN 424 SHELF 8
Sample Location:

Date Collected: 06/07/19 09:00
Date Received: 06/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 06/07/19 19:35
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1

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

Lab Number: L1924400
Report Date: 07/10/19

Air Canister Certification Results

Lab ID: L1924400-01
Client ID: CAN 424 SHELF 8
Sample Location:

Date Collected: 06/07/19 09:00
Date Received: 06/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
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
Dibromomethane	ND	0.200	--	ND	1.42	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1924400
Report Date: 07/10/19

Air Canister Certification Results

Lab ID: L1924400-01
Client ID: CAN 424 SHELF 8
Sample Location:

Date Collected: 06/07/19 09:00
Date Received: 06/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
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
o-Xylene	ND	0.200	--	ND	0.869	--		1

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

Lab Number: L1924400
Report Date: 07/10/19

Air Canister Certification Results

Lab ID: L1924400-01
Client ID: CAN 424 SHELF 8
Sample Location:

Date Collected: 06/07/19 09:00
Date Received: 06/07/19
Field Prep: Not Specified

Sample Depth:

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

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

Lab Number: L1924400
Report Date: 07/10/19

Air Canister Certification Results

Lab ID: L1924400-01
Client ID: CAN 424 SHELF 8
Sample Location:

Date Collected: 06/07/19 09:00
Date Received: 06/07/19
Field Prep: Not Specified

Sample Depth:

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

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	88		60-140
Bromochloromethane	93		60-140
chlorobenzene-d5	90		60-140

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

Lab Number: L1924400
Report Date: 07/10/19

Air Canister Certification Results

Lab ID: L1924400-01
Client ID: CAN 424 SHELF 8
Sample Location:

Date Collected: 06/07/19 09:00
Date Received: 06/07/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 06/07/19 19:35
Analyst: TS

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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
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
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

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

Lab Number: L1924400
Report Date: 07/10/19

Air Canister Certification Results

Lab ID: L1924400-01
Client ID: CAN 424 SHELF 8
Sample Location:

Date Collected: 06/07/19 09:00
Date Received: 06/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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
1,1,2,2-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
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1924400
Report Date: 07/10/19

Air Canister Certification Results

Lab ID: L1924400-01
Client ID: CAN 424 SHELF 8
Sample Location:

Date Collected: 06/07/19 09:00
Date Received: 06/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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	94		60-140
bromochloromethane	101		60-140
chlorobenzene-d5	98		60-140

AIR Petro Can Certification

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1924400

Project Number: CANISTER QC BAT **Report Date:** 07/10/19

AIR CAN CERTIFICATION RESULTS

Lab ID:	L1924400-01	Date Collected:	06/07/19 09:00
Client ID:	CAN 424 SHELF 8	Date Received:	06/07/19
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	06/07/19 19:35		
Analyst:	RY		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	ND		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/m3	10	--	1
Toluene	ND		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	ND		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067

Lab Number: L1928389
Report Date: 07/10/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
N/A	Present/Intact

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1928389-01A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		APH-10(30),TO15-SIM(30)
L1928389-02A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		APH-10(30),TO15-SIM(30)
L1928389-03A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		APH-10(30),TO15-SIM(30)
L1928389-04A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		APH-10(30),TO15-SIM(30)
L1928389-05A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		APH-10(30),TO15-SIM(30)
L1928389-06A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		APH-10(30),TO15-SIM(30)

*Values in parentheses indicate holding time in days

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L1928389
Project Number:	683-067	**Report Date:**	07/10/19

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.

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.

Footnotes

Report Format: Data Usability Report

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L1928389
Project Number:	683-067	**Report Date:**	07/10/19

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.

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. If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

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.

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 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.

Report Format: Data Usability Report

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L1928389
Project Number:	683-067	**Report Date:**	07/10/19

REFERENCES

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

96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

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
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

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

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

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
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.**

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.

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

PAGE 1 OF 1

CHAIN OF CUSTODY

ALPHA ANALYTICAL

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

Date Rec'd in Lab: 6/27/19

ALPHA Job #: L1928389

Client Information

Client: Farallon Consulting
Address: 975 5th Avenue Northwest
Issaquah, Washington 98027
Phone: 425-295-0800
Fax: 425-295-0850
Email: Pkingston@farallonconsulting.c

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Skykomish Hot Water Flushing
Project Location: Skykomish, Washington
Project #: 683-067
Project Manager: Pete Kingston
ALPHA Quote #:

Turn-Around-Time

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

Date Due: Time:

Report/Data Deliverables Information

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Residential/Commercial

Other Project Specific Requirements/Comments:
☒ Project-Specific Target Compound List
SIM: Benzene, Naphthalene, 1,3 Butadiene

Analysis

All Columns Below Must Be Filled Out

Alpha Lab Use Only	Sample ID	Collection: End Date	Start Time	End Time	Initial Vac	Final Vac	Sample Matrix*	Sampler Initials	Can Size	ID Can	ID Flow Controller	TO-15	TO-15 SIM	☐ Subtract non-petroleum HCs: APH	FIXED GASES	Sulfides & Mercaptans by TO-15			Sample Specific Comments (i.e. PID)
28389 01	061719 _2SE	6/17/19	0731	1531	-29.94	-1.32	AA	GP	2.7	3006	0702	☐	☒	☒	☐	☐	☐	☐	
.02	061719 _1C	6/17/19	0733	1533	-29.93	-5.32	AA	GP	2.7	2995	0048	☐	☒	☒	☐	☐	☐	☐	
.03	061719 _1SE	6/17/19	0729	1529	-26.33	-0.00	AA	GP	2.7	2341	0385	☐	☒	☒	☐	☐	☐	☐	
.04	061719 _BC	6/17/19	0724	1524	-29.24	-0.59	AA	GP	2.7	3007	0084	☐	☒	☒	☐	☐	☐	☐	
.05	061719 _BSW	6/17/19	0725	1525	-25.87	-5.97	AA	GP	2.7	2993	0715	☐	☒	☒	☐	☐	☐	☐	
.06	061719 _BNE	6/17/19	0727	1527	-29.32	-6.71	AA	GP	2.7	2824	0766	☐	☒	☒	☐	☐	☐	☐	
											Container Type	C	C	C	C	C	C	C	

***SAMPLE MATRIX CODES:**

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Relinquished By	Date/Time	Received By:	Date/Time
[signature]	6/23/19 1000	UPS	
UPS		[signature] - APL	6/27/19 13:30

Please print clearly & legibly and completely. Samples cannot be logged in and turn around time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms

Form 101-03(i) Rev: 25-Sept-15

ANALYTICAL REPORT

Lab Number:	L1945197
Client:	Farallon Consulting, L.L.C. 975 5th Avenue Northwest Issaquah, WA 98027
ATTN:	Peter Kingston
Phone:	(425) 295-0800
Project Name:	SKYKOMISH HOT WATER FLUSHING
Project Number:	683-067
Report Date:	10/07/19

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067

Lab Number: L1945197
Report Date: 10/07/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1945197-01	091619_2SE	AIR	SKYKOMISH, WA	09/16/19 15:48	09/30/19
L1945197-02	091619_1C	AIR	SKYKOMISH, WA	09/16/19 15:50	09/30/19
L1945197-03	091619_1SE	AIR	SKYKOMISH, WA	09/16/19 15:46	09/30/19
L1945197-04	091619_BC	AIR	SKYKOMISH, WA	09/16/19 15:42	09/30/19
L1945197-05	091619_BSW	AIR	SKYKOMISH, WA	09/16/19 15:43	09/30/19
L1945197-06	091619_BNE	AIR	SKYKOMISH, WA	09/16/19 15:45	09/30/19

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L1945197
Project Number:	683-067	**Report Date:**	10/07/19

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:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L1945197
Project Number:	683-067	**Report Date:**	10/07/19

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on September 13, 2019. The canister certification results are provided as an addendum.

Petroleum Hydrocarbons in Air

L1945197-01: acetone, isopropyl alcohol, siloxane(s), and hexanal are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1945197-01: alpha-Pinene, D-limonene, and an unknown compound are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1945197-02: acetone, isopropyl alcohol, siloxane(s), and PCE are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1945197-02: D-limonene is present in the C9-C12 Aliphatic Hydrocarbon range. The response for this analyte was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1945197-03: acetone, isopropyl alcohol, siloxane(s), and hexanal are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1945197-03: D-limonene and an unknown compound are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L1945197
Project Number:	683-067	**Report Date:**	10/07/19

Case Narrative (continued)

they are not petroleum hydrocarbons.

L1945197-04: acetone, isopropyl alcohol, siloxane(s), 1-butanol, and hexanal are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1945197-04: alpha-Pinene and D-limonene are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1945197-05: acetone, isopropyl alcohol, siloxane(s), unknown compounds, 1-butanol, hexanal and heptanal are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1945197-05: alpha-Pinene, D-limonene, and an unknown compound are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L1945197-06: acetone, isopropyl alcohol, siloxane(s), unknown compounds, 1-butanol, hexanal, and pentanal are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1945197-06: D-limonene is present in the C9-C12 Aliphatic Hydrocarbon range. The response for this analyte was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

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: 10/07/19

AIR

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L1945197
Report Date: 10/07/19

SAMPLE RESULTS

Lab ID: L1945197-01
Client ID: 091619_2SE
Sample Location: SKYKOMISH, WA

Date Collected: 09/16/19 15:48
Date Received: 09/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 10/04/19 22:02
Analyst: EW

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.399	0.100	--	1.27	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	96		60-140
bromochloromethane	98		60-140
chlorobenzene-d5	95		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L1945197
Report Date: 10/07/19

SAMPLE RESULTS

Lab ID: L1945197-02
Client ID: 091619_1C
Sample Location: SKYKOMISH, WA

Date Collected: 09/16/19 15:50
Date Received: 09/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 10/04/19 22:42
Analyst: EW

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.105	0.100	--	0.335	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	98		60-140
bromochloromethane	100		60-140
chlorobenzene-d5	96		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L1945197
Report Date: 10/07/19

SAMPLE RESULTS

Lab ID: L1945197-03
Client ID: 091619_1SE
Sample Location: SKYKOMISH, WA

Date Collected: 09/16/19 15:46
Date Received: 09/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 10/04/19 23:22
Analyst: EW

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.313	0.100	--	1.00	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	98		60-140
bromochloromethane	102		60-140
chlorobenzene-d5	97		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L1945197
Report Date: 10/07/19

SAMPLE RESULTS

Lab ID: L1945197-04
Client ID: 091619_BC
Sample Location: SKYKOMISH, WA

Date Collected: 09/16/19 15:42
Date Received: 09/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 10/05/19 00:02
Analyst: EW

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.211	0.100	--	0.674	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	99		60-140
bromochloromethane	103		60-140
chlorobenzene-d5	98		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L1945197
Report Date: 10/07/19

SAMPLE RESULTS

Lab ID: L1945197-05
Client ID: 091619_BSW
Sample Location: SKYKOMISH, WA

Date Collected: 09/16/19 15:43
Date Received: 09/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 10/05/19 00:43
Analyst: EW

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.256	0.100	--	0.818	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	97		60-140
bromochloromethane	100		60-140
chlorobenzene-d5	96		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L1945197
Report Date: 10/07/19

SAMPLE RESULTS

Lab ID: L1945197-06
Client ID: 091619_BNE
Sample Location: SKYKOMISH, WA

Date Collected: 09/16/19 15:45
Date Received: 09/30/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 10/05/19 01:23
Analyst: EW

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.107	0.100	--	0.342	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	102		60-140
bromochloromethane	106		60-140
chlorobenzene-d5	100		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1945197

Project Number: 683-067 **Report Date:** 10/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 10/04/19 18:01

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1292482-4								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: SKYKOMISH HOT WATER FLUSHING

Project Number: 683-067

Lab Number: L1945197

Report Date: 10/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1292482-3								
1,3-Butadiene	108		-		70-130	-		25
Benzene	97		-		70-130	-		25
Naphthalene	81		-		70-130	-		25

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1945197

Project Number: 683-067 **Report Date:** 10/07/19

SAMPLE RESULTS

Lab ID:	L1945197-01	Date Collected:	09/16/19 15:48
Client ID:	091619_2SE	Date Received:	09/30/19
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	10/04/19 22:02		
Analyst:	EW		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	1.5		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	85		ug/m3	10	--	1
Toluene	11		ug/m3	0.90	--	1
Ethylbenzene	1.4		ug/m3	0.90	--	1
p/m-Xylene	5.5		ug/m3	0.90	--	1
o-Xylene	1.8		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	13		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	96		50-200
Bromochloromethane	98		50-200
Chlorobenzene-d5	97		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1945197

Project Number: 683-067 **Report Date:** 10/07/19

SAMPLE RESULTS

Lab ID:	L1945197-02	Date Collected:	09/16/19 15:50
Client ID:	091619_1C	Date Received:	09/30/19
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	10/04/19 22:42		
Analyst:	EW		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	ND		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	15		ug/m3	10	--	1
Toluene	2.2		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	1.3		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	98		50-200
Bromochloromethane	99		50-200
Chlorobenzene-d5	98		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1945197

Project Number: 683-067 **Report Date:** 10/07/19

SAMPLE RESULTS

Lab ID:	L1945197-03	Date Collected:	09/16/19 15:46
Client ID:	091619_1SE	Date Received:	09/30/19
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 96,APH
Analytical Date: 10/04/19 23:22
Analyst: EW

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	1.1		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	66		ug/m3	10	--	1
Toluene	9.1		ug/m3	0.90	--	1
Ethylbenzene	1.2		ug/m3	0.90	--	1
p/m-Xylene	4.4		ug/m3	0.90	--	1
o-Xylene	1.5		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	42		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	98		50-200
Bromochloromethane	100		50-200
Chlorobenzene-d5	99		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1945197

Project Number: 683-067 **Report Date:** 10/07/19

SAMPLE RESULTS

Lab ID:	L1945197-04	Date Collected:	09/16/19 15:42
Client ID:	091619_BC	Date Received:	09/30/19
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	10/05/19 00:02		
Analyst:	EW		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	0.76		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	45		ug/m3	10	--	1
Toluene	5.2		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	2.8		ug/m3	0.90	--	1
o-Xylene	0.92		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	100		50-200
Bromochloromethane	102		50-200
Chlorobenzene-d5	100		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1945197

Project Number: 683-067 **Report Date:** 10/07/19

SAMPLE RESULTS

Lab ID:	L1945197-05	Date Collected:	09/16/19 15:43
Client ID:	091619_BSW	Date Received:	09/30/19
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	10/05/19 00:43		
Analyst:	EW		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	0.94		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	54		ug/m3	10	--	1
Toluene	7.0		ug/m3	0.90	--	1
Ethylbenzene	1.0		ug/m3	0.90	--	1
p/m-Xylene	3.7		ug/m3	0.90	--	1
o-Xylene	1.2		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	14		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	96		50-200
Bromochloromethane	100		50-200
Chlorobenzene-d5	99		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1945197

Project Number: 683-067 **Report Date:** 10/07/19

SAMPLE RESULTS

Lab ID:	L1945197-06	Date Collected:	09/16/19 15:45
Client ID:	091619_BNE	Date Received:	09/30/19
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	10/05/19 01:23		
Analyst:	EW		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	ND		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	13		ug/m3	10	--	1
Toluene	1.3		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	ND		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	101		50-200
Bromochloromethane	104		50-200
Chlorobenzene-d5	103		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1945197

Project Number: 683-067 **Report Date:** 10/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 96,APH
Analytical Date: 10/04/19 17:21
Analyst: EW

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-06 Batch: WG1292480-4					
1,3-Butadiene	ND		ug/m3	0.50	--
Methyl tert butyl ether	ND		ug/m3	0.70	--
Benzene	ND		ug/m3	0.60	--
C5-C8 Aliphatics, Adjusted	ND		ug/m3	10	--
Toluene	ND		ug/m3	0.90	--
Ethylbenzene	ND		ug/m3	0.90	--
p/m-Xylene	ND		ug/m3	0.90	--
o-Xylene	ND		ug/m3	0.90	--
Naphthalene	ND		ug/m3	1.1	--
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--
C9-C10 Aromatics Total	ND		ug/m3	10	--

Lab Control Sample Analysis

Batch Quality Control

Project Name: SKYKOMISH HOT WATER FLUSHING

Project Number: 683-067

Lab Number: L1945197

Report Date: 10/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG1292480-3								
1,3-Butadiene	110		-		70-130	-		
Methyl tert butyl ether	93		-		70-130	-		
Benzene	110		-		70-130	-		
C5-C8 Aliphatics, Adjusted	116		-		70-130	-		
Toluene	120		-		70-130	-		
Ethylbenzene	118		-		70-130	-		
p/m-Xylene	110		-		70-130	-		
o-Xylene	115		-		70-130	-		
Naphthalene	134		-		50-150	-		
C9-C12 Aliphatics, Adjusted	126		-		70-130	-		
C9-C10 Aromatics Total	98		-		70-130	-		

Lab Duplicate Analysis
Batch Quality Control

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067

Lab Number: L1945197
Report Date: 10/07/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1292480-5 QC Sample: L1945284-01 Client ID: DUP Sample						
1,3-Butadiene	ND	ND	ug/m3	NC		30
Methyl tert butyl ether	ND	ND	ug/m3	NC		30
Benzene	0.77	0.78	ug/m3	1		30
C5-C8 Aliphatics, Adjusted	240	260	ug/m3	8		30
Toluene	5.6	5.6	ug/m3	0		30
Ethylbenzene	ND	ND	ug/m3	NC		30
p/m-Xylene	1.5	1.5	ug/m3	0		30
o-Xylene	ND	ND	ug/m3	NC		30
Naphthalene	ND	ND	ug/m3	NC		30
C9-C12 Aliphatics, Adjusted	160	170	ug/m3	6		30
C9-C10 Aromatics Total	12	12	ug/m3	0		30

Project Name: SKYKOMISH HOT WATER FLUSHING

Lab Number: L1945197

Project Number: 683-067

Report Date: 10/07/19

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1945197-01	091619_2SE	01204	Flow 5	09/13/19	301669		-	-	-	Pass	4.5	4.6	2
L1945197-01	091619_2SE	472	2.7L Can	09/13/19	301669	L1940312-10	Pass	-29.4	-4.9	-	-	-	-
L1945197-02	091619_1C	01207	Flow 5	09/13/19	301669		-	-	-	Pass	4.5	6.9	42
L1945197-02	091619_1C	506	2.7L Can	09/13/19	301669	L1940312-10	Pass	-29.4	0.0	-	-	-	-
L1945197-03	091619_1SE	0085	Flow 5	09/13/19	301669		-	-	-	Pass	4.5	4.7	4
L1945197-03	091619_1SE	2015	2.7L Can	09/13/19	301669	L1940312-10	Pass	-28.1	-1.6	-	-	-	-
L1945197-04	091619_BC	01061	Flow 5	09/13/19	301669		-	-	-	Pass	4.5	4.7	4
L1945197-04	091619_BC	2184	2.7L Can	09/13/19	301669	L1940312-10	Pass	-28.5	-1.3	-	-	-	-
L1945197-05	091619_BSW	01296	Flow 5	09/13/19	301669		-	-	-	Pass	4.5	4.7	4
L1945197-05	091619_BSW	527	2.7L Can	09/13/19	301669	L1940312-10	Pass	-29.5	-11.0	-	-	-	-
L1945197-06	091619_BNE	0500	Flow 5	09/13/19	301669		-	-	-	Pass	4.5	5.6	22
L1945197-06	091619_BNE	2276	2.7L Can	09/13/19	301669	L1940312-10	Pass	-29.5	-1.3	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1940312
Report Date: 10/07/19

Air Canister Certification Results

Lab ID: L1940312-10
Client ID: CAN 193 SHELF 5
Sample Location:

Date Collected: 09/05/19 09:00
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 09/07/19 19:44
Analyst: RY

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1940312
Report Date: 10/07/19

Air Canister Certification Results

Lab ID: L1940312-10
Client ID: CAN 193 SHELF 5
Sample Location:

Date Collected: 09/05/19 09:00
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1940312
Report Date: 10/07/19

Air Canister Certification Results

Lab ID: L1940312-10
Client ID: CAN 193 SHELF 5
Sample Location:

Date Collected: 09/05/19 09:00
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1940312
Report Date: 10/07/19

Air Canister Certification Results

Lab ID: L1940312-10
Client ID: CAN 193 SHELF 5
Sample Location:

Date Collected: 09/05/19 09:00
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1940312

Project Number: CANISTER QC BAT **Report Date:** 10/07/19

Air Canister Certification Results

Lab ID: L1940312-10
Client ID: CAN 193 SHELF 5
Sample Location:

Date Collected: 09/05/19 09:00
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:

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

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1940312
Report Date: 10/07/19

Air Canister Certification Results

Lab ID: L1940312-10
Client ID: CAN 193 SHELF 5
Sample Location:

Date Collected: 09/05/19 09:00
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/07/19 19:44
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
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
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1940312
Report Date: 10/07/19

Air Canister Certification Results

Lab ID: L1940312-10
Client ID: CAN 193 SHELF 5
Sample Location:

Date Collected: 09/05/19 09:00
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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
1,1,2,2-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
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1940312
Report Date: 10/07/19

Air Canister Certification Results

Lab ID: L1940312-10
Client ID: CAN 193 SHELF 5
Sample Location:

Date Collected: 09/05/19 09:00
Date Received: 09/05/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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	96		60-140
bromochloromethane	98		60-140
chlorobenzene-d5	94		60-140

AIR Petro Can Certification

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1940312

Project Number: CANISTER QC BAT **Report Date:** 10/07/19

AIR CAN CERTIFICATION RESULTS

Lab ID:	L1940312-10	Date Collected:	09/05/19 09:00
Client ID:	CAN 193 SHELF 5	Date Received:	09/05/19
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	09/07/19 19:44		
Analyst:	RY		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	ND		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/m3	10	--	1
Toluene	ND		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	ND		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067

Lab Number: L1945197
Report Date: 10/07/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
NA	Present/Intact

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1945197-01A	Canister - 2.7 Liter	NA	NA			Y	Absent		APH-10(30),TO15-SIM(30)
L1945197-02A	Canister - 2.7 Liter	NA	NA			Y	Absent		APH-10(30),TO15-SIM(30)
L1945197-03A	Canister - 2.7 Liter	NA	NA			Y	Absent		APH-10(30),TO15-SIM(30)
L1945197-04A	Canister - 2.7 Liter	NA	NA			Y	Absent		APH-10(30),TO15-SIM(30)
L1945197-05A	Canister - 2.7 Liter	NA	NA			Y	Absent		APH-10(30),TO15-SIM(30)
L1945197-06A	Canister - 2.7 Liter	NA	NA			Y	Absent		APH-10(30),TO15-SIM(30)

*Values in parentheses indicate holding time in days

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L1945197
Project Number:	683-067	**Report Date:**	10/07/19

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.

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.

Footnotes

Report Format: Data Usability Report

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L1945197
Project Number:	683-067	**Report Date:**	10/07/19

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.

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. If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

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

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

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

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

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

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 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.

Report Format: Data Usability Report

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L1945197
Project Number:	683-067	**Report Date:**	10/07/19

REFERENCES

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

96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

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
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

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

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

Westborough Facility:

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

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

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.

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

PAGE 1 OF 1

CHAIN OF CUSTODY

ALPHA ANALYTICAL

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

Date Rec'd in Lab: 9/30/19

ALPHA Job #: L1945197

Client Information

Client: Farallon Consulting
Address: 975 5th Avenue Northwest
Issaquah, Washington 98027
Phone: 425-295-0800
Fax: 425-295-0850
Email: Pkingston@farallonconsulting.c

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Skykomish Hot Water Flushing
Project Location: Skykomish, Washington
Project #: 683-067
Project Manager: Pete Kingston
ALPHA Quote #:

Turn-Around-Time

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

Date Due: Time:

Report/Data Deliverables Information

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Residential/Commercial

Other Project Specific Requirements/Comments:
☒ Project-Specific Target Compound List
SIM: Benzene, Naphthalene, 1,3 Butadiene

Analysis

All Columns Below Must Be Filled Out

Alpha Lab Use Only	Sample ID	Collection: End Date	Start Time	End Time	Initial Vac	Final Vac	Sample Matrix*	Sampler Initials	Can Size	ID Can	ID Flow Controller	TO-15	TO-15 SIM	Subtract non-petroleum HCs: APH	FIXED GASES	Sulfides & Mercaptans by TO-15			Sample Specific Comments (i.e. PID)
L1945197.01	091619 _2SE	9/16/19	0748	1548	-29.92	-4.18	AA	GP	2.7	472	1204	☐	☒	☒	☐	☐	☐	☐	
.02	091619 _1C	↓	0750	1550	-28.86	-0.88	AA	GP	2.7	506	1207	☐	☒	☒	☐	☐	☐	☐	
.03	091619 _1SE		0746	1546	-26.87	-0.99	AA	GP	2.7	2015	0085	☐	☒	☒	☐	☐	☐	☐	
.04	091619 _BC		0747	1542	-27.46	-0.70	AA	GP	2.7	2184	01061	☐	☒	☒	☐	☐	☐	☐	
.05	091619 _BSW		0743	1543	-22.70	-9.20	AA	GP	2.7	527	1296	☐	☒	☒	☐	☐	☐	☐	
.06	091619 _BNE	↓	0745	1545	-29.07	-0.63	AA	GP	2.7	2276	0500	☐	☒	☒	☐	☐	☐	☐	
											Container Type	C	C	C	C	C	C	C	

***SAMPLE MATRIX CODES:**

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Relinquished By	Date/Time	Received By:	Date/Time
FedEx	9/23/19 1700	FedEx	
		[signature] - APA	9/30/19 1210

Please print clearly & legibly and completely. Samples cannot be logged in and turn around time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

Form 101-02 (I) Rev: 25-Sept-15

ANALYTICAL REPORT

Lab Number:	L1961324
Client:	Farallon Consulting, L.L.C. 975 5th Avenue Northwest Issaquah, WA 98027
ATTN:	Peter Kingston
Phone:	(425) 295-0800
Project Name:	SKYKOMISH HOT WATER FLUSHING
Project Number:	683-067
Report Date:	12/31/19

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Six Park Row, Mansfield, MA 02048
508-261-7467 (Fax) -- -- - emccarter@mansfieldma.com

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067

Lab Number: L1961324
Report Date: 12/31/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1961324-01	121819_BNE	AIR	SKYKOMISH, WA	12/18/19 15:12	12/20/19
L1961324-02	121819_2SE	AIR	SKYKOMISH, WA	12/18/19 15:15	12/20/19
L1961324-03	121819_1C	AIR	SKYKOMISH, WA	12/18/19 15:13	12/20/19
L1961324-04	121819_BSW	AIR	SKYKOMISH, WA	12/18/19 15:11	12/20/19
L1961324-05	121819_1SE	AIR	SKYKOMISH, WA	12/18/19 15:14	12/20/19
L1961324-06	121819_BC	AIR	SKYKOMISH, WA	12/18/19 15:10	12/20/19

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L1961324
Project Number:	683-067	**Report Date:**	12/31/19

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:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L1961324
Project Number:	683-067	**Report Date:**	12/31/19

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on December 13, 2019. The canister certification results are provided as an addendum.

Sample Receipt

The canister ID number for the sample designated 121819_BNE (L1961324-01) is listed on the CoC as 1690 but should be 2333.

The canister ID number for the sample designated 121819_BSW (L1961324-04) is listed on the CoC as 2572 but should be 2992.

The canister ID number for the sample designated 121819_BC (L1961324-06) is listed on the CoC as 2410 but should be 2865.

Petroleum Hydrocarbons in Air

1961324-01 through -06: Acetone, isopropyl alcohol, siloxane(s), 2-butanone, tetrahydrofuran, ethyl acetate, and hexanal are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L1961324-01 through -06: Alpha-Pinene, D-limonene and siloxane(s) are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

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: Susan E O'Neil Susan O' Neil

Title: Technical Director/Representative Date: 12/31/19

AIR

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L1961324
Report Date: 12/31/19

SAMPLE RESULTS

Lab ID: L1961324-01
Client ID: 121819_BNE
Sample Location: SKYKOMISH, WA

Date Collected: 12/18/19 15:12
Date Received: 12/20/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/27/19 23:18
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	0.074	0.020	--	0.164	0.044	--		1
Benzene	0.257	0.100	--	0.821	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	95		60-140
bromochloromethane	97		60-140
chlorobenzene-d5	94		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L1961324
Report Date: 12/31/19

SAMPLE RESULTS

Lab ID: L1961324-02
Client ID: 121819_2SE
Sample Location: SKYKOMISH, WA

Date Collected: 12/18/19 15:15
Date Received: 12/20/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/27/19 23:58
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	0.027	0.020	--	0.060	0.044	--		1
Benzene	0.444	0.100	--	1.42	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	92		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	92		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L1961324
Report Date: 12/31/19

SAMPLE RESULTS

Lab ID: L1961324-03
Client ID: 121819_1C
Sample Location: SKYKOMISH, WA

Date Collected: 12/18/19 15:13
Date Received: 12/20/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/28/19 00:38
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	0.031	0.020	--	0.069	0.044	--		1
Benzene	0.375	0.100	--	1.20	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	95		60-140
bromochloromethane	99		60-140
chlorobenzene-d5	95		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L1961324
Report Date: 12/31/19

SAMPLE RESULTS

Lab ID: L1961324-04
Client ID: 121819_BSW
Sample Location: SKYKOMISH, WA

Date Collected: 12/18/19 15:11
Date Received: 12/20/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/28/19 01:58
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.262	0.100	--	0.837	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	93		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	92		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L1961324
Report Date: 12/31/19

SAMPLE RESULTS

Lab ID: L1961324-05
Client ID: 121819_1SE
Sample Location: SKYKOMISH, WA

Date Collected: 12/18/19 15:14
Date Received: 12/20/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/28/19 02:38
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	0.023	0.020	--	0.051	0.044	--		1
Benzene	0.295	0.100	--	0.942	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	94		60-140
bromochloromethane	98		60-140
chlorobenzene-d5	92		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L1961324
Report Date: 12/31/19

SAMPLE RESULTS

Lab ID: L1961324-06
Client ID: 121819_BC
Sample Location: SKYKOMISH, WA

Date Collected: 12/18/19 15:10
Date Received: 12/20/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/28/19 03:18
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	0.022	0.020	--	0.049	0.044	--		1
Benzene	0.280	0.100	--	0.895	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	92		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	91		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L1961324
Report Date: 12/31/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 12/27/19 15:35

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1325391-4								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: SKYKOMISH HOT WATER FLUSHING

Project Number: 683-067

Lab Number: L1961324

Report Date: 12/31/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1325391-3								
1,3-Butadiene	94		-		70-130	-		25
Benzene	95		-		70-130	-		25
Naphthalene	95		-		70-130	-		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067

Lab Number: L1961324
Report Date: 12/31/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1325391-5 QC Sample: L1961324-03 Client ID: 121819_1C						
1,3-Butadiene	0.031	0.036	ppbV	15		25
Benzene	0.375	0.388	ppbV	3		25
Naphthalene	ND	ND	ppbV	NC		25

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1961324

Project Number: 683-067 **Report Date:** 12/31/19

SAMPLE RESULTS

Lab ID:	L1961324-01	Date Collected:	12/18/19 15:12
Client ID:	121819_BNE	Date Received:	12/20/19
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 96,APH
Analytical Date: 12/27/19 23:18
Analyst: RY

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	0.84		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	45		ug/m3	10	--	1
Toluene	4.9		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	2.2		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	95		50-200
Bromochloromethane	96		50-200
Chlorobenzene-d5	96		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1961324

Project Number: 683-067 **Report Date:** 12/31/19

SAMPLE RESULTS

Lab ID:	L1961324-02	Date Collected:	12/18/19 15:15
Client ID:	121819_2SE	Date Received:	12/20/19
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 96,APH
Analytical Date: 12/27/19 23:58
Analyst: RY

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	1.5		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	60		ug/m3	10	--	1
Toluene	12		ug/m3	0.90	--	1
Ethylbenzene	1.5		ug/m3	0.90	--	1
p/m-Xylene	5.8		ug/m3	0.90	--	1
o-Xylene	1.8		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	94		50-200
Bromochloromethane	95		50-200
Chlorobenzene-d5	94		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1961324

Project Number: 683-067 **Report Date:** 12/31/19

SAMPLE RESULTS

Lab ID:	L1961324-03	Date Collected:	12/18/19 15:13
Client ID:	121819_1C	Date Received:	12/20/19
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	12/28/19 00:38		
Analyst:	RY		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	1.3		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	54		ug/m3	10	--	1
Toluene	9.6		ug/m3	0.90	--	1
Ethylbenzene	0.99		ug/m3	0.90	--	1
p/m-Xylene	3.7		ug/m3	0.90	--	1
o-Xylene	1.2		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	97		50-200
Bromochloromethane	98		50-200
Chlorobenzene-d5	97		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1961324

Project Number: 683-067 **Report Date:** 12/31/19

SAMPLE RESULTS

Lab ID:	L1961324-04	Date Collected:	12/18/19 15:11
Client ID:	121819_BSW	Date Received:	12/20/19
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 96,APH
Analytical Date: 12/28/19 01:58
Analyst: RY

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	0.87		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	25		ug/m3	10	--	1
Toluene	5.8		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	2.5		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	95		50-200
Bromochloromethane	96		50-200
Chlorobenzene-d5	95		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1961324

Project Number: 683-067 **Report Date:** 12/31/19

SAMPLE RESULTS

Lab ID:	L1961324-05	Date Collected:	12/18/19 15:14
Client ID:	121819_1SE	Date Received:	12/20/19
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 96,APH
Analytical Date: 12/28/19 02:38
Analyst: RY

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	0.97		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	31		ug/m3	10	--	1
Toluene	7.4		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	3.3		ug/m3	0.90	--	1
o-Xylene	1.0		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	95		50-200
Bromochloromethane	97		50-200
Chlorobenzene-d5	95		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1961324

Project Number: 683-067 **Report Date:** 12/31/19

SAMPLE RESULTS

Lab ID:	L1961324-06	Date Collected:	12/18/19 15:10
Client ID:	121819_BC	Date Received:	12/20/19
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	12/28/19 03:18		
Analyst:	RY		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	0.91		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	27		ug/m3	10	--	1
Toluene	6.6		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	3.0		ug/m3	0.90	--	1
o-Xylene	0.96		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	92		50-200
Bromochloromethane	95		50-200
Chlorobenzene-d5	93		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1961324

Project Number: 683-067 **Report Date:** 12/31/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 96,APH
Analytical Date: 12/27/19 14:55
Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-06 Batch: WG1325388-4					
1,3-Butadiene	ND		ug/m3	0.50	--
Methyl tert butyl ether	ND		ug/m3	0.70	--
Benzene	ND		ug/m3	0.60	--
C5-C8 Aliphatics, Adjusted	ND		ug/m3	10	--
Toluene	ND		ug/m3	0.90	--
Ethylbenzene	ND		ug/m3	0.90	--
p/m-Xylene	ND		ug/m3	0.90	--
o-Xylene	ND		ug/m3	0.90	--
Naphthalene	ND		ug/m3	1.1	--
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--
C9-C10 Aromatics Total	ND		ug/m3	10	--

Lab Control Sample Analysis

Batch Quality Control

Project Name: SKYKOMISH HOT WATER FLUSHING

Project Number: 683-067

Lab Number: L1961324

Report Date: 12/31/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG1325388-3								
1,3-Butadiene	88		-		70-130	-		
Methyl tert butyl ether	72		-		70-130	-		
Benzene	101		-		70-130	-		
C5-C8 Aliphatics, Adjusted	111		-		70-130	-		
Toluene	112		-		70-130	-		
Ethylbenzene	111		-		70-130	-		
p/m-Xylene	107		-		70-130	-		
o-Xylene	110		-		70-130	-		
Naphthalene	142		-		50-150	-		
C9-C12 Aliphatics, Adjusted	114		-		70-130	-		
C9-C10 Aromatics Total	93		-		70-130	-		

Lab Duplicate Analysis
Batch Quality Control

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067

Lab Number: L1961324
Report Date: 12/31/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1325388-5 QC Sample: L1961028-02 Client ID: DUP Sample						
1,3-Butadiene	ND	ND	ug/m3	NC		30
Methyl tert butyl ether	ND	ND	ug/m3	NC		30
Benzene	ND	ND	ug/m3	NC		30
C5-C8 Aliphatics, Adjusted	13	15	ug/m3	14		30
Toluene	3.1	3.1	ug/m3	0		30
Ethylbenzene	1.1	1.1	ug/m3	0		30
p/m-Xylene	3.9	3.8	ug/m3	3		30
o-Xylene	1.3	1.3	ug/m3	0		30
Naphthalene	ND	ND	ug/m3	NC		30
C9-C12 Aliphatics, Adjusted	13	12	ug/m3	8		30
C9-C10 Aromatics Total	18	19	ug/m3	5		30

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L1961324

Project Number: 683-067 **Report Date:** 12/31/19

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1961324-01	121819_BNE	0038	Flow 4	12/13/19	308825		-	-	-	Pass	4.5	4.3	5
L1961324-01	121819_BNE	2333	2.7L Can	12/13/19	308825	L1958897-07	Pass	-29.2	-3.9	-	-	-	-
L1961324-02	121819_2SE	0367	Flow 5	12/13/19	308825		-	-	-	Pass	4.5	4.6	2
L1961324-02	121819_2SE	2037	2.7L Can	12/13/19	308825	L1958897-02	Pass	-30.0	-7.0	-	-	-	-
L1961324-03	121819_1C	01512	Flow 4	12/13/19	308825		-	-	-	Pass	4.5	5.0	11
L1961324-03	121819_1C	333	2.7L Can	12/13/19	308825	L1958897-02	Pass	-29.9	-4.5	-	-	-	-
L1961324-04	121819_BSW	0159	Flow 3	12/13/19	308825		-	-	-	Pass	4.5	4.7	4
L1961324-04	121819_BSW	2992	2.7L Can	12/13/19	308825	L1958897-02	Pass	-29.8	-6.0	-	-	-	-
L1961324-05	121819_1SE	01276	Flow 5	12/13/19	308825		-	-	-	Pass	4.5	4.6	2
L1961324-05	121819_1SE	489	2.7L Can	12/13/19	308825	L1958897-02	Pass	-29.9	-5.0	-	-	-	-
L1961324-06	121819_BC	0491	Flow 4	12/13/19	308825		-	-	-	Pass	4.5	5.0	11
L1961324-06	121819_BC	2865	2.7L Can	12/13/19	308825	L1958897-02	Pass	-30.0	-5.7	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1958897
Report Date: 12/31/19

Air Canister Certification Results

Lab ID: L1958897-02
Client ID: CAN 487 SHELF 7
Sample Location:

Date Collected: 12/09/19 16:00
Date Received: 12/10/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 12/10/19 17:52
Analyst: TS

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1958897
Report Date: 12/31/19

Air Canister Certification Results

Lab ID: L1958897-02
Client ID: CAN 487 SHELF 7
Sample Location:

Date Collected: 12/09/19 16:00
Date Received: 12/10/19
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1958897
Report Date: 12/31/19

Air Canister Certification Results

Lab ID: L1958897-02
Client ID: CAN 487 SHELF 7
Sample Location:

Date Collected: 12/09/19 16:00
Date Received: 12/10/19
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1958897
Report Date: 12/31/19

Air Canister Certification Results

Lab ID: L1958897-02
Client ID: CAN 487 SHELF 7
Sample Location:

Date Collected: 12/09/19 16:00
Date Received: 12/10/19
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1958897

Project Number: CANISTER QC BAT **Report Date:** 12/31/19

Air Canister Certification Results

Lab ID: L1958897-02
Client ID: CAN 487 SHELF 7
Sample Location:

Date Collected: 12/09/19 16:00
Date Received: 12/10/19
Field Prep: Not Specified

Sample Depth:

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

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	99		60-140
Bromochloromethane	99		60-140
chlorobenzene-d5	98		60-140

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

Lab Number: L1958897
Report Date: 12/31/19

Air Canister Certification Results

Lab ID: L1958897-02
Client ID: CAN 487 SHELF 7
Sample Location:

Date Collected: 12/09/19 16:00
Date Received: 12/10/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/10/19 17:52
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
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
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1958897
Report Date: 12/31/19

Air Canister Certification Results

Lab ID: L1958897-02
Client ID: CAN 487 SHELF 7
Sample Location:

Date Collected: 12/09/19 16:00
Date Received: 12/10/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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
1,1,2,2-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
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1958897
Report Date: 12/31/19

Air Canister Certification Results

Lab ID: L1958897-02
Client ID: CAN 487 SHELF 7
Sample Location:

Date Collected: 12/09/19 16:00
Date Received: 12/10/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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	98		60-140
bromochloromethane	100		60-140
chlorobenzene-d5	97		60-140

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

Lab Number: L1958897
Report Date: 12/31/19

Air Canister Certification Results

Lab ID: L1958897-07
Client ID: CAN 378 SHELF 9
Sample Location:

Date Collected: 12/10/19 09:00
Date Received: 12/10/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 12/10/19 21:10
Analyst: TS

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

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1958897

Project Number: CANISTER QC BAT **Report Date:** 12/31/19

Air Canister Certification Results

Lab ID: L1958897-07
Client ID: CAN 378 SHELF 9
Sample Location:

Date Collected: 12/10/19 09:00
Date Received: 12/10/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Xylenes, total	ND	0.600	--	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: L1958897
Report Date: 12/31/19

Air Canister Certification Results

Lab ID: L1958897-07
Client ID: CAN 378 SHELF 9
Sample Location:

Date Collected: 12/10/19 09:00
Date Received: 12/10/19
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1958897
Report Date: 12/31/19

Air Canister Certification Results

Lab ID: L1958897-07
Client ID: CAN 378 SHELF 9
Sample Location:

Date Collected: 12/10/19 09:00
Date Received: 12/10/19
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1958897
Report Date: 12/31/19

Air Canister Certification Results

Lab ID: L1958897-07
Client ID: CAN 378 SHELF 9
Sample Location:

Date Collected: 12/10/19 09:00
Date Received: 12/10/19
Field Prep: Not Specified

Sample Depth:

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

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	99		60-140
Bromochloromethane	99		60-140
chlorobenzene-d5	98		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1958897
Report Date: 12/31/19

Air Canister Certification Results

Lab ID: L1958897-07
Client ID: CAN 378 SHELF 9
Sample Location:

Date Collected: 12/10/19 09:00
Date Received: 12/10/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/10/19 21:10
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
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
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1958897

Project Number: CANISTER QC BAT **Report Date:** 12/31/19

Air Canister Certification Results

Lab ID: L1958897-07
Client ID: CAN 378 SHELF 9
Sample Location:

Date Collected: 12/10/19 09:00
Date Received: 12/10/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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
1,1,2,2-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
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1958897

Project Number: CANISTER QC BAT **Report Date:** 12/31/19

Air Canister Certification Results

Lab ID: L1958897-07
Client ID: CAN 378 SHELF 9
Sample Location:

Date Collected: 12/10/19 09:00
Date Received: 12/10/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
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	98		60-140
bromochloromethane	99		60-140
chlorobenzene-d5	97		60-140

AIR Petro Can Certification

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1958897

Project Number: CANISTER QC BAT **Report Date:** 12/31/19

AIR CAN CERTIFICATION RESULTS

Lab ID:	L1958897-02	Date Collected:	12/09/19 16:00
Client ID:	CAN 487 SHELF 7	Date Received:	12/10/19
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	12/10/19 17:52		
Analyst:	RY		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	ND		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/m3	10	--	1
Toluene	ND		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	ND		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1958897

Project Number: CANISTER QC BAT **Report Date:** 12/31/19

AIR CAN CERTIFICATION RESULTS

Lab ID:	L1958897-07	Date Collected:	12/10/19 09:00
Client ID:	CAN 378 SHELF 9	Date Received:	12/10/19
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	12/10/19 21:10		
Analyst:	RY		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	ND		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/m3	10	--	1
Toluene	ND		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	ND		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067

Lab Number: L1961324
Report Date: 12/31/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
N/A	Present/Intact

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1961324-01A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		APH-10(30),TO15-SIM(30)
L1961324-02A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		APH-10(30),TO15-SIM(30)
L1961324-03A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		APH-10(30),TO15-SIM(30)
L1961324-04A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		APH-10(30),TO15-SIM(30)
L1961324-05A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		APH-10(30),TO15-SIM(30)
L1961324-06A	Canister - 2.7 Liter	N/A	NA			Y	Present/Intact		APH-10(30),TO15-SIM(30)

*Values in parentheses indicate holding time in days

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L1961324
Project Number:	683-067	**Report Date:**	12/31/19

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.

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.

Footnotes

Report Format: Data Usability Report

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L1961324
Project Number:	683-067	**Report Date:**	12/31/19

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. If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

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

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

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

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

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

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 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.

Report Format: Data Usability Report

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L1961324
Project Number:	683-067	**Report Date:**	12/31/19

Data Qualifiers

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

REFERENCES

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

96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

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
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

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

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

Westborough Facility:

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

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

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.

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

PAGE 1 OF 1

ALPHA ANALYTICAL — CHAIN OF CUSTODY

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

Date Rec'd in Lab: 12/20/19

ALPHA Job #: L1961324

Client Information

Client: Farallon Consulting
Address: 975 5th Ave NE
Issaquah, WA
Phone: (425) 295-0800
Fax:
Email: PKingston@farallonconsulting.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Skykomish HUF
Project Location: Skykomish, WA
Project #: 683-067
Project Manager: Pete Kingston
ALPHA Quote #:

Turn-Around Time

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

Date Due: Time:

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)

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments: SIM: Benzene; Naphthalene; and 1,3-Butadiene

Project-Specific Target Compound List: ☐

ANALYSIS

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-15	TO-15 SIM	APH (Subject Non-petroleum HCs ☐)	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
L1324-01	121819_BNE	12/18/19	712	1512	28.55	3.07	AA	MB	2.7	1690	0036	X	X				
-02	121819_2SE	12/18/19	715	1515	29.25	6.41	AA	MB	2.7	2057	0367	X	X				
-03	121819_1C	12/18/19	713	1513	29.12	3.76	AA	MB	2.7	0333	1512	X	X				
-04	121819_BSW	12/18/19	711	1511	29.17	5.26	AA	MB	2.7	2512	0159	X	X				
-05	121819_1SE	12/18/19	714	1514	29.44	7.40	AA	MB	2.7	481	1276	X	X				
-06	121819_BC	12/18/19	710	1510	28.25	1.85	AA	MB	2.7	2410	491	X	X				

MB

*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:
UPS	12/18/19 1715	UPS	12/18/19 1715
		[illegible]	12/20/19 A09

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:	L2013263
Client:	Farallon Consulting, L.L.C. 975 5th Avenue Northwest Issaquah, WA 98027
ATTN:	Peter Kingston
Phone:	(425) 295-0800
Project Name:	SKYKOMISH HOT WATER FLUSHING
Project Number:	683-067
Report Date:	03/31/20

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: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067

Lab Number: L2013263
Report Date: 03/31/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2013263-01	031620_BC	AIR	SKYKOMISH, WA	03/16/20 15:05	03/25/20
L2013263-02	031620_BSW	AIR	SKYKOMISH, WA	03/16/20 15:07	03/25/20
L2013263-03	031620_BNE	AIR	SKYKOMISH, WA	03/16/20 15:00	03/25/20
L2013263-04	031620_1C	AIR	SKYKOMISH, WA	03/16/20 14:54	03/25/20
L2013263-05	031620_1SE	AIR	SKYKOMISH, WA	03/16/20 15:08	03/25/20
L2013263-06	031620_2SE	AIR	SKYKOMISH, WA	03/16/20 15:11	03/25/20

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L2013263
Project Number:	683-067	**Report Date:**	03/31/20

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:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L2013263
Project Number:	683-067	**Report Date:**	03/31/20

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on March 12 and 24, 2020. The canister certification results are provided as an addendum.

The WG1356511-3 LCS recoveries for 1,3-dichlorobenzene (140%) and 1,2,4-trichlorobenzene (131%) are above the upper 130% acceptance limit. All samples associated with this LCS do not have reportable amounts of these analytes.

Petroleum Hydrocarbons in Air

L2013263-01 through -06: acetone, isopropyl alcohol, siloxane(s), 2-butanone, ethyl acetate, and hexanal are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L2013263-01 through -06: alpha-Pinene, D-limonene, and siloxane(s) are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

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: 03/31/20

AIR

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L2013263
Report Date: 03/31/20

SAMPLE RESULTS

Lab ID: L2013263-01
Client ID: 031620_BC
Sample Location: SKYKOMISH, WA

Date Collected: 03/16/20 15:05
Date Received: 03/25/20
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/30/20 23:28
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.264	0.100	--	0.843	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	86		60-140
bromochloromethane	92		60-140
chlorobenzene-d5	90		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L2013263
Report Date: 03/31/20

SAMPLE RESULTS

Lab ID: L2013263-02
Client ID: 031620_BSW
Sample Location: SKYKOMISH, WA

Date Collected: 03/16/20 15:07
Date Received: 03/25/20
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/31/20 00:08
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.216	0.100	--	0.690	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	90		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	91		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L2013263
Report Date: 03/31/20

SAMPLE RESULTS

Lab ID: L2013263-03
Client ID: 031620_BNE
Sample Location: SKYKOMISH, WA

Date Collected: 03/16/20 15:00
Date Received: 03/25/20
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/31/20 00:48
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	0.038	0.020	--	0.084	0.044	--		1
Benzene	0.215	0.100	--	0.687	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	91		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	93		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L2013263
Report Date: 03/31/20

SAMPLE RESULTS

Lab ID: L2013263-04
Client ID: 031620_1C
Sample Location: SKYKOMISH, WA

Date Collected: 03/16/20 14:54
Date Received: 03/25/20
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/31/20 02:08
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.275	0.100	--	0.879	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	93		60-140
bromochloromethane	98		60-140
chlorobenzene-d5	93		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L2013263
Report Date: 03/31/20

SAMPLE RESULTS

Lab ID: L2013263-05
Client ID: 031620_1SE
Sample Location: SKYKOMISH, WA

Date Collected: 03/16/20 15:08
Date Received: 03/25/20
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/31/20 02:48
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.225	0.100	--	0.719	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	92		60-140
bromochloromethane	98		60-140
chlorobenzene-d5	92		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L2013263
Report Date: 03/31/20

SAMPLE RESULTS

Lab ID: L2013263-06
Client ID: 031620_2SE
Sample Location: SKYKOMISH, WA

Date Collected: 03/16/20 15:11
Date Received: 03/25/20
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/31/20 03:28
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.349	0.100	--	1.11	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	99		60-140
bromochloromethane	103		60-140
chlorobenzene-d5	100		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L2013263

Project Number: 683-067 **Report Date:** 03/31/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 03/30/20 15:34

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1356511-4								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: SKYKOMISH HOT WATER FLUSHING

Project Number: 683-067

Lab Number: L2013263

Report Date: 03/31/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1356511-3								
1,3-Butadiene	90		-		70-130	-		25
Benzene	91		-		70-130	-		25
Naphthalene	103		-		70-130	-		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067

Lab Number: L2013263
Report Date: 03/31/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1356511-5 QC Sample: L2013263-03 Client ID: 031620_BNE						
1,3-Butadiene	0.038	0.037	ppbV	3		25
Benzene	0.215	0.217	ppbV	1		25
Naphthalene	ND	ND	ppbV	NC		25

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L2013263

Project Number: 683-067 **Report Date:** 03/31/20

SAMPLE RESULTS

Lab ID:	L2013263-01	Date Collected:	03/16/20 15:05
Client ID:	031620_BC	Date Received:	03/25/20
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	03/30/20 23:28		
Analyst:	RY		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	0.88		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	850		ug/m3	10	--	1
Toluene	8.6		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	2.8		ug/m3	0.90	--	1
o-Xylene	0.91		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	86		50-200
Bromochloromethane	91		50-200
Chlorobenzene-d5	90		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L2013263

Project Number: 683-067 **Report Date:** 03/31/20

SAMPLE RESULTS

Lab ID:	L2013263-02	Date Collected:	03/16/20 15:07
Client ID:	031620_BSW	Date Received:	03/25/20
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 96,APH
Analytical Date: 03/31/20 00:08
Analyst: RY

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	0.72		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	270		ug/m3	10	--	1
Toluene	4.8		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	1.8		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	91		50-200
Bromochloromethane	97		50-200
Chlorobenzene-d5	93		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L2013263

Project Number: 683-067 **Report Date:** 03/31/20

SAMPLE RESULTS

Lab ID:	L2013263-03	Date Collected:	03/16/20 15:00
Client ID:	031620_BNE	Date Received:	03/25/20
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 96,APH
Analytical Date: 03/31/20 00:48
Analyst: RY

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	0.70		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	530		ug/m3	10	--	1
Toluene	5.2		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	1.7		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	92		50-200
Bromochloromethane	99		50-200
Chlorobenzene-d5	94		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L2013263

Project Number: 683-067 **Report Date:** 03/31/20

SAMPLE RESULTS

Lab ID:	L2013263-04	Date Collected:	03/16/20 14:54
Client ID:	031620_1C	Date Received:	03/25/20
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	03/31/20 02:08		
Analyst:	RY		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	0.92		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	480		ug/m3	10	--	1
Toluene	8.1		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	2.9		ug/m3	0.90	--	1
o-Xylene	0.95		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	93		50-200
Bromochloromethane	100		50-200
Chlorobenzene-d5	94		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L2013263

Project Number: 683-067 **Report Date:** 03/31/20

SAMPLE RESULTS

Lab ID:	L2013263-05	Date Collected:	03/16/20 15:08
Client ID:	031620_1SE	Date Received:	03/25/20
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 96,APH
Analytical Date: 03/31/20 02:48
Analyst: RY

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	0.73		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	74		ug/m3	10	--	1
Toluene	4.9		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	2.1		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	92		50-200
Bromochloromethane	101		50-200
Chlorobenzene-d5	93		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L2013263

Project Number: 683-067 **Report Date:** 03/31/20

SAMPLE RESULTS

Lab ID:	L2013263-06	Date Collected:	03/16/20 15:11
Client ID:	031620_2SE	Date Received:	03/25/20
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 96,APH
Analytical Date: 03/31/20 03:28
Analyst: RY

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	1.2		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	560		ug/m3	10	--	1
Toluene	11		ug/m3	0.90	--	1
Ethylbenzene	1.0		ug/m3	0.90	--	1
p/m-Xylene	4.1		ug/m3	0.90	--	1
o-Xylene	1.3		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	98		50-200
Bromochloromethane	103		50-200
Chlorobenzene-d5	101		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L2013263

Project Number: 683-067 **Report Date:** 03/31/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 96,APH
Analytical Date: 03/30/20 14:55
Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-06 Batch: WG1356508-4					
1,3-Butadiene	ND		ug/m3	0.50	--
Methyl tert butyl ether	ND		ug/m3	0.70	--
Benzene	ND		ug/m3	0.60	--
C5-C8 Aliphatics, Adjusted	ND		ug/m3	10	--
Toluene	ND		ug/m3	0.90	--
Ethylbenzene	ND		ug/m3	0.90	--
p/m-Xylene	ND		ug/m3	0.90	--
o-Xylene	ND		ug/m3	0.90	--
Naphthalene	ND		ug/m3	1.1	--
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--
C9-C10 Aromatics Total	ND		ug/m3	10	--

Lab Control Sample Analysis

Batch Quality Control

Project Name: SKYKOMISH HOT WATER FLUSHING

Project Number: 683-067

Lab Number: L2013263

Report Date: 03/31/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG1356508-3								
1,3-Butadiene	83		-		70-130	-		
Methyl tert butyl ether	91		-		70-130	-		
Benzene	99		-		70-130	-		
C5-C8 Aliphatics, Adjusted	123		-		70-130	-		
Toluene	109		-		70-130	-		
Ethylbenzene	110		-		70-130	-		
p/m-Xylene	109		-		70-130	-		
o-Xylene	120		-		70-130	-		
Naphthalene	142		-		50-150	-		
C9-C12 Aliphatics, Adjusted	118		-		70-130	-		
C9-C10 Aromatics Total	96		-		70-130	-		

Lab Duplicate Analysis
Batch Quality Control

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067

Lab Number: L2013263
Report Date: 03/31/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1356508-5 QC Sample: L2013263-03 Client ID: 031620_BNE						
1,3-Butadiene	ND	ND	ug/m3	NC		30
Methyl tert butyl ether	ND	ND	ug/m3	NC		30
Benzene	0.70	0.71	ug/m3	1		30
C5-C8 Aliphatics, Adjusted	530	560	ug/m3	6		30
Toluene	5.2	5.2	ug/m3	0		30
Ethylbenzene	ND	ND	ug/m3	NC		30
p/m-Xylene	1.7	1.7	ug/m3	0		30
o-Xylene	ND	ND	ug/m3	NC		30
Naphthalene	ND	ND	ug/m3	NC		30
C9-C12 Aliphatics, Adjusted	ND	ND	ug/m3	NC		30
C9-C10 Aromatics Total	ND	ND	ug/m3	NC		30

Project Name: SKYKOMISH HOT WATER FLUSHING

Lab Number: L2013263

Project Number: 683-067

Report Date: 03/31/20

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2013263-01	031620_BC	01634	Flow 4	03/12/20	316288		-	-	-	Pass	4.5	3.4	28
L2013263-01	031620_BC	245	2.7L Can	03/12/20	316288	L2009139-07	Pass	-29.1	-7.5	-	-	-	-
L2013263-02	031620_BSW	01654	Flow 4	03/12/20	316288		-	-	-	Pass	4.5	3.0	40
L2013263-02	031620_BSW	2821	2.7L Can	03/12/20	316288	L2009139-07	Pass	-29.1	-4.0	-	-	-	-
L2013263-03	031620_BNE	01633	Flow 4	03/12/20	316288		-	-	-	Pass	4.5	3.3	31
L2013263-03	031620_BNE	365	2.7L Can	03/12/20	316288	L2009139-07	Pass	-29.2	-2.6	-	-	-	-
L2013263-04	031620_1C	01702	Flow 4	03/12/20	316288		-	-	-	Pass	4.5	3.2	34
L2013263-04	031620_1C	2826	2.7L Can	03/12/20	316288	L2009139-07	Pass	-29.1	-8.1	-	-	-	-
L2013263-05	031620_1SE	01560	Flow 4	03/12/20	316288		-	-	-	Pass	4.5	3.7	20
L2013263-05	031620_1SE	484	2.7L Can	03/12/20	316288	L2009139-07	Pass	-29.3	-9.0	-	-	-	-
L2013263-06	031620_2SE	01774	Flow 4	03/12/20	316288		-	-	-	Pass	4.5	3.4	28
L2013263-06	031620_2SE	2434	2.7L Can	03/24/20	316242	L2010367-06	Pass	-28.8	-9.3	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2009139
Report Date: 03/31/20

Air Canister Certification Results

Lab ID: L2009139-07
Client ID: CAN 327 SHELF 9
Sample Location:

Date Collected: 03/06/20 09:00
Date Received: 03/06/20
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/07/20 20:49
Analyst: GP

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2009139
Report Date: 03/31/20

Air Canister Certification Results

Lab ID: L2009139-07
Client ID: CAN 327 SHELF 9
Sample Location:

Date Collected: 03/06/20 09:00
Date Received: 03/06/20
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2009139
Report Date: 03/31/20

Air Canister Certification Results

Lab ID: L2009139-07
Client ID: CAN 327 SHELF 9
Sample Location:

Date Collected: 03/06/20 09:00
Date Received: 03/06/20
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2009139
Report Date: 03/31/20

Air Canister Certification Results

Lab ID: L2009139-07
Client ID: CAN 327 SHELF 9
Sample Location:

Date Collected: 03/06/20 09:00
Date Received: 03/06/20
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2009139
Report Date: 03/31/20

Air Canister Certification Results

Lab ID: L2009139-07
Client ID: CAN 327 SHELF 9
Sample Location:

Date Collected: 03/06/20 09:00
Date Received: 03/06/20
Field Prep: Not Specified

Sample Depth:

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

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	110		60-140
Bromochloromethane	115		60-140
chlorobenzene-d5	122		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2009139
Report Date: 03/31/20

Air Canister Certification Results

Lab ID: L2009139-07
Client ID: CAN 327 SHELF 9
Sample Location:

Date Collected: 03/06/20 09:00
Date Received: 03/06/20
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/07/20 20:49
Analyst: GP

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2009139
Report Date: 03/31/20

Air Canister Certification Results

Lab ID: L2009139-07
Client ID: CAN 327 SHELF 9
Sample Location:

Date Collected: 03/06/20 09:00
Date Received: 03/06/20
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	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
1,1,2,2-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:** L2009139

Project Number: CANISTER QC BAT **Report Date:** 03/31/20

Air Canister Certification Results

Lab ID: L2009139-07
Client ID: CAN 327 SHELF 9
Sample Location:

Date Collected: 03/06/20 09:00
Date Received: 03/06/20
Field Prep: Not Specified

Sample Depth:

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

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	109		60-140
bromochloromethane	112		60-140
chlorobenzene-d5	120		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2010367
Report Date: 03/31/20

Air Canister Certification Results

Lab ID: L2010367-06
Client ID: CAN 2196 SHELF 7
Sample Location:

Date Collected: 03/13/20 08:00
Date Received: 03/13/20
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 03/13/20 20:24
Analyst: RY

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2010367
Report Date: 03/31/20

Air Canister Certification Results

Lab ID: L2010367-06
Client ID: CAN 2196 SHELF 7
Sample Location:

Date Collected: 03/13/20 08:00
Date Received: 03/13/20
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Xylenes, total	ND	0.600	--	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: L2010367
Report Date: 03/31/20

Air Canister Certification Results

Lab ID: L2010367-06
Client ID: CAN 2196 SHELF 7
Sample Location:

Date Collected: 03/13/20 08:00
Date Received: 03/13/20
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2010367
Report Date: 03/31/20

Air Canister Certification Results

Lab ID: L2010367-06
Client ID: CAN 2196 SHELF 7
Sample Location:

Date Collected: 03/13/20 08:00
Date Received: 03/13/20
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2010367
Report Date: 03/31/20

Air Canister Certification Results

Lab ID: L2010367-06
Client ID: CAN 2196 SHELF 7
Sample Location:

Date Collected: 03/13/20 08:00
Date Received: 03/13/20
Field Prep: Not Specified

Sample Depth:

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

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	85		60-140
Bromochloromethane	86		60-140
chlorobenzene-d5	85		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2010367
Report Date: 03/31/20

Air Canister Certification Results

Lab ID: L2010367-06
Client ID: CAN 2196 SHELF 7
Sample Location:

Date Collected: 03/13/20 08:00
Date Received: 03/13/20
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 03/13/20 20:24
Analyst: RY

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2010367
Report Date: 03/31/20

Air Canister Certification Results

Lab ID: L2010367-06
Client ID: CAN 2196 SHELF 7
Sample Location:

Date Collected: 03/13/20 08:00
Date Received: 03/13/20
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	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
1,1,2,2-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: L2010367
Report Date: 03/31/20

Air Canister Certification Results

Lab ID: L2010367-06
Client ID: CAN 2196 SHELF 7
Sample Location:

Date Collected: 03/13/20 08:00
Date Received: 03/13/20
Field Prep: Not Specified

Sample Depth:

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

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	82		60-140
bromochloromethane	84		60-140
chlorobenzene-d5	83		60-140

AIR Petro Can Certification

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2010367

Project Number: CANISTER QC BAT **Report Date:** 03/31/20

AIR CAN CERTIFICATION RESULTS

Lab ID:	L2010367-06	Date Collected:	03/13/20 08:00
Client ID:	CAN 2196 SHELF 7	Date Received:	03/13/20
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	03/13/20 20:24		
Analyst:	RY		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	ND		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/m3	10	--	1
Toluene	ND		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	ND		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067

Lab Number: L2013263
Report Date: 03/31/20

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(*)
L2013263-01A	Canister - 2.7 Liter	NA	NA			Y	Absent		APH-10(30),TO15-SIM(30)
L2013263-02A	Canister - 2.7 Liter	NA	NA			Y	Absent		APH-10(30),TO15-SIM(30)
L2013263-03A	Canister - 2.7 Liter	NA	NA			Y	Absent		APH-10(30),TO15-SIM(30)
L2013263-04A	Canister - 2.7 Liter	NA	NA			Y	Absent		APH-10(30),TO15-SIM(30)
L2013263-05A	Canister - 2.7 Liter	NA	NA			Y	Absent		APH-10(30),TO15-SIM(30)
L2013263-06A	Canister - 2.7 Liter	NA	NA			Y	Absent		APH-10(30),TO15-SIM(30)

*Values in parentheses indicate holding time in days

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L2013263
Project Number:	683-067	**Report Date:**	03/31/20

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.

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.

Footnotes

Report Format: Data Usability Report

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L2013263
Project Number:	683-067	**Report Date:**	03/31/20

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. 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.

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 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

Report Format: Data Usability Report

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L2013263
Project Number:	683-067	**Report Date:**	03/31/20

Data Qualifiers

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.

Report Format: Data Usability Report

REFERENCES

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

96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

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
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; 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.
EPA TO-12 Non-methane organics
EPA 3C Fixed gases
Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

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

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

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.

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

ALPHA ANALYTICAL — CHAIN OF CUSTODY

PAGE 1 OF 1

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

Date Rec'd in Lab: 3/25/20

ALPHA Job #: L2013263

Client Information

Client: Farallon Consulting
Address: 975 5th AVE NW
Issaquah, WA 98027
Phone: 425-295-0800
Fax: 425-295-0850
Email: PKingston@farallonconsulting.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Skykomish Hot Water Flushing
Project Location: Skykomish, WA
Project #: 633-067
Project Manager: Pete Kingston
ALPHA Quote #:

Turn-Around Time

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

Date Due: Time:

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)

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: All

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	ID Can	ID - Flow Controller	ANALYSIS TO-15	TO-15 SIM	APH Subset Non-petroleum HCs ☐	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
13263-01	031620_BC		0750	1505	-30.00	-6.72	AA	GP	2.7	245	01634	X	X				
-02	031620_BSW		0753	1507	-30.05	-3.02				2521	01654	X	X				
-03	031620_BNE		0755	1500	-30.17	-1.82				365	01633	X	X				
-04	031620_1C		0756	1454	-30.01	-7.02				2526	01702	X	X				
-05	031620_1SE		0758	1508	-30.03	-8.26				484	01560	X	X				
-06	031620_2SE		0759	1511	-29.85	-8.33				2434	01774	X	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:
GP	3/20/2020 1600	Fedex	
Fedex		[illegible] -AIC	3/25/20 10:53

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.

Form No: 101-02 Rev: (25-Sep-15)

ANALYTICAL REPORT

Lab Number:	L2028224
Client:	Farallon Consulting, L.L.C. 975 5th Avenue Northwest Issaquah, WA 98027
ATTN:	Peter Kingston
Phone:	(425) 295-0800
Project Name:	SKYKOMISH HOT WATER FLUSHING
Project Number:	683-067
Report Date:	07/13/20

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: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067

Lab Number: L2028224
Report Date: 07/13/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2028224-01	062420_2SE	AIR	SKYKOMISH, WA	06/24/20 15:40	07/06/20
L2028224-02	062420_1C	AIR	SKYKOMISH, WA	06/24/20 15:39	07/06/20
L2028224-03	062420_1SE	AIR	SKYKOMISH, WA	06/24/20 15:41	07/06/20
L2028224-04	062420_BC	AIR	SKYKOMISH, WA	06/24/20 15:33	07/06/20
L2028224-05	062420_BSW	AIR	SKYKOMISH, WA	06/24/20 15:36	07/06/20
L2028224-06	062420_BNE	AIR	SKYKOMISH, WA	06/24/20 15:38	07/06/20

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L2028224
Project Number:	683-067	**Report Date:**	07/13/20

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:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L2028224
Project Number:	683-067	**Report Date:**	07/13/20

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on June 18, 2020. The canister certification results are provided as an addendum.

Petroleum Hydrocarbons in Air

L2028224-01: isopropyl alcohol, siloxane(s), tetrahydrofuran and hexanal are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L2028224-01: Alpha-Pinene and siloxane(s) are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L2028224-02: acetone, isopropyl alcohol, siloxane(s), tetrahydrofuran and hexanal are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L2028224-02: Alpha-Pinene and siloxane(s) are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L2028224-03 through -06: isopropyl alcohol, siloxane(s), tetrahydrofuran and hexanal are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L2028224-03: Alpha-Pinene and siloxane(s) are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L2028224
Project Number:	683-067	**Report Date:**	07/13/20

Case Narrative (continued)

petroleum hydrocarbons.

L2028224-04 through -06: Alpha-Pinene, D-limonene and siloxane(s) are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

Sample Receipt

The flow controller 0490 used with 062420_2SE (L2028224-01) was damaged upon receipt at the lab so the return flow rate is not available to include in the report.

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: 07/13/20

AIR

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L2028224
Report Date: 07/13/20

SAMPLE RESULTS

Lab ID: L2028224-01
Client ID: 062420_2SE
Sample Location: SKYKOMISH, WA

Date Collected: 06/24/20 15:40
Date Received: 07/06/20
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 07/11/20 17:22
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.271	0.100	--	0.866	0.319	--		1
Naphthalene	0.062	0.050	--	0.325	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	95		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	94		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L2028224
Report Date: 07/13/20

SAMPLE RESULTS

Lab ID: L2028224-02
Client ID: 062420_1C
Sample Location: SKYKOMISH, WA

Date Collected: 06/24/20 15:39
Date Received: 07/06/20
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 07/11/20 18:02
Analyst: RY

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	93		60-140
bromochloromethane	95		60-140
chlorobenzene-d5	92		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L2028224
Report Date: 07/13/20

SAMPLE RESULTS

Lab ID: L2028224-03
Client ID: 062420_1SE
Sample Location: SKYKOMISH, WA

Date Collected: 06/24/20 15:41
Date Received: 07/06/20
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 07/11/20 18:41
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.274	0.100	--	0.875	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	96		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	95		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L2028224
Report Date: 07/13/20

SAMPLE RESULTS

Lab ID: L2028224-04
Client ID: 062420_BC
Sample Location: SKYKOMISH, WA

Date Collected: 06/24/20 15:33
Date Received: 07/06/20
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 07/11/20 20:01
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.559	0.100	--	1.79	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

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

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L2028224
Report Date: 07/13/20

SAMPLE RESULTS

Lab ID: L2028224-05
Client ID: 062420_BSW
Sample Location: SKYKOMISH, WA

Date Collected: 06/24/20 15:36
Date Received: 07/06/20
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 07/11/20 20:40
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.637	0.100	--	2.04	0.319	--		1
Naphthalene	0.057	0.050	--	0.299	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	92		60-140
bromochloromethane	95		60-140
chlorobenzene-d5	93		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L2028224
Report Date: 07/13/20

SAMPLE RESULTS

Lab ID: L2028224-06
Client ID: 062420_BNE
Sample Location: SKYKOMISH, WA

Date Collected: 06/24/20 15:38
Date Received: 07/06/20
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 07/11/20 21:20
Analyst: RY

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.454	0.100	--	1.45	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	92		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	92		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L2028224

Project Number: 683-067 **Report Date:** 07/13/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 07/11/20 16:42

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1391168-4								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: SKYKOMISH HOT WATER FLUSHING

Project Number: 683-067

Lab Number: L2028224

Report Date: 07/13/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1391168-3								
1,3-Butadiene	117		-		70-130	-		25
Benzene	106		-		70-130	-		25
Naphthalene	103		-		70-130	-		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067

Lab Number: L2028224
Report Date: 07/13/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1391168-5 QC Sample: L2028224-03 Client ID: 062420_1SE						
1,3-Butadiene	ND	ND	ppbV	NC		25
Benzene	0.274	0.278	ppbV	1		25
Naphthalene	ND	ND	ppbV	NC		25

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L2028224

Project Number: 683-067 **Report Date:** 07/13/20

SAMPLE RESULTS

Lab ID:	L2028224-01	Date Collected:	06/24/20 15:40
Client ID:	062420_2SE	Date Received:	07/06/20
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	07/11/20 17:22		
Analyst:	RY		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	0.98		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	59		ug/m3	10	--	1
Toluene	7.3		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	3.3		ug/m3	0.90	--	1
o-Xylene	1.1		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	27		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	96		50-200
Bromochloromethane	99		50-200
Chlorobenzene-d5	93		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L2028224

Project Number: 683-067 **Report Date:** 07/13/20

SAMPLE RESULTS

Lab ID:	L2028224-02	Date Collected:	06/24/20 15:39
Client ID:	062420_1C	Date Received:	07/06/20
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	07/11/20 18:02		
Analyst:	RY		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	ND		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/m3	10	--	1
Toluene	ND		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	ND		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	95		50-200
Bromochloromethane	96		50-200
Chlorobenzene-d5	93		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L2028224

Project Number: 683-067 **Report Date:** 07/13/20

SAMPLE RESULTS

Lab ID:	L2028224-03	Date Collected:	06/24/20 15:41
Client ID:	062420_1SE	Date Received:	07/06/20
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 96,APH
Analytical Date: 07/11/20 18:41
Analyst: RY

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	0.97		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	59		ug/m3	10	--	1
Toluene	6.0		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	2.8		ug/m3	0.90	--	1
o-Xylene	0.94		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	98		50-200
Bromochloromethane	100		50-200
Chlorobenzene-d5	95		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L2028224

Project Number: 683-067 **Report Date:** 07/13/20

SAMPLE RESULTS

Lab ID:	L2028224-04	Date Collected:	06/24/20 15:33
Client ID:	062420_BC	Date Received:	07/06/20
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	07/11/20 20:01		
Analyst:	RY		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	2.0		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	120		ug/m3	10	--	1
Toluene	14		ug/m3	0.90	--	1
Ethylbenzene	1.5		ug/m3	0.90	--	1
p/m-Xylene	6.5		ug/m3	0.90	--	1
o-Xylene	2.0		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	12		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	97		50-200
Bromochloromethane	97		50-200
Chlorobenzene-d5	95		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L2028224

Project Number: 683-067 **Report Date:** 07/13/20

SAMPLE RESULTS

Lab ID:	L2028224-05	Date Collected:	06/24/20 15:36
Client ID:	062420_BSW	Date Received:	07/06/20
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	07/11/20 20:40		
Analyst:	RY		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	2.3		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	130		ug/m3	10	--	1
Toluene	15		ug/m3	0.90	--	1
Ethylbenzene	1.6		ug/m3	0.90	--	1
p/m-Xylene	7.0		ug/m3	0.90	--	1
o-Xylene	2.3		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	94		50-200
Bromochloromethane	98		50-200
Chlorobenzene-d5	93		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L2028224

Project Number: 683-067 **Report Date:** 07/13/20

SAMPLE RESULTS

Lab ID:	L2028224-06	Date Collected:	06/24/20 15:38
Client ID:	062420_BNE	Date Received:	07/06/20
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	07/11/20 21:20		
Analyst:	RY		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	1.6		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	120		ug/m3	10	--	1
Toluene	12		ug/m3	0.90	--	1
Ethylbenzene	1.2		ug/m3	0.90	--	1
p/m-Xylene	5.2		ug/m3	0.90	--	1
o-Xylene	1.7		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	78		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	94		50-200
Bromochloromethane	96		50-200
Chlorobenzene-d5	92		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L2028224

Project Number: 683-067 **Report Date:** 07/13/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 96,APH
Analytical Date: 07/11/20 16:02
Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-06 Batch: WG1391167-4					
1,3-Butadiene	ND		ug/m3	0.50	--
Methyl tert butyl ether	ND		ug/m3	0.70	--
Benzene	ND		ug/m3	0.60	--
C5-C8 Aliphatics, Adjusted	ND		ug/m3	10	--
Toluene	ND		ug/m3	0.90	--
Ethylbenzene	ND		ug/m3	0.90	--
p/m-Xylene	ND		ug/m3	0.90	--
o-Xylene	ND		ug/m3	0.90	--
Naphthalene	ND		ug/m3	1.1	--
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--
C9-C10 Aromatics Total	ND		ug/m3	10	--

Lab Control Sample Analysis

Batch Quality Control

Project Name: SKYKOMISH HOT WATER FLUSHING

Project Number: 683-067

Lab Number: L2028224

Report Date: 07/13/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG1391167-3								
1,3-Butadiene	122		-		70-130	-		
Methyl tert butyl ether	119		-		70-130	-		
Benzene	121		-		70-130	-		
C5-C8 Aliphatics, Adjusted	107		-		70-130	-		
Toluene	87		-		70-130	-		
Ethylbenzene	91		-		70-130	-		
p/m-Xylene	88		-		70-130	-		
o-Xylene	94		-		70-130	-		
Naphthalene	98		-		50-150	-		
C9-C12 Aliphatics, Adjusted	95		-		70-130	-		
C9-C10 Aromatics Total	87		-		70-130	-		

Lab Duplicate Analysis
Batch Quality Control

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067

Lab Number: L2028224
Report Date: 07/13/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1391167-5 QC Sample: L2028224-03 Client ID: 062420_1SE						
1,3-Butadiene	ND	ND	ug/m3	NC		30
Methyl tert butyl ether	ND	ND	ug/m3	NC		30
Benzene	0.97	1.0	ug/m3	3		30
C5-C8 Aliphatics, Adjusted	59	63	ug/m3	7		30
Toluene	6.0	5.8	ug/m3	3		30
Ethylbenzene	ND	ND	ug/m3	NC		30
p/m-Xylene	2.8	2.8	ug/m3	0		30
o-Xylene	0.94	0.93	ug/m3	1		30
Naphthalene	ND	ND	ug/m3	NC		30
C9-C12 Aliphatics, Adjusted	ND	ND	ug/m3	NC		30
C9-C10 Aromatics Total	ND	ND	ug/m3	NC		30

Project Name: SKYKOMISH HOT WATER FLUSHING

Lab Number: L2028224

Project Number: 683-067

Report Date: 07/13/20

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2028224-01	062420_2SE	1735	2.7L Can	06/18/20	323528	L2023985-06	Pass	-29.8	-5.1	-	-	-	-
L2028224-02	062420_1C	01500	Flow 4	06/18/20	323528		-	-	-	Pass	4.5	5.1	13
L2028224-02	062420_1C	2788	2.7L Can	06/18/20	323528	L2023985-06	Pass	-29.8	-8.3	-	-	-	-
L2028224-03	062420_1SE	0283	Flow 5	06/18/20	323528		-	-	-	Pass	4.5	5.1	13
L2028224-03	062420_1SE	524	2.7L Can	06/18/20	323528	L2023985-06	Pass	-29.7	-5.2	-	-	-	-
L2028224-04	062420_BC	01629	Flow 4	06/18/20	323528		-	-	-	Pass	4.5	5.3	16
L2028224-04	062420_BC	387	2.7L Can	06/18/20	323528	L2023985-06	Pass	-29.4	-4.5	-	-	-	-
L2028224-05	062420_BSW	0795	Flow 4	06/18/20	323528		-	-	-	Pass	4.5	5.2	14
L2028224-05	062420_BSW	3003	2.7L Can	06/18/20	323528	L2023985-06	Pass	-29.7	-4.8	-	-	-	-
L2028224-06	062420_BNE	0723	Flow 5	06/18/20	323528		-	-	-	Pass	4.5	4.9	9
L2028224-06	062420_BNE	3004	2.7L Can	06/18/20	323528	L2023985-06	Pass	-29.7	-6.8	-	-	-	-

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

Lab Number: L2023985
Report Date: 07/13/20

Air Canister Certification Results

Lab ID: L2023985-06
Client ID: CAN 2013 SHELF 9
Sample Location:

Date Collected: 06/10/20 09:00
Date Received: 06/10/20
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 06/12/20 18:58
Analyst: EW

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2023985
Report Date: 07/13/20

Air Canister Certification Results

Lab ID: L2023985-06
Client ID: CAN 2013 SHELF 9
Sample Location:

Date Collected: 06/10/20 09:00
Date Received: 06/10/20
Field Prep: Not Specified

Sample Depth:

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

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

Lab Number: L2023985
Report Date: 07/13/20

Air Canister Certification Results

Lab ID: L2023985-06
Client ID: CAN 2013 SHELF 9
Sample Location:

Date Collected: 06/10/20 09:00
Date Received: 06/10/20
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2023985
Report Date: 07/13/20

Air Canister Certification Results

Lab ID: L2023985-06
Client ID: CAN 2013 SHELF 9
Sample Location:

Date Collected: 06/10/20 09:00
Date Received: 06/10/20
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2023985
Report Date: 07/13/20

Air Canister Certification Results

Lab ID: L2023985-06
Client ID: CAN 2013 SHELF 9
Sample Location:

Date Collected: 06/10/20 09:00
Date Received: 06/10/20
Field Prep: Not Specified

Sample Depth:

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

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	76		60-140
Bromochloromethane	82		60-140
chlorobenzene-d5	79		60-140

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

Lab Number: L2023985
Report Date: 07/13/20

Air Canister Certification Results

Lab ID: L2023985-06
Client ID: CAN 2013 SHELF 9
Sample Location:

Date Collected: 06/10/20 09:00
Date Received: 06/10/20
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 06/12/20 18:58
Analyst: TS

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

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2023985

Project Number: CANISTER QC BAT **Report Date:** 07/13/20

Air Canister Certification Results

Lab ID: L2023985-06
Client ID: CAN 2013 SHELF 9
Sample Location:

Date Collected: 06/10/20 09:00
Date Received: 06/10/20
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	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
1,1,2,2-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:** L2023985

Project Number: CANISTER QC BAT **Report Date:** 07/13/20

Air Canister Certification Results

Lab ID: L2023985-06
Client ID: CAN 2013 SHELF 9
Sample Location:

Date Collected: 06/10/20 09:00
Date Received: 06/10/20
Field Prep: Not Specified

Sample Depth:

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

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	77		60-140
bromochloromethane	82		60-140
chlorobenzene-d5	78		60-140

AIR Petro Can Certification

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2023985

Project Number: CANISTER QC BAT **Report Date:** 07/13/20

AIR CAN CERTIFICATION RESULTS

Lab ID:	L2023985-06	Date Collected:	06/10/20 09:00
Client ID:	CAN 2013 SHELF 9	Date Received:	06/10/20
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	06/12/20 18:58		
Analyst:	EW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	ND		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/m3	10	--	1
Toluene	ND		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	ND		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067

Lab Number: L2028224
Report Date: 07/13/20

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(*)
L2028224-01A	Canister - 2.7 Liter	NA	NA			Y	Absent		APH-10(30),TO15-SIM(30)
L2028224-02A	Canister - 2.7 Liter	NA	NA			Y	Absent		APH-10(30),TO15-SIM(30)
L2028224-03A	Canister - 2.7 Liter	NA	NA			Y	Absent		APH-10(30),TO15-SIM(30)
L2028224-04A	Canister - 2.7 Liter	NA	NA			Y	Absent		APH-10(30),TO15-SIM(30)
L2028224-05A	Canister - 2.7 Liter	NA	NA			Y	Absent		APH-10(30),TO15-SIM(30)
L2028224-06A	Canister - 2.7 Liter	NA	NA			Y	Absent		APH-10(30),TO15-SIM(30)

*Values in parentheses indicate holding time in days

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L2028224
Project Number:	683-067	**Report Date:**	07/13/20

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.

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.

Footnotes

Report Format: Data Usability Report

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L2028224
Project Number:	683-067	**Report Date:**	07/13/20

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. 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. (DoD and NYSDEC Part 375 PFAS only.)

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 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

Report Format: Data Usability Report

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L2028224
Project Number:	683-067	**Report Date:**	07/13/20

Data Qualifiers

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.

Report Format: Data Usability Report

REFERENCES

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

96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

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 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; 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.
EPA TO-12 Non-methane organics
EPA 3C Fixed gases
Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

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

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

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.

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

PAGE 1 OF 1

CHAIN OF CUSTODY

ALPHA ANALYTICAL

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

Date Rec'd in Lab: 7/7/20

ALPHA Job #: L2028224

Client Information

Client: Farallon Consulting
Address: 975 5th Avenue Northwest
Issaquah, Washington 98027
Phone: 425-295-0800
Fax: 425-295-0850
Email: Pkingston@farallonconsulting.c

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Skykomish Hot Water Flushing
Project Location: Skykomish, Washington
Project #: 683-067
Project Manager: Pete Kingston
ALPHA Quote #:

Turn-Around-Time

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

Date Due: Time:

Report/Data Deliverables Information

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Residential/Commercial

Other Project Specific Requirements/Comments:
☒ Project-Specific Target Compound List
SIM: Benzene, Naphthalene, 1,3 Butadiene

Analysis

All Columns Below Must Be Filled Out

Alpha Lab Use Only	Sample ID	Collection: End Date	Start Time	End Time	Initial Vac	Final Vac	Sample Matrix*	Sampler Initials	Can Size	ID Can	ID Flow Controller	TO-15	TO-15 SIM	Subtract non-petroleum HCs: APH	FIXED GASES	Sulfides & Mercaptans by TO-15			Sample Specific Comments (i.e. PID)
28224-01	062420_2SE	6/24/20	747	1540	-28.89	-3.23	AA	GP	2.7	1735	0490	☐	☒	☒	☐	☐	☐	☐	
02	062420_1C		745	1539	-29.00	-6.55	AA	GP	2.7	2788	01500	☐	☒	☒	☐	☐	☐	☐	
03	062420_1SE		746	1541	-29.07	-3.47	AA	GP	2.7	524	0283	☐	☒	☒	☐	☐	☐	☐	
04	062420_BC		740	1533	-29.42	-2.97	AA	GP	2.7	387	01629	☐	☒	☒	☐	☐	☐	☐	
05	062420_BSW		741	1536	-29.10	-3.38	AA	GP	2.7	3003	0795	☐	☒	☒	☐	☐	☐	☐	
06	062420_BNE		743	1538	-29.30	-5.54	AA	GP	2.7	3224	0723	☐	☒	☒	☐	☐	☐	☐	
											Container Type	C	C	C	C	C	C	C	

*SAMPLE MATRIX CODES:
AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Relinquished By	Date/Time	Received By:	Date/Time
GP FedEx	6/26/20 0900	FedEx AAL	7/6/20 11:38

Please print clearly & legibly and completely. Samples cannot be logged in and turn around time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

Form 101-02 (I) Rev. 25-Sept-15

ANALYTICAL REPORT

Lab Number:	L2040539
Client:	Farallon Consulting, L.L.C. 975 5th Avenue Northwest Issaquah, WA 98027
ATTN:	Peter Kingston
Phone:	(425) 295-0800
Project Name:	SKYKOMISH HOT WATER FLUSHING
Project Number:	683-067
Report Date:	09/30/20

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: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067

Lab Number: L2040539
Report Date: 09/30/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2040539-01	091620_2SE	AIR	SKYKOMISH, WA	09/16/20 14:52	09/25/20
L2040539-02	091620_1C	AIR	SKYKOMISH, WA	09/16/20 14:55	09/25/20
L2040539-03	091620_1SE	AIR	SKYKOMISH, WA	09/16/20 14:54	09/25/20
L2040539-04	091620_BC	AIR	SKYKOMISH, WA	09/16/20 14:50	09/25/20
L2040539-05	091620_BSW	AIR	SKYKOMISH, WA	09/16/20 14:51	09/25/20
L2040539-06	091620_BNE	AIR	SKYKOMISH, WA	09/16/20 14:06	09/25/20
L2040539-07	UNUSED CAN #1734	AIR	SKYKOMISH, WA		09/25/20
L2040539-08	UNUSED CAN #570	AIR	SKYKOMISH, WA		09/25/20

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L2040539
Project Number:	683-067	**Report Date:**	09/30/20

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:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L2040539
Project Number:	683-067	**Report Date:**	09/30/20

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on September 11, 2020. The canister certification results are provided as an addendum.

Petroleum Hydrocarbons in Air

L2040539-01 through -06: isopropyl alcohol, siloxane(s), tetrahydrofuran and 2-butanone are present in the C5-C8 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C5-C8 range result since they are not petroleum hydrocarbons.

L2040539-01 through -06: Alpha-Pinene, D-limonene, and siloxane(s) are present in the C9-C12 Aliphatic Hydrocarbon range. The response for these analytes was not included in the calculation of the C9-C12 range result since they are not petroleum hydrocarbons.

L2040539-01: The canister used for this sample fails certification criteria for C5-C8. The concentration in the assocaited sample is > 10X the value so no further action is required.

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: 09/30/20

AIR

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L2040539
Report Date: 09/30/20

SAMPLE RESULTS

Lab ID: L2040539-01
Client ID: 091620_2SE
Sample Location: SKYKOMISH, WA

Date Collected: 09/16/20 14:52
Date Received: 09/25/20
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/30/20 00:06
Analyst: RY

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	0.032	0.020	--	0.071	0.044	--		1
Benzene	1.14	0.100	--	3.64	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

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

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L2040539
Report Date: 09/30/20

SAMPLE RESULTS

Lab ID: L2040539-02
Client ID: 091620_1C
Sample Location: SKYKOMISH, WA

Date Collected: 09/16/20 14:55
Date Received: 09/25/20
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/30/20 00:46
Analyst: RY

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.832	0.100	--	2.66	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	92		60-140
bromochloromethane	98		60-140
chlorobenzene-d5	93		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L2040539
Report Date: 09/30/20

SAMPLE RESULTS

Lab ID: L2040539-03
Client ID: 091620_1SE
Sample Location: SKYKOMISH, WA

Date Collected: 09/16/20 14:54
Date Received: 09/25/20
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/30/20 01:26
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.794	0.100	--	2.54	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	93		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	95		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L2040539
Report Date: 09/30/20

SAMPLE RESULTS

Lab ID: L2040539-04
Client ID: 091620_BC
Sample Location: SKYKOMISH, WA

Date Collected: 09/16/20 14:50
Date Received: 09/25/20
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/30/20 02:06
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	0.878	0.100	--	2.80	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

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

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L2040539
Report Date: 09/30/20

SAMPLE RESULTS

Lab ID: L2040539-05
Client ID: 091620_BSW
Sample Location: SKYKOMISH, WA

Date Collected: 09/16/20 14:51
Date Received: 09/25/20
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/30/20 03:26
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	0.020	0.020	--	0.044	0.044	--		1
Benzene	0.879	0.100	--	2.81	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	93		60-140
bromochloromethane	95		60-140
chlorobenzene-d5	94		60-140

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067
Lab Number: L2040539
Report Date: 09/30/20

SAMPLE RESULTS

Lab ID: L2040539-06
Client ID: 091620_BNE
Sample Location: SKYKOMISH, WA

Date Collected: 09/16/20 14:06
Date Received: 09/25/20
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/30/20 04:06
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,3-Butadiene	0.020	0.020	--	0.044	0.044	--		1
Benzene	0.910	0.100	--	2.91	0.319	--		1
Naphthalene	0.050	0.050	--	0.262	0.262	--		1

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

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L2040539

Project Number: 683-067 **Report Date:** 09/30/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 09/29/20 16:11

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1415965-4								
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: SKYKOMISH HOT WATER FLUSHING

Project Number: 683-067

Lab Number: L2040539

Report Date: 09/30/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 Batch: WG1415965-3								
1,3-Butadiene	110		-		70-130	-		25
Benzene	88		-		70-130	-		25
Naphthalene	74		-		70-130	-		25

Lab Duplicate Analysis
Batch Quality Control

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067

Lab Number: L2040539
Report Date: 09/30/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1415965-5 QC Sample: L2040539-04 Client ID: 091620_BC						
1,3-Butadiene	ND	0.020	ppbV	NC		25
Benzene	0.878	0.873	ppbV	1		25
Naphthalene	ND	ND	ppbV	NC		25

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L2040539

Project Number: 683-067 **Report Date:** 09/30/20

SAMPLE RESULTS

Lab ID:	L2040539-01	Date Collected:	09/16/20 14:52
Client ID:	091620_2SE	Date Received:	09/25/20
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	09/30/20 00:06		
Analyst:	RY		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	4.2		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	220		ug/m3	10	--	1
Toluene	28		ug/m3	0.90	--	1
Ethylbenzene	3.2		ug/m3	0.90	--	1
p/m-Xylene	14		ug/m3	0.90	--	1
o-Xylene	4.3		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	14		ug/m3	10	--	1
C9-C10 Aromatics Total	13		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	94		50-200
Bromochloromethane	98		50-200
Chlorobenzene-d5	96		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L2040539

Project Number: 683-067 **Report Date:** 09/30/20

SAMPLE RESULTS

Lab ID:	L2040539-02	Date Collected:	09/16/20 14:55
Client ID:	091620_1C	Date Received:	09/25/20
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	09/30/20 00:46		
Analyst:	RY		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	3.1		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	130		ug/m3	10	--	1
Toluene	16		ug/m3	0.90	--	1
Ethylbenzene	1.9		ug/m3	0.90	--	1
p/m-Xylene	8.0		ug/m3	0.90	--	1
o-Xylene	2.5		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	92		50-200
Bromochloromethane	100		50-200
Chlorobenzene-d5	95		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L2040539

Project Number: 683-067 **Report Date:** 09/30/20

SAMPLE RESULTS

Lab ID:	L2040539-03	Date Collected:	09/16/20 14:54
Client ID:	091620_1SE	Date Received:	09/25/20
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	09/30/20 01:26		
Analyst:	RY		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	3.0		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	130		ug/m3	10	--	1
Toluene	13		ug/m3	0.90	--	1
Ethylbenzene	1.8		ug/m3	0.90	--	1
p/m-Xylene	6.6		ug/m3	0.90	--	1
o-Xylene	2.2		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	33		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	93		50-200
Bromochloromethane	94		50-200
Chlorobenzene-d5	96		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L2040539

Project Number: 683-067 **Report Date:** 09/30/20

SAMPLE RESULTS

Lab ID:	L2040539-04	Date Collected:	09/16/20 14:50
Client ID:	091620_BC	Date Received:	09/25/20
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	09/30/20 02:06		
Analyst:	RY		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	3.3		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	130		ug/m3	10	--	1
Toluene	17		ug/m3	0.90	--	1
Ethylbenzene	2.0		ug/m3	0.90	--	1
p/m-Xylene	8.1		ug/m3	0.90	--	1
o-Xylene	2.5		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	94		50-200
Bromochloromethane	97		50-200
Chlorobenzene-d5	95		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L2040539

Project Number: 683-067 **Report Date:** 09/30/20

SAMPLE RESULTS

Lab ID:	L2040539-05	Date Collected:	09/16/20 14:51
Client ID:	091620_BSW	Date Received:	09/25/20
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified
Sample Depth:			
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	09/30/20 03:26		
Analyst:	RY		

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	3.2		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	140		ug/m3	10	--	1
Toluene	16		ug/m3	0.90	--	1
Ethylbenzene	2.1		ug/m3	0.90	--	1
p/m-Xylene	8.3		ug/m3	0.90	--	1
o-Xylene	2.7		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	41		ug/m3	10	--	1
C9-C10 Aromatics Total	10		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	94		50-200
Bromochloromethane	97		50-200
Chlorobenzene-d5	96		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L2040539

Project Number: 683-067 **Report Date:** 09/30/20

SAMPLE RESULTS

Lab ID:	L2040539-06	Date Collected:	09/16/20 14:06
Client ID:	091620_BNE	Date Received:	09/25/20
Sample Location:	SKYKOMISH, WA	Field Prep:	Not Specified

Sample Depth:
Matrix: Air
Analytical Method: 96,APH
Analytical Date: 09/30/20 04:06
Analyst: RY

Quality Control Information

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air - Mansfield Lab						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	3.4		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	180		ug/m3	10	--	1
Toluene	19		ug/m3	0.90	--	1
Ethylbenzene	2.1		ug/m3	0.90	--	1
p/m-Xylene	9.5		ug/m3	0.90	--	1
o-Xylene	3.0		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	30		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	94		50-200
Bromochloromethane	96		50-200
Chlorobenzene-d5	97		50-200

Project Name: SKYKOMISH HOT WATER FLUSHING **Lab Number:** L2040539

Project Number: 683-067 **Report Date:** 09/30/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 96,APH
Analytical Date: 09/29/20 15:31
Analyst: RY

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbons in Air - Mansfield Lab for sample(s): 01-06 Batch: WG1415967-4					
1,3-Butadiene	ND		ug/m3	0.50	--
Methyl tert butyl ether	ND		ug/m3	0.70	--
Benzene	ND		ug/m3	0.60	--
C5-C8 Aliphatics, Adjusted	ND		ug/m3	10	--
Toluene	ND		ug/m3	0.90	--
Ethylbenzene	ND		ug/m3	0.90	--
p/m-Xylene	ND		ug/m3	0.90	--
o-Xylene	ND		ug/m3	0.90	--
Naphthalene	ND		ug/m3	1.1	--
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--
C9-C10 Aromatics Total	ND		ug/m3	10	--

Lab Control Sample Analysis

Batch Quality Control

Project Name: SKYKOMISH HOT WATER FLUSHING

Project Number: 683-067

Lab Number: L2040539

Report Date: 09/30/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 Batch: WG1415967-3								
1,3-Butadiene	96		-		70-130	-		
Methyl tert butyl ether	97		-		70-130	-		
Benzene	102		-		70-130	-		
C5-C8 Aliphatics, Adjusted	117		-		70-130	-		
Toluene	106		-		70-130	-		
Ethylbenzene	112		-		70-130	-		
p/m-Xylene	110		-		70-130	-		
o-Xylene	114		-		70-130	-		
Naphthalene	117		-		50-150	-		
C9-C12 Aliphatics, Adjusted	100		-		70-130	-		
C9-C10 Aromatics Total	95		-		70-130	-		

Lab Duplicate Analysis
Batch Quality Control

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067

Lab Number: L2040539
Report Date: 09/30/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Petroleum Hydrocarbons in Air - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1415967-5 QC Sample: L2040539-04 Client ID: 091620_BC						
1,3-Butadiene	ND	ND	ug/m3	NC		30
Methyl tert butyl ether	ND	ND	ug/m3	NC		30
Benzene	3.3	3.2	ug/m3	3		30
C5-C8 Aliphatics, Adjusted	130	130	ug/m3	0		30
Toluene	17	17	ug/m3	0		30
Ethylbenzene	2.0	1.9	ug/m3	5		30
p/m-Xylene	8.1	8.1	ug/m3	0		30
o-Xylene	2.5	2.5	ug/m3	0		30
Naphthalene	ND	ND	ug/m3	NC		30
C9-C12 Aliphatics, Adjusted	ND	ND	ug/m3	NC		30
C9-C10 Aromatics Total	ND	ND	ug/m3	NC		30

Project Name: SKYKOMISH HOT WATER FLUSHING

Lab Number: L2040539

Project Number: 683-067

Report Date: 09/30/20

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2040539-01	091620_2SE	0072	Flow 5	09/11/20	329828		-	-	-	Pass	4.5	4.2	7
L2040539-01	091620_2SE	154	2.7L Can	09/11/20	329828	L2035915-01	Pass	-29.6	-5.6	-	-	-	-
L2040539-02	091620_1C	0129	Flow 5	09/11/20	329828		-	-	-	Pass	4.5	4.1	9
L2040539-02	091620_1C	2864	2.7L Can	09/11/20	329828	L2035723-07	Pass	-29.8	-6.0	-	-	-	-
L2040539-03	091620_1SE	0293	Flow 5	09/11/20	329828		-	-	-	Pass	4.5	4.2	7
L2040539-03	091620_1SE	422	2.7L Can	09/11/20	329828	L2035723-07	Pass	-29.3	-7.1	-	-	-	-
L2040539-04	091620_BC	0089	Flow 5	09/11/20	329828		-	-	-	Pass	4.5	4.3	5
L2040539-04	091620_BC	2828	2.7L Can	09/11/20	329828	L2035723-07	Pass	-29.3	-4.0	-	-	-	-
L2040539-05	091620_BSW	0632	Flow 5	09/11/20	329828		-	-	-	Pass	4.5	4.2	7
L2040539-05	091620_BSW	2791	2.7L Can	09/11/20	329828	L2035723-07	Pass	-29.3	-6.8	-	-	-	-
L2040539-06	091620_BNE	01393	Flow 5	09/11/20	329828		-	-	-	Pass	4.5	5.0	11
L2040539-06	091620_BNE	406	2.7L Can	09/11/20	329828	L2035723-07	Pass	-29.4	-5.1	-	-	-	-
L2040539-07	UNUSED CAN #1734	01459	Flow 5	09/11/20	329828		-	-	-	Pass	4.5	4.2	7
L2040539-07	UNUSED CAN #1734	1734	2.7L Can	09/11/20	329828	L2035723-07	Pass	-29.3	-29.1	-	-	-	-
L2040539-08	UNUSED CAN #570	01731	Flow 5	09/11/20	329828		-	-	-	Pass	4.5	4.1	9

Project Name: SKYKOMISH HOT WATER FLUSHING

Lab Number: L2040539

Project Number: 683-067

Report Date: 09/30/20

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2040539-08	UNUSED CAN #570	570	2.7L Can	09/11/20	329828	L2035915-01	Pass	-29.4	-29.1	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2035723
Report Date: 09/30/20

Air Canister Certification Results

Lab ID: L2035723-07
Client ID: CAN 2197 SHELF 10
Sample Location:

Date Collected: 08/31/20 09:00
Date Received: 08/31/20
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 09/03/20 17:47
Analyst: EW

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2035723
Report Date: 09/30/20

Air Canister Certification Results

Lab ID: L2035723-07
Client ID: CAN 2197 SHELF 10
Sample Location:

Date Collected: 08/31/20 09:00
Date Received: 08/31/20
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2035723
Report Date: 09/30/20

Air Canister Certification Results

Lab ID: L2035723-07
Client ID: CAN 2197 SHELF 10
Sample Location:

Date Collected: 08/31/20 09:00
Date Received: 08/31/20
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2035723
Report Date: 09/30/20

Air Canister Certification Results

Lab ID: L2035723-07
Client ID: CAN 2197 SHELF 10
Sample Location:

Date Collected: 08/31/20 09:00
Date Received: 08/31/20
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2035723
Report Date: 09/30/20

Air Canister Certification Results

Lab ID: L2035723-07
Client ID: CAN 2197 SHELF 10
Sample Location:

Date Collected: 08/31/20 09:00
Date Received: 08/31/20
Field Prep: Not Specified

Sample Depth:

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

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	91		60-140
Bromochloromethane	126		60-140
chlorobenzene-d5	102		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2035723
Report Date: 09/30/20

Air Canister Certification Results

Lab ID: L2035723-07
Client ID: CAN 2197 SHELF 10
Sample Location:

Date Collected: 08/31/20 09:00
Date Received: 08/31/20
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/03/20 17:47
Analyst: EW

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2035723
Report Date: 09/30/20

Air Canister Certification Results

Lab ID: L2035723-07
Client ID: CAN 2197 SHELF 10
Sample Location:

Date Collected: 08/31/20 09:00
Date Received: 08/31/20
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	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
1,1,2,2-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:** L2035723

Project Number: CANISTER QC BAT **Report Date:** 09/30/20

Air Canister Certification Results

Lab ID: L2035723-07
Client ID: CAN 2197 SHELF 10
Sample Location:

Date Collected: 08/31/20 09:00
Date Received: 08/31/20
Field Prep: Not Specified

Sample Depth:

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

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	89		60-140
bromochloromethane	125		60-140
chlorobenzene-d5	99		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2035915
Report Date: 09/30/20

Air Canister Certification Results

Lab ID: L2035915-01
Client ID: CAN 329 SHELF 1
Sample Location:

Date Collected: 08/31/20 16:00
Date Received: 09/01/20
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 09/03/20 18:26
Analyst: EW

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2035915
Report Date: 09/30/20

Air Canister Certification Results

Lab ID: L2035915-01
Client ID: CAN 329 SHELF 1
Sample Location:

Date Collected: 08/31/20 16:00
Date Received: 09/01/20
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
Xylenes, total	ND	0.600	--	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: L2035915
Report Date: 09/30/20

Air Canister Certification Results

Lab ID: L2035915-01
Client ID: CAN 329 SHELF 1
Sample Location:

Date Collected: 08/31/20 16:00
Date Received: 09/01/20
Field Prep: Not Specified

Sample Depth:

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

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2035915
Report Date: 09/30/20

Air Canister Certification Results

Lab ID: L2035915-01
Client ID: CAN 329 SHELF 1
Sample Location:

Date Collected: 08/31/20 16:00
Date Received: 09/01/20
Field Prep: Not Specified

Sample Depth:

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

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

Lab Number: L2035915
Report Date: 09/30/20

Air Canister Certification Results

Lab ID: L2035915-01
Client ID: CAN 329 SHELF 1
Sample Location:

Date Collected: 08/31/20 16:00
Date Received: 09/01/20
Field Prep: Not Specified

Sample Depth:

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

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					
Silanol, dimethyl(1,1,2-tri...	4.5	NJ	ppbV		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	87		60-140
Bromochloromethane	129		60-140
chlorobenzene-d5	102		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L2035915
Report Date: 09/30/20

Air Canister Certification Results

Lab ID: L2035915-01
Client ID: CAN 329 SHELF 1
Sample Location:

Date Collected: 08/31/20 16:00
Date Received: 09/01/20
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/03/20 18:26
Analyst: EW

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

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2035915

Project Number: CANISTER QC BAT **Report Date:** 09/30/20

Air Canister Certification Results

Lab ID: L2035915-01
Client ID: CAN 329 SHELF 1
Sample Location:

Date Collected: 08/31/20 16:00
Date Received: 09/01/20
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	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
1,1,2,2-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: L2035915
Report Date: 09/30/20

Air Canister Certification Results

Lab ID: L2035915-01
Client ID: CAN 329 SHELF 1
Sample Location:

Date Collected: 08/31/20 16:00
Date Received: 09/01/20
Field Prep: Not Specified

Sample Depth:

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

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	87		60-140
bromochloromethane	130		60-140
chlorobenzene-d5	100		60-140

AIR Petro Can Certification

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2035723

Project Number: CANISTER QC BAT **Report Date:** 09/30/20

AIR CAN CERTIFICATION RESULTS

Lab ID:	L2035723-07	Date Collected:	08/31/20 09:00
Client ID:	CAN 2197 SHELF 10	Date Received:	08/31/20
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	09/03/20 17:47		
Analyst:	EW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	ND		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/m3	10	--	1
Toluene	ND		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	ND		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L2035915

Project Number: CANISTER QC BAT **Report Date:** 09/30/20

AIR CAN CERTIFICATION RESULTS

Lab ID:	L2035915-01	Date Collected:	08/31/20 16:00
Client ID:	CAN 329 SHELF 1	Date Received:	09/01/20
Sample Location:	Not Specified	Field Prep:	Not Specified
Matrix:	Air		
Analytical Method:	96,APH		
Analytical Date:	09/03/20 18:26		
Analyst:	EW		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbons in Air						
1,3-Butadiene	ND		ug/m3	0.50	--	1
Methyl tert butyl ether	ND		ug/m3	0.70	--	1
Benzene	ND		ug/m3	0.60	--	1
C5-C8 Aliphatics, Adjusted	15		ug/m3	10	--	1
Toluene	ND		ug/m3	0.90	--	1
Ethylbenzene	ND		ug/m3	0.90	--	1
p/m-Xylene	ND		ug/m3	0.90	--	1
o-Xylene	ND		ug/m3	0.90	--	1
Naphthalene	ND		ug/m3	1.1	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/m3	10	--	1
C9-C10 Aromatics Total	ND		ug/m3	10	--	1

Project Name: SKYKOMISH HOT WATER FLUSHING
Project Number: 683-067

Lab Number: L2040539
Report Date: 09/30/20

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
NA	Present/Intact

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2040539-01A	Canister - 2.7 Liter	NA	NA			Y	Absent		APH-10(30),TO15-SIM(30)
L2040539-02A	Canister - 2.7 Liter	NA	NA			Y	Absent		APH-10(30),TO15-SIM(30)
L2040539-03A	Canister - 2.7 Liter	NA	NA			Y	Absent		APH-10(30),TO15-SIM(30)
L2040539-04A	Canister - 2.7 Liter	NA	NA			Y	Absent		APH-10(30),TO15-SIM(30)
L2040539-05A	Canister - 2.7 Liter	NA	NA			Y	Absent		APH-10(30),TO15-SIM(30)
L2040539-06A	Canister - 2.7 Liter	NA	NA			Y	Absent		APH-10(30),TO15-SIM(30)
L2040539-07A	Canister - 2.7 Liter	NA	NA			Y	Present/Intact		CLEAN-FEE()
L2040539-08A	Canister - 2.7 Liter	NA	NA			Y	Present/Intact		CLEAN-FEE()

*Values in parentheses indicate holding time in days

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L2040539
Project Number:	683-067	**Report Date:**	09/30/20

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:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L2040539
Project Number:	683-067	**Report Date:**	09/30/20

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. 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 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.

Report Format: Data Usability Report

Project Name:	SKYKOMISH HOT WATER FLUSHING	**Lab Number:**	L2040539
Project Number:	683-067	**Report Date:**	09/30/20

Data Qualifiers

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.

Report Format: Data Usability Report

REFERENCES

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

96 Method for the Determination of Air-Phase Petroleum Hydrocarbons (APH), MassDEP, December 2009, Revision 1 with QC Requirements & Performance Standards for the Analysis of APH by GC/MS under the Massachusetts Contingency Plan, WSC-CAM-IXA, July 2010.

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 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; 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.
EPA TO-12 Non-methane organics
EPA 3C Fixed gases
Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

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

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

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.

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

PAGE 1 OF 1

CHAIN OF CUSTODY

ALPHA ANALYTICAL

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

Date Rec'd in Lab: 9/25/20

ALPHA Job #: L2040539

Client Information

Client: Farallon Consulting
Address: 975 5th Avenue Northwest
Issaquah, Washington 98027
Phone: 425-295-0800
Fax: 425-295-0850
Email: Pkingston@farallonconsulting.c

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Skykomish Hot Water Flushing
Project Location: Skykomish, Washington
Project #: 683-067
Project Manager: Pete Kingston
ALPHA Quote #:

Turn-Around-Time

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

Date Due: Time:

Report/Data Deliverables Information

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Residential/Commercial

Other Project Specific Requirements/Comments:
☒ Project-Specific Target Compound List
SIM: Benzene, Naphthalene, 1,3 Butadiene

Analysis

All Columns Below Must Be Filled Out

Alpha Lab Use Only	Sample ID	Collection: End Date	Start Time	End Time	Initial Vac	Final Vac	Sample Matrix*	Sampler Initials	Can Size	ID Can	ID Flow Controller	TO-15	TO-15 SIM	Subtract non-petroleum HCs: APH	FIXED GASES	Sulfides & Mercaptans by TO-15			Sample Specific Comments (i.e. PID)
40539-01	091620 _2SE	9/16/20	730	1452	-29.19	-4.85	AA	GP	2.7	0154	0072	☐	☒	☒	☐	☐	☐	☐	
02	091620 _1C	9/16/20	727	1455	-29.49	-5.52	AA	GP	2.7	2864	0129	☐	☒	☒	☐	☐	☐	☐	
03	091620 _1SE	9/16/20	729	1454	-29.28	-6.37	AA	GP	2.7	422	0293	☐	☒	☒	☐	☐	☐	☐	
04	091620 _BC	9/16/20	725	1460	-28.55	-3.52	AA	GP	2.7	2828	0089	☐	☒	☒	☐	☐	☐	☐	
05	091620 _BSW	9/16/20	726	1451	-29.64	-6.41	AA	GP	2.7	2791	0632	☐	☒	☒	☐	☐	☐	☐	
06	091620 _BNE	9/16/20	727	1406	-28.47	-4.28	AA	GP	2.7	0406	1393	☐	☒	☒	☐	☐	☐	☐	
											Container Type	C	C	C	C	C	C	C	

***SAMPLE MATRIX CODES:**

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Relinquished By	Date/Time	Received By:	Date/Time
Fedex	9/16/20 0150	Fedex	9/25/20 11:39

Please print clearly & legibly and completely. Samples cannot be logged in and turn around time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

Form 101-02 (I) Rev: 25-Sept-15


Do Not Lift Us
B125
Door
PORT
0061 HART
FROM:
(425) 285-0f
FARALLON CONSULTING LLC
975 5TH AVE NW
ISSAQUAH WA 98027
US
TO ALPHA ANALYTICAL – SAMPLE
ALPHA ANALYTICAL – SAMPLE RECEIV...
320 FORBES BLVD
MANSFIELD MA 02048
(US)
(802) 585-5351
REF:
INV:
PO:
DEPT:
FedEx
Ground
2 of 2
MPS# 3969 4103 5048
Mstr# 3969 4103 5037
02048
9622 0417 3 (000 000 0000) 0 00 3969 4103 5048


PORT
0061 HART
Door
B125
FROM:
FARALLON
975 5TH
ISSAQUAH
US
396941035037
09/19/20
06:50
PARTY
ALPHA ANALYTICAL – SAMPLE R
ALPHA ANALYTICAL – SAMPLE RECEIVING
320 FORBES BLVD
MANSFIELD MA 02048
(US)
(802) 585-5351
REF:
INV:
PO:
DEPT:
FedEx
Ground
1 of 2
TRK# 3969 4103 5037
MASTER
02048
9622 0417 3 (000 000 0000) 0 00 3969 4103 5037


PORT
0061 HART
Door
B125
396941035037
09/19/20
06:50

Table 1
Air-Phase Petroleum Hydrocarbons
Skykomish School Baseline and Post-Treatment Confirmational Monitoring Data
Skykomish, Washington
Farallon PN: 683-071

Sample ID	Sample Location	Date	1,3-Butadiene[1] (µg/m³)	Methyl tert-butyl ether (µg/m³)	Benzene[1,5] (µg/m³)	Toluene (µg/m³)	Ethylbenzene (µg/m³)	Xylene, p,m (µg/m³)	Xylene, o (µg/m³)	Naphthalene[1] (µg/m³)	Aliphatics, C5 to C8 (µg/m³)	Aliphatics, C9 to C12 (µg/m³)	Aromatics, C9 to C10 (µg/m³)	Total APH[4] (µg/m³)
First Quarter 2020														
031620_BNE	Basement - Northeast	3/16/2020	**0.084**	< 0.70	**0.687**	5.2	< 0.90	1.7	< 0.90	< 0.262	530	< 10	< 10	549.0
031620_BSW	Basement - Southwest	3/16/2020	< 0.044	< 0.70	**0.690**	4.8	< 0.90	1.8	< 0.90	< 0.262	270	< 10	< 10	288.7
031620_BC	Basement - Central	3/16/2020	< 0.044	< 0.70	**0.843**	8.6	< 0.90	2.8	0.91	< 0.262	850	< 10	< 10	874.1
031620_1SE	First Floor - Southeast	3/16/2020	< 0.044	< 0.70	**0.719**	4.9	< 0.90	2.1	< 0.90	< 0.262	74	< 10	< 10	93.1
031620_1C	First Floor - Central	3/16/2020	< 0.044	< 0.70	**0.879**	8.1	< 0.90	2.9	0.95	< 0.262	480	< 10	< 10	503.8
031620_2SE	Second Floor - Southeast	3/16/2020	< 0.044	< 0.70	**1.11**	11	1.0	4.1	1.3	< 0.262	560	< 10	< 10	589.0
Second Quarter 2020														
062420_BNE	Basement - Northeast	6/24/2020	< 0.044	< 0.70	**1.45**	12	1.2	5.2	1.7	< 0.262	120	78	< 10	225.0
062420_BSW	Basement - Southwest	6/24/2020	< 0.044	< 0.70	**2.04**	15	1.6	7.0	2.3	0.299	130	< 10	< 10	168.6
062420_BC	Basement - Central	6/24/2020	< 0.044	< 0.70	**1.79**	14	1.5	6.5	2.0	< 0.262	120	12	< 10	163.3
062420_1SE	First Floor - Southeast	6/24/2020	< 0.044	< 0.70	**0.875**	6.0	< 0.90	2.8	0.94	< 0.262	59	< 10	< 10	80.5
062420_1C	First Floor - Central	6/24/2020	< 0.044	< 0.70	< 0.319	< 0.90	< 0.90	< 0.90	< 0.90	< 0.262	< 10	< 10	< 10	17.4
062420_2SE	Second Floor - Southeast	6/24/2020	< 0.044	< 0.70	**0.866**	7.3	< 0.90	3.3	1.1	0.325	59	27	< 10	104.7
Third Quarter 2020														
091620_BNE	Basement - Northeast	9/16/2020	0.044	< 0.70	**2.91**	19	2.1	9.5	3.0	0.262	180	30	< 10	252.1
091620_BSW	Basement - Southwest	9/16/2020	0.044	< 0.70	**2.81**	16	2.1	8.3	2.7	< 0.262	140	41	10	223.4
091620_BC	Basement - Central	9/16/2020	< 0.044	< 0.70	**2.80**	17	2.0	8.1	2.5	< 0.262	130	< 10	< 10	172.9
091620_1SE	First Floor - Southeast	9/16/2020	< 0.044	< 0.70	**2.54**	13	1.8	6.6	2.2	< 0.262	130	33	< 10	194.6
091620_1C	First Floor - Central	9/16/2020	< 0.044	< 0.70	**2.66**	16	1.9	8.0	2.5	< 0.262	130	< 10	< 10	171.5
091620_2SE	Second Floor - Southeast	9/16/2020	0.071	< 0.70	**3.64**	28	3.2	14	4.3	< 0.262	220	14	13	300.6
Project Action Level (µg/m³)			**0.08**[2]	**9.6**[2]	**0.32**[2]	**2,200**[2]	**460**[2]	**46**[2]	**46**[2]	**1.4**[2]	**No MTCA criteria available**			**1,346**[3]

NOTES:

Measured values in **bold** typeface and highlighted orange exceed project action levels.

< indicates analyte not detected at a concentration exceeding the listed laboratory reporting limit (RL).

[1] Laboratory RLs for these compounds were attained using TO-15 SIM analysis.

[2] MTCA Method B standard formula value.

[3] Risk-based cleanup level established for Town of Skykomish and private property during this project by the Washington State Department of Ecology.

[4] Total APH is the sum of the results for the listed analytes, excluding 1,3-butadiene. For analytes not detected at concentrations above the laboratory RL, one half of the RL is used in the summation.

[5] Benzene is included as part of the analysis for total APH, although benzene is not expected as a constituent of concern.

APH = air-phase petroleum hydrocarbons

µg/m³ = micrograms per cubic meter

MTCA = Washington State Model Toxics Control Act

SIM = selective ion monitoring