2019



SOURIS, MANITOBA

Licence # 3181

SW 35-8-21W Landfill

ANNUAL REPORT

> Brandi Bertholet Operations Manager MWM Environmental brandi@mwmenviro.ca Office: 204-483-3986 Cell: 204-741-0289



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2019 @ a Glance

- ✓ Accepted 25,822.01 tonnes of waste generated by an outside source, up from 2018 at 23,065.97 tonnes.
 - Residential Trash consisted of 4,627.00 tonnes
 - ICI consisted of 12,281.42 tonnes
 - Construction and Demolition Waste consisted of 166.53 tonnes
 - Recycled Scrap Steel consisted of 147.96 tonnes
 - SRM (Specified Risk Material) consisted of 125.10 tonnes
 - Dead Stock consisted of 366.40 tonnes
 - Asbestos consisted of 2.37 tonnes
 - Hydrovac Slurry mixed off to pass a slump test and approved for disposal in our landfill cell consisted of 2,018.95 tonnes
 - Non-Impacted Earth Material approved for disposal in our landfill cell or stockpile consisted of 4,331.10 tonnes
 - Impacted Earth Material approved for disposal on our treatment pad consisted of 1,412.99 tonnes
- ✓ Commenced construction of new concrete pad for future fueling station. Project will be completed in early spring 2020
- ✓ We are in the planning stages for development of a new cell for future use
- ✓ Groundwater monitoring Well Purging September 25/19, results are attached with previous year trends
- ✓ Contaminated Soil sampling done October 30-31/19, results are attached
- ✓ Groundwater Sampling November 21-22-27/19, results are attached with previous year trends



1.0 Introduction

Our current License #3181 for Municipal Waste Management Ltd requires an annual report be submitted on or before April 15th, 2020. Under the terms and conditions set out in our license, the following information must be included in the report:

- a summary of all construction activities that occurred at the Development;
- the mass of each type of waste received (solid waste to tipping face, special waste, etc.);
- the mass of each type of material that was removed from the Development (recyclables, treated soils, etc.);
- a summary of the monitoring report results from air, and groundwater as per Claus 72 and 80 respectively;
- the volume of leachate which was removed from the facility operations in accordance with Claus 75 of our license;
- summary report of noise or odor complaints received; and
- a summary report of any fires within the development requiring notification as per Claus 10.

This report has been generated using January 1st to December 31st, 2019 as a reporting timeline. This report has been written and prepared by the Operations Manager of the facility, Brandi Bertholet.

2.0 Construction Activities

Trench was dug from machine shop to new fuel pad area to supply power to plug ins and new fuel pad. Roadway from equipment shed to new fuel pad was rebuilt with geo textile and covered with 12 in gravel.



3.0 Total Tonnage Accepted

The total tonnage of waste that was received at our landfill between January 1^{st} , 2019 to December 31^{st} , 2019 was 25,822.01

I.	MSW (Municipal Solid Waste)	4,627.00
П.	ICI (Industrial, Commercial, and Institutional)	12,623.04
111.	C&D (Construction and Demolition Waste)	166.53
IV.	SRM (Specified Risk Material)	147.96
V.	Dead Stock	366.40
VI.	Waste Oil	0
VII.	Asbestos	2.37
VIII.	Hydrovac Slurry	2,018.95
IX.	Impacted Soil	1,412.99
Х.	Non-Impacted Soil	4,331.10
XI.	Recycled Scrap Steel	147.96

4.0 Recovered Material Removed from the Facility

Our facility was able to salvage 147.96 tonnes of scrap steel and non-ferrous material from January facilities: Westman Salvage, 2 & 10 Metal Recycling.

Ten separate sources of contaminated soil located on our treatment pad were aerated weekly to biweekly throughout the fall of 2018 to late summer 2019. Samples were taken October 30th and 31st, 2019. Prior to obtaining final samples, each mass of soil was respectively divided into a grid from which a bagged sample was taken from every section. With the use of a photoionization unit we were able to determine where to pull our grab samples from. Samples were sent to ALS – Winnipeg, MB, and based on the final analytical, we are able to remove nine of the ten sources which were successfully treated.

5.0 Leachate Control and Sustainability

During the 2019 calendar year, we experienced limited precipitation resulting in minimal production of leachate. Any leachate produced from the active cell and recently closed cell was pumped to the leachate evaporation pond. No leachate was treated or removed from the site.



6.0 Vector Control

The perimeter fence surrounding the compound was monitored regularly and repaired when necessary to ensure large vectors are unable to enter.

SRM and deadstock material is covered within 24 hours after disposal to keep birds and other animals away.

There are 30 bait stations placed strategically throughout the compound that are inspected quarterly for quantity of bait to ensure maximum control of smaller rodents. The current population is scarce.

7.0 Groundwater Chemistry

Testing of our groundwater monitoring wells was performed by Operations Manager, Brandi Bertholet, to the standards set out by Manitoba Conservation and Water Stewardship with regards to our license. An attached copy of these test results revealed no contamination. As requested, trends for previous years have been recorded on the attached report.

8.0 Environmental Impacts

No complaints of noise or odor were received from January 1st, 2019 to December 31st, 2019.



9.0 Plans for 2020

As we look ahead for 2020, we strive to continuously improve the quality of our landfill in a sustainable yet operational manner. Our first step in increasing our sustainability is working to become a LEED (Leadership in Energy and Environmental Design) Green Associate certified, for which we are currently undergoing training.

We will be removing nine different sources of treated soil throughout the spring and summer months. This soil will be stockpiled for future use as landfill cell cover.

We plan to continue the process of setting up an addendum to our license regarding handling compost as well as liquid waste, as mentioned in last year's report. We have also begun to research and consider options for incineration with thoughts to generate a portion of our own heat and/or power. The previously mentioned plans go hand in hand with our constant goal to divert as much material from the landfill as possible and increase our sustainability.

We expect an increase in diversion by facilitating the accessibility of resources to our customers and communities. Through our website and Facebook page, proper disposal processes as well as educational information regarding waste diversion will be easily accessible and tailored to individual communities. Our administrative staff is also equipped to answer many questions regarding diversion and are always more than willing to find the answer if unknown.



Appendix A – Contaminated Soil Spreadsheet

E M/V: Estimated Mass/Volume NOS: Number of Shipments TM (MT): Total Mass (Metric Tonnes)

MWM Environmental Incoming Impacted Earth Material - Licence No: 3181 File No: 5815.00											
Generator	Approval #	Date of Deposit	Origin	E M/V*	NOS*	TM (MT)*	Analytical	Placement on Treatment Pad			
Enbridge Pipelines Inc	1031-092118-NE060924	Nov 8/18	NE 06-09-24	520 MT	9	91.45	Enbridge 001-001\NE 06-09-24 W1M\Analytical.pdf	SW Corner			
Banister	1042-102918-NW170925	Oct 31/18	NW 17-09-25	uncertain	3	37.03	Banister Pipelines\NW 17-09-25 (SSKP818.4)\NW 17-09-25 Analytical.pdf	SE Corner			
Municipality of Glenboro South Cypress	1047-111518-SE210714W	Nov 21/18	SE 21-07-14	3 yards	1	3.09	Municipality of Glenboro South Cypress\SE 21-07-14W spill - Analytical.pdf				
Enbridge Pipelines Inc	1031-120718-SW320823	Dec 10/18-Dec 11/18	SW 32-08-23	520 MT	17	196.36	Enbridge 001-001\SW 32-08-23 W1M\Analytical SW 32-08-23 W1M.pdf	SW Corner			
Tundra Energy Marketing Ltd	1048-121718-10161126	Dec 18/18-Jan 11/19	10-16-11-26	1500 MT	37	879.02	TEML\10-16-11-26 W1M\Analytical 10-16-11-26W1M.pdf	NW Corner			
Tundra Energy Marketing Ltd	1048-121818-05271126	Dec 19/18	05-27-11-26	250 MT	7	169.77	TEML\05-27-11-26 W1M\Sample 18-S2 Analytical 05-27-11-26.pdf	SW Corner			
Tundra Energy Marketing Ltd	1048-121818-12221126	Dec 19/18	12-22-11-26	150 MT	7	147.53	TEML\12-22-11-26 W1M\Sample 18-S1 Analytical 12-22-11-26.pdf	North end center			
Banister Pipelines	1042-022719-NW050924	Feb 28/19-Mar 7/19	NW 05-09-24	uncertain	26	385.18	Banister Pipelines\NW 05-09-24 W1M\Final Analytical NW 05-09-24 W1M.pdf	WNW - off center			
Tri-Wave	1069-071519-47N	July 16, 17/19	Shilo	420 m ³	24	564.41	Tri-Wave Construction Ltd\Defense Construction Analytical.pdf				
SA Energy	1071-081919-SW42714	Aug 19, 20/19	SW 04-02-07-14 W1	uncertain	13	252.26	SA Energy\SW 04-02-07-14 W1\Analytical SW 04-02-07-14 W1.pdf				





MWM Environmental ATTN: BRANDI BERTHOLET Box 459 Souris MB ROK 2CO

Date Received: 04-NOV-19 Report Date: 26-NOV-19 10:30 (MT) Version: FINAL

Client Phone: 204-483-3986

Certificate of Analysis

Lab Work Order #: L2376472 Project P.O. #: NOT SUBMITTED

Job Reference: C of C Numbers: Legal Site Desc:

Hua Wo Chemistry Laboratory Manager

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2376472-1 12-03							
Sampled By: CLIENT on 30-OCT-19 @ 14:45							
Matrix: SOIL BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS							
Benzene	<0.0050		0.0050	mg/kg	30-OCT-19	07-NOV-19	R4898700
Toluene	<0.050		0.050	mg/kg	30-OCT-19	07-NOV-19	R4898700
Ethyl benzene	<0.015		0.015	mg/kg	30-OCT-19	07-NOV-19	R4898700
o-Xylene	<0.050		0.050	mg/kg	30-OCT-19	07-NOV-19	R4898700
m+p-Xylenes	< 0.050		0.050	mg/kg	30-OCT-19	07-NOV-19	R4898700
F1 (C6-C10)	<10		10	mg/kg	30-OCT-19	07-NOV-19	R4898700
Surrogate: 4-Bromofluorobenzene (SS)	87.4		70-130	%	30-OCT-19	07-NOV-19	R4898700
CCME Total Extractable Hydrocarbons							
F2 (C10-C16)	<25		25	mg/kg	06-NOV-19	07-NOV-19	R4901116
F3 (C16-C34)	126		50	mg/kg	06-NOV-19	07-NOV-19	R4901116
F4 (C34-C50)	<50		50	mg/kg	06-NOV-19	07-NOV-19	R4901116
Surrogate: 2-Bromobenzotrifluoride	89.4		60-140	%	06-NOV-19	07-NOV-19	R4901116
Chrom. to baseline at nC50	YES				06-NOV-19	07-NOV-19	R4901116
CCME Total Hydrocarbons			10			25-NOV-19	
F1-BTEX	<10		10	mg/kg		25-NOV-19 25-NOV-19	
F2-Naphth F3-PAH	<25 126		25 50	mg/kg		25-NOV-19 25-NOV-19	
Total Hydrocarbons (C6-C50)	120		50 76	mg/kg mg/kg		25-NOV-19 25-NOV-19	
Sum of Xylene Isomer Concentrations	120		10	mg/kg		20-100-10	
Xvlenes (Total)	<0.071		0.071	mg/kg		25-NOV-19	
Miscellaneous Parameters		1	0.071			20110110	
Moisture	6.87		0.10	%		07-NOV-19	R4902864
Metals in Soil by CRC ICPMS	0.07		0.10	~		0,1001.0	1002001
Aluminum (Al)	2610		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Antimony (Sb)	0.18		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Arsenic (As)	4.29		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Barium (Ba)	52.6		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Beryllium (Be)	0.16		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Boron (B)	<5.0		5.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Bismuth (Bi)	<0.20		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Cadmium (Cd)	0.094		0.020	mg/kg	12-NOV-19	12-NOV-19	R4906529
Calcium (Ca)	7780		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Chromium (Cr)	5.44		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Cobalt (Co)	3.05		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Copper (Cu)	3.44		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Iron (Fe)	8010		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Lead (Pb)	2.77		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Lithium (Li)	2.9		2.0	mg/kg	12-NOV-19	12-NOV-19 12-NOV-19	R4906529
Magnesium (Mg) Manganese (Mn)	1920 327		20 1.0	mg/kg	12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19	R4906529 R4906529
				mg/kg			
Molybdenum (Mo) Nickel (Ni)	0.36		0.10	mg/kg mg/kg	12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19	R4906529 R4906529
Phosphorus (P)	329		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Potassium (K)	320		100	mg/kg	12-NOV-19	12-NOV-19	R4906529
Selenium (Se)	<0.20		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Silver (Ag)	<0.10		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Sodium (Na)	<50		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Strontium (Sr)	11.6		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Sulfur (S)	<1000		1000	mg/kg	12-NOV-19	12-NOV-19	R4906529
Thallium (TI)	0.067		0.050	mg/kg	12-NOV-19	12-NOV-19	R4906529
Tin (Sn)	<2.0		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529



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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2376472-1 I2-03							
Sampled By: CLIENT on 30-OCT-19 @ 14:45							
Matrix: SOIL							
Metals in Soil by CRC ICPMS							
Titanium (Ti)	61.7		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Tungsten (W)	<0.50		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Uranium (U)	0.390		0.050	mg/kg	12-NOV-19	12-NOV-19	R4906529
Vanadium (V)	11.7		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Zinc (Zn)	22.0		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Zirconium (Zr)	<1.0		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Polyaromatic Hydrocarbons (PAHs)							
1-Methyl Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
2-Methyl Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthylene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acridine	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Anthracene	<0.0040		0.0040	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)anthracene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)pyrene Benzo(b&i)fluoranthene	<0.010 <0.010		0.010	mg/kg	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	R4906809 R4906809
Benzo(g.h.i)pervlene	<0.010		0.010	mg/kg mg/kg	07-NOV-19	14-NOV-19 14-NOV-19	R4906809 R4906809
Benzo(k)fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Chrysene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Dibenzo(a.h)anthracene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Fluorene	<0.010	(0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Indeno(1,2,3-cd)pyrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Phenanthrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Pyrene	0.011		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Quinoline	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
B(a)P Total Potency Equivalent	<0.020		0.020	mg/kg	07-NOV-19	14-NOV-19	R4906809
IACR (CCME)	<0.15		0.15		07-NOV-19	14-NOV-19	R4906809
Benzo(b+j+k)fluoranthene	<0.014		0.014	mg/kg	07-NOV-19	14-NOV-19	R4906809
Surrogate: Acenaphthene d10	106.8		60-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Chrysene d12	112.9		60-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Naphthalene d8	114.1		50-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Phenanthrene d10	115.7		60-130	%	07-NOV-19	14-NOV-19	R4906809
L2376472-2 I4-01							
Sampled By: CLIENT on 30-OCT-19 @ 14:31							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS				_			
Benzene	<0.0050		0.0050	mg/kg	30-OCT-19	07-NOV-19	R4898700
Toluene Ethyl hannan	<0.050		0.050	mg/kg	30-OCT-19	07-NOV-19	R4898700
Ethyl benzene	<0.015		0.015	mg/kg	30-OCT-19	07-NOV-19	R4898700
o-Xylene m+p-Xylenes	<0.050		0.050	mg/kg	30-OCT-19 30-OCT-19	07-NOV-19	R4898700
F1 (C8-C10)	<0.050 <10		0.050	mg/kg	30-OCT-19 30-OCT-19	07-NOV-19 07-NOV-19	R4898700 R4898700
Surrogate: 4-Bromofluorobenzene (SS)	94.2		70-130	mg/kg %	30-OCT-19 30-OCT-19	07-NOV-19 07-NOV-19	R4898700 R4898700
CCME Total Extractable Hydrocarbons	84.2		70-130	/6	30-001-19	07-1009-19	104080700
F2 (C10-C16)	<25		25	mg/kg	06-NOV-19	07-NOV-19	R4901116
F3 (C16-C34)	108		50	mg/kg	06-NOV-19	07-NOV-19	R4901116
F4 (C34-C50)	<50		50	mg/kg	06-NOV-19	07-NOV-19	R4901116
Surrogate: 2-Bromobenzotrifluoride	93.9		60-140	%	06-NOV-19	07-NOV-19	R4901116



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CCME Total Hydrocarbons </th <th>R4901116 R4902864 R4908529 R4908529 R4908529 R4908529 R4908529 R4908529 R4908529</th>	R4901116 R4902864 R4908529 R4908529 R4908529 R4908529 R4908529 R4908529 R4908529
Sampled By: CLIENT on 30-OCT-19 (g) 14:31 Matrix: SOIL CCME Total Extractable Hydrocarbons YES D8-NOV-19 07-NOV-19 Chrom: Dosabeline at In-C50 YES D8-NOV-19 07-NOV-19 CCME Total Extractable Hydrocarbons 10 mg/kg 25-NOV-19 F1-BTEX 108 50 mg/kg 25-NOV-19 7-NOV-19 Total Hydrocarbons (C6-C50) 108 76 mg/kg 25-NOV-19 7-NOV-19 Sum of Xylene Isomer Concentrations 0.071 0.071 mg/kg 25-NOV-19 Miscellaneous Parameters 0.071 0.071 mg/kg 25-NOV-19 Motisture 6.05 0.10 % 07-NOV-19 12-NOV-19 Antimory (Sb) 0.18 0.10 mg/kg 12-NOV-19 12-NOV-19 Astrono (B) 52.3 0.50 mg/kg 12-NOV-19 12-NOV-19 Berylium (Be) 0.16 0.10 mg/kg 12-NOV-19	R4902864 R4906529 R4906529 R4906529 R4906529 R4906529
Matrix: SOIL CCME Total Extractable Hydrocarbons Chrom. to baseline at nC50 YES 08-NOV-19 07-NOV-19 CCME Total Hydrocarbons <10	R4902864 R4906529 R4906529 R4906529 R4906529 R4906529
CCME Total Extractable Hydrocarbons Chrom. to baseline at nC50 YES 08-NOV-19 07-NOV-19 CCME Total Hydrocarbons F1-BTEX <10	R4902864 R4906529 R4906529 R4906529 R4906529 R4906529
Chrom. to baseline at nC50 YES 08-NOV-19 07-NOV-19 CCME Total Hydrocarbons <10	R4902864 R4906529 R4906529 R4906529 R4906529 R4906529
CCME Total Hydrocarbons </td <td>R4902864 R4906529 R4906529 R4906529 R4906529 R4906529</td>	R4902864 R4906529 R4906529 R4906529 R4906529 R4906529
F1-BTEX <10 10 mg/kg 25-NOV-19 F2-Naphth <25	R4906529 R4906529 R4906529 R4906529 R4906529 R4906529
F2-Naphth <t< td=""><td>R4906529 R4906529 R4906529 R4906529 R4906529 R4906529</td></t<>	R4906529 R4906529 R4906529 R4906529 R4906529 R4906529
F3-PAH 108 50 mg/kg 25-NOV-19 Total Hydrocarbons (C8-C50) 108 76 mg/kg 25-NOV-19 Sum of Xylene Isomer Concentrations -0.071 0.071 mg/kg 25-NOV-19 Miscellaneous Parameters -0.071 0.071 mg/kg 25-NOV-19 Metals in Soil by CRC ICPMS -0.071 0.010 % 07-NOV-19 Atuminum (Al) 3080 50 mg/kg 12-NOV-19 12-NOV-19 Artimony (Sb) 0.18 0.10 mg/kg 12-NOV-19 12-NOV-19 Arsenic (As) 4.57 0.10 mg/kg 12-NOV-19 12-NOV-19 Barium (Ba) 52.3 0.50 mg/kg 12-NOV-19 12-NOV-19 Boron (B) <5.0	R4906529 R4906529 R4906529 R4906529 R4906529 R4906529
Total Hydrocarbons (C8-C50) 108 76 mg/kg 25-NOV-19 Sum of Xylene Isomer Concentrations <0.071	R4906529 R4906529 R4906529 R4906529 R4906529 R4906529
Sum of Xylene Isomer Concentrations Xylenes (Total) <0.071 0.071 mg/kg 25-NOV-19 Misscellaneous Parameters 6.05 0.10 % 07-NOV-19 Metals in Soil by CRC ICPMS Aluminum (Al) 3080 50 mg/kg 12-NOV-19 12-NOV-19 Antimony (Sb) 0.18 0.10 % 07-NOV-19 12-NOV-19 Arsenic (As) 4.57 0.10 mg/kg 12-NOV-19 12-NOV-19 Barium (Ba) 52.3 0.50 mg/kg 12-NOV-19 12-NOV-19 Berylium (Be) 0.16 0.10 mg/kg 12-NOV-19 12-NOV-19 Boron (B) <5.0	R4906529 R4906529 R4906529 R4906529 R4906529 R4906529
Xylenes (Ťotal) <0.071 0.071 mg/kg 25-NOV-19 Miscellaneous Parameters 6.05 0.10 % 07-NOV-19 Metals in Soil by CRC ICPMS 3080 50 mg/kg 12-NOV-19 12-NOV-19 Atuminum (Al) 3080 50 mg/kg 12-NOV-19 12-NOV-19 Antimony (Sb) 0.18 0.10 mg/kg 12-NOV-19 12-NOV-19 Arsenic (As) 4.57 0.10 mg/kg 12-NOV-19 12-NOV-19 Barylim (Be) 0.16 0.10 mg/kg 12-NOV-19 12-NOV-19 Boron (B) 52.3 0.50 mg/kg 12-NOV-19 12-NOV-19 Bismuth (Bi) <0.20	R4906529 R4906529 R4906529 R4906529 R4906529 R4906529
Miscellaneous Parameters 6.05 0.10 % 07-NOV-19 Metals in Soil by CRC ICPMS 3080 50 mg/kg 12-NOV-19 12-NOV-19 Antimony (Sb) 0.18 0.10 mg/kg 12-NOV-19 12-NOV-19 Arsenic (As) 4.57 0.10 mg/kg 12-NOV-19 12-NOV-19 Barium (Ba) 52.3 0.50 mg/kg 12-NOV-19 12-NOV-19 Beryllium (Be) 0.16 0.10 mg/kg 12-NOV-19 12-NOV-19 Boron (B) <5.0	R4906529 R4906529 R4906529 R4906529 R4906529 R4906529
Moisture 6.05 0.10 % 07-NOV-19 Metals in Soil by CRC ICPMS Aluminum (Al) 3080 50 mg/kg 12-NOV-19 12-NOV-19 Antimony (Sb) 0.18 0.10 mg/kg 12-NOV-19 12-NOV-19 Arsenic (As) 4.57 0.10 mg/kg 12-NOV-19 12-NOV-19 Barylium (Ba) 52.3 0.50 mg/kg 12-NOV-19 12-NOV-19 Berylium (Be) 0.16 0.10 mg/kg 12-NOV-19 12-NOV-19 Boron (B) <5.0	R4906529 R4906529 R4906529 R4906529 R4906529 R4906529
Metals in Soil by CRC ICPMS Aluminum (Al) 3080 50 mg/kg 12-NOV-19 12-NOV-19 Antimony (Sb) 0.18 0.10 mg/kg 12-NOV-19 12-NOV-19 12-NOV-19 Arsenic (As) 4.57 0.10 mg/kg 12-NOV-19 12-NOV-19 12-NOV-19 Barium (Ba) 52.3 0.50 mg/kg 12-NOV-19 12-NOV-19 Beryllium (Be) 0.16 0.10 mg/kg 12-NOV-19 12-NOV-19 Boron (B) <5.0	R4906529 R4906529 R4906529 R4906529 R4906529 R4906529
Aluminum (Al) 3080 50 mg/kg 12-NOV-19 12-NOV-19 Antimony (Sb) 0.18 0.10 mg/kg 12-NOV-19 12-NOV-19 Arsenic (As) 4.57 0.10 mg/kg 12-NOV-19 12-NOV-19 Barium (Ba) 52.3 0.50 mg/kg 12-NOV-19 12-NOV-19 Beryllium (Be) 0.16 0.10 mg/kg 12-NOV-19 12-NOV-19 Boron (B) <5.0	R4906529 R4906529 R4906529 R4906529
Antimony (Sb) 0.18 0.10 mg/kg 12-NOV-19 12-NOV-19 Arsenic (As) 4.57 0.10 mg/kg 12-NOV-19 12-NOV-19 Barium (Ba) 52.3 0.50 mg/kg 12-NOV-19 12-NOV-19 Beryllium (Be) 0.16 0.10 mg/kg 12-NOV-19 12-NOV-19 Boron (B) <5.0	R4906529 R4906529 R4906529 R4906529
Arsenic (As) 4.57 0.10 mg/kg 12-NOV-19 12-NOV-19 Barium (Ba) 52.3 0.50 mg/kg 12-NOV-19 12-NOV-19 Beryllium (Be) 0.16 0.10 mg/kg 12-NOV-19 12-NOV-19 Boron (B) <5.0	R4906529 R4906529 R4906529
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Beryllium (Be) 0.16 0.10 mg/kg 12-NOV-19 12-NOV-19 Boron (B) <5.0	R4906529
Boron (B) <5.0 mol kg 12-NOV-19 12-NOV-19 Bismuth (Bi) <0.20	
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Cadmium (Cd) 0.090 0.090 mg/kg 12-NOV-19 12-NOV-19 Cadmium (Ca) 0.090 0.020 mg/kg 12-NOV-19 12-NOV-19 Calcium (Ca) 8840 50 mg/kg 12-NOV-19 12-NOV-19 Chromium (Cr) 6.53 0.50 mg/kg 12-NOV-19 12-NOV-19 Cobalt (Co) 3.07 0.10 mg/kg 12-NOV-19 12-NOV-19 Copper (Cu) 3.50 0.50 mg/kg 12-NOV-19 12-NOV-19 Iron (Fe) 8850 50 mg/kg 12-NOV-19 12-NOV-19 Lead (Pb) 3.98 0.50 mg/kg 12-NOV-19 12-NOV-19 Lithium (Li) 3.3 2.0 mg/kg 12-NOV-19 12-NOV-19 Magnesium (Mg) 2670 20 mg/kg 12-NOV-19 12-NOV-19 Malgnasese (Mn) 298 1.0 mg/kg 12-NOV-19 12-NOV-19 Nickel (Ni) 7.70 0.50 mg/kg 12-NOV-19 12-NOV-19	R4906529
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Cobalt (Co) 3.07 0.10 mg/kg 12-NOV-19 12-NOV-19 Copper (Cu) 3.50 0.50 mg/kg 12-NOV-19 12-NOV-19 Iron (Fe) 8850 50 mg/kg 12-NOV-19 12-NOV-19 Lead (Pb) 3.98 0.50 mg/kg 12-NOV-19 12-NOV-19 Lithium (Li) 3.3 2.0 mg/kg 12-NOV-19 12-NOV-19 Magnesium (Mg) 2670 20 mg/kg 12-NOV-19 12-NOV-19 Magnese (Mn) 298 1.0 mg/kg 12-NOV-19 12-NOV-19 Molybdenum (Mo) 0.37 0.10 mg/kg 12-NOV-19 12-NOV-19 Nickel (Ni) 7.70 0.50 mg/kg 12-NOV-19 12-NOV-19 Phosphorus (P) 344 50 mg/kg 12-NOV-19 12-NOV-19	R4906529
Copper (Cu) 3.50 0.50 mg/kg 12-NOV-19 12-NOV-19 Iron (Fe) 8850 50 mg/kg 12-NOV-19 12-NOV-19 Lead (Pb) 3.98 0.50 mg/kg 12-NOV-19 12-NOV-19 Lithium (Li) 3.3 2.0 mg/kg 12-NOV-19 12-NOV-19 Magnesium (Mg) 2670 20 mg/kg 12-NOV-19 12-NOV-19 Magnese (Mn) 298 1.0 mg/kg 12-NOV-19 12-NOV-19 Molybdenum (Mo) 0.37 0.10 mg/kg 12-NOV-19 12-NOV-19 Nickel (Ni) 7.70 0.50 mg/kg 12-NOV-19 12-NOV-19 Phosphorus (P) 344 50 mg/kg 12-NOV-19 12-NOV-19	R4906529
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Lithium (Li) 3.3 2.0 mg/kg 12-NOV-19 12-NOV-19 Magnesium (Mg) 2670 20 mg/kg 12-NOV-19 12-NOV-19 Manganese (Mn) 298 1.0 mg/kg 12-NOV-19 12-NOV-19 Molybdenum (Mo) 0.37 0.10 mg/kg 12-NOV-19 12-NOV-19 Nickel (Ni) 7.70 0.50 mg/kg 12-NOV-19 12-NOV-19 Phosphorus (P) 344 50 mg/kg 12-NOV-19 12-NOV-19	R4906529
Magnesium (Mg) 2670 20 mg/kg 12-NOV-19 12-NOV-19 Manganese (Mn) 298 1.0 mg/kg 12-NOV-19 12-NOV-19 Molybdenum (Mo) 0.37 0.10 mg/kg 12-NOV-19 12-NOV-19 Nickel (Ni) 7.70 0.50 mg/kg 12-NOV-19 12-NOV-19 Phosphorus (P) 344 50 mg/kg 12-NOV-19 12-NOV-19	R4906529
Manganese (Mn) 298 1.0 mg/kg 12-NOV-19 12-NOV-19 Molybdenum (Mo) 0.37 0.10 mg/kg 12-NOV-19 12-NOV-19 Nickel (Ni) 7.70 0.50 mg/kg 12-NOV-19 12-NOV-19 Phosphorus (P) 344 50 mg/kg 12-NOV-19 12-NOV-19	R4906529
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Nickel (Ni) 7.70 0.50 mg/kg 12-NOV-19 12-NOV-19 Phosphorus (P) 344 50 mg/kg 12-NOV-19 12-NOV-19	R4906529
Phosphorus (P) 344 50 mg/kg 12-NOV-19 12-NOV-19	R4906529
	R4906529
Potassium (K) 370 100 mg/kg 12-NOV-19 12-NOV-19	R4906529
	R4906529 R4906529
	R4906529 R4906529
	R4906529
Polvaromatic Hydrocarbons (PAHs)	10100020
	R4906809
	R4906809
	R4906809
	R4906809 R4906809 R4906809



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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2376472-2 I4-01							
Sampled By: CLIENT on 30-OCT-19 @ 14:31							
Matrix: SOIL							
Polyaromatic Hydrocarbons (PAHs) Anthracene	<0.0040		0.0040	malka	07-NOV-19	14-NOV-19	R4906809
Benzo(a)anthracene	<0.0040		0.0040	mg/kg mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)pyrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(b&i)fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(g,h,i)perylene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(k)fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Chrysene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Dibenzo(a,h)anthracene	< 0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Fluorene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Indeno(1,2,3-cd)pyrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Phenanthrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Pyrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Quinoline	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
B(a)P Total Potency Equivalent	<0.020		0.020	mg/kg	07-NOV-19	14-NOV-19	R4906809
IACR (CCME)	<0.15		0.15		07-NOV-19	14-NOV-19	R4906809
Benzo(b+j+k)fluoranthene	<0.014		0.014	mg/kg	07-NOV-19	14-NOV-19	R4906809
Surrogate: Acenaphthene d10	105.9		60-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Chrysene d12	122.7		60-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Naphthalene d8 Surrogate: Phenanthrene d10	107.8	1	50-130	%	07-NOV-19	14-NOV-19 14-NOV-19	R4906809 R4906809
	97.6		60-130	76	07-NOV-19	14-1007-18	R4906809
L2376472-3 I3-04M							
Sampled By: CLIENT on 30-OCT-19 @ 14:37							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS Benzene	<0.0050		0.0050	mg/kg	30-OCT-19	07-NOV-19	R4898700
Toluene	<0.050		0.050	mg/kg	30-OCT-19	07-NOV-19	R4898700 R4898700
Ethyl benzene	<0.030		0.030	mg/kg	30-OCT-19	07-NOV-19	R4898700
o-Xvlene	<0.010		0.010	mg/kg	30-OCT-19	07-NOV-19	R4898700
m+p-Xylenes	<0.050		0.050	mg/kg	30-OCT-19	07-NOV-19	R4898700
F1 (C6-C10)	<10		10	mg/kg	30-OCT-19	07-NOV-19	R4898700
Surrogate: 4-Bromofluorobenzene (SS)	93.2		70-130	%	30-OCT-19	07-NOV-19	R4898700
CCME Total Extractable Hydrocarbons							
F2 (C10-C16)	<25		25	mg/kg	06-NOV-19	07-NOV-19	R4901116
F3 (C16-C34)	118		50	mg/kg	06-NOV-19	07-NOV-19	R4901116
F4 (C34-C50)	<50		50	mg/kg	06-NOV-19	07-NOV-19	R4901116
Surrogate: 2-Bromobenzotrifluoride	89.5		60-140	%	06-NOV-19	07-NOV-19	R4901116
Chrom. to baseline at nC50	YES				06-NOV-19	07-NOV-19	R4901116
CCME Total Hydrocarbons				-			
F1-BTEX	<10		10	mg/kg		25-NOV-19	
F2-Naphth	<25		25	mg/kg		25-NOV-19	
F3-PAH	118		50	mg/kg		25-NOV-19	
Total Hydrocarbons (C6-C50)	118		76	mg/kg		25-NOV-19	
Sum of Xylene Isomer Concentrations Xylenes (Total)	<0.071		0.071	malka		25-NOV-19	
Miscellaneous Parameters	<0.071		0.0/1	mg/kg		201001-18	
Moisture	7.80		0.10	%		07-NOV-19	R4902864
Metals in Soil by CRC ICPMS	1.00		0.10	/0		01-100-18	104802004
Aluminum (Al)	2940		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
	2010		~~				



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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2376472-3 13-04M							
Sampled By: CLIENT on 30-OCT-19 @ 14:37							
Matrix: SOIL							
Metals in Soil by CRC ICPMS							
Antimony (Sb)	0.23		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Arsenic (As)	4.60		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Barium (Ba)	54.4		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Beryllium (Be)	0.20		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Boron (B)	<5.0		5.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Bismuth (Bi)	<0.20		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Cadmium (Cd)	0.113		0.020	mg/kg	12-NOV-19	12-NOV-19	R4906529
Calcium (Ca)	9940		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Chromium (Cr)	6.09		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Cobalt (Co)	3.20		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Copper (Cu)	4.37		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Iron (Fe)	8850		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Lead (Pb)	3.14		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Lithium (Li)	3.3		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Magnesium (Mg)	2940		20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Manganese (Mn)	295		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Molybdenum (Mo)	0.38		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Nickel (Ni)	9.28		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Phosphorus (P) Potassium (K)	338 350		50	mg/kg	12-NOV-19 12-NOV-19	12-NOV-19	R4906529 R4906529
Selenium (Se)	<0.20		100 0.20	mg/kg	12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19	R4906529
Silver (Ag)	<0.20	1	0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Sodium (Na)	58		50	mg/kg mg/kg	12-NOV-19	12-NOV-19	R4906529
Strontium (Sr)	14.1		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Sulfur (S)	<1000		1000	mg/kg	12-NOV-19	12-NOV-19	R4906529
Thallium (TI)	0.078		0.050	mg/kg	12-NOV-19	12-NOV-19	R4906529
Tin (Sn)	<2.0		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Titanium (Ti)	74.2		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Tungsten (W)	<0.50		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Uranium (U)	0.566		0.050	mg/kg	12-NOV-19	12-NOV-19	R4906529
Vanadium (V)	13.2		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Zinc (Zn)	25.6		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Zirconium (Zr)	<1.0		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Polyaromatic Hydrocarbons (PAHs)							
1-Methyl Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
2-Methyl Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthylene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acridine	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Anthracene	<0.0040		0.0040	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)anthracene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)pyrene	<0.010		0.010	mg/kg	07-NOV-19 07 NOV 10	14-NOV-19	R4906809
Benzo(b&j)fluoranthene Benzo(g,h,i)perylene	<0.010 <0.010		0.010	mg/kg	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	R4906809 R4906809
Benzo(g,n,i)perviene Benzo(k)fluoranthene			0.010	mg/kg mg/kg	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	R4906809 R4906809
Chrysene	<0.010 <0.010		0.010		07-NOV-19	14-NOV-19	R4906809 R4906809
Dibenzo(a,h)anthracene	<0.010		0.0050	mg/kg mg/kg	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	R4906809
Fluoranthene	<0.000		0.000	mg/kg	07-NOV-19	14-NOV-19	R4906809
Fluorene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Indeno(1,2,3-cd)pyrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
	-0.010		0.010				



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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2376472-3 13-04M							
Sampled By: CLIENT on 30-OCT-19 @ 14:37							
Matrix: SOIL							
Metals in Soil by CRC ICPMS							
Antimony (Sb)	0.23		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Arsenic (As)	4.60		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Barium (Ba)	54.4		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Beryllium (Be)	0.20		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Boron (B)	<5.0		5.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Bismuth (Bi)	<0.20		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Cadmium (Cd)	0.113		0.020	mg/kg	12-NOV-19	12-NOV-19	R4906529
Calcium (Ca)	9940		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Chromium (Cr)	6.09		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Cobalt (Co)	3.20		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Copper (Cu)	4.37		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Iron (Fe)	8850		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Lead (Pb)	3.14		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Lithium (Li)	3.3		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Magnesium (Mg)	2940		20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Manganese (Mn)	295		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Molybdenum (Mo)	0.38		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Nickel (Ni)	9.28		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Phosphorus (P) Potassium (K)	338 350		50	mg/kg	12-NOV-19 12-NOV-19	12-NOV-19	R4906529 R4906529
Selenium (Se)	<0.20		100 0.20	mg/kg	12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19	R4906529
Silver (Ag)	<0.20	1	0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Sodium (Na)	58		50	mg/kg mg/kg	12-NOV-19	12-NOV-19	R4906529
Strontium (Sr)	14.1		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Sulfur (S)	<1000		1000	mg/kg	12-NOV-19	12-NOV-19	R4906529
Thallium (TI)	0.078		0.050	mg/kg	12-NOV-19	12-NOV-19	R4906529
Tin (Sn)	<2.0		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Titanium (Ti)	74.2		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Tungsten (W)	<0.50		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Uranium (U)	0.566		0.050	mg/kg	12-NOV-19	12-NOV-19	R4906529
Vanadium (V)	13.2		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Zinc (Zn)	25.6		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Zirconium (Zr)	<1.0		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Polyaromatic Hydrocarbons (PAHs)							
1-Methyl Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
2-Methyl Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthylene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acridine	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Anthracene	<0.0040		0.0040	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)anthracene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)pyrene	<0.010		0.010	mg/kg	07-NOV-19 07 NOV 10	14-NOV-19	R4906809
Benzo(b&j)fluoranthene Benzo(g,h,i)perylene	<0.010 <0.010		0.010	mg/kg	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	R4906809 R4906809
Benzo(g,n,i)perviene Benzo(k)fluoranthene			0.010	mg/kg mg/kg	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	R4906809 R4906809
Chrysene	<0.010 <0.010		0.010		07-NOV-19	14-NOV-19	R4906809 R4906809
Dibenzo(a,h)anthracene	<0.0050		0.0050	mg/kg mg/kg	07-NOV-19 07-NOV-19	14-NOV-19	R4906809
Fluoranthene	<0.000		0.000	mg/kg	07-NOV-19	14-NOV-19	R4906809
Fluorene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Indeno(1,2,3-cd)pyrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
	-0.010		0.010				



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ALS ENVIRONMENTAL ANALYTICAL REPORT

L2376472-6 H2-03 Sampled By: CLIENT on 30-OCT-19 @ 15:03 Matrix: SOIL Metals in Soil by CRC ICPMS Lead (Pb) Lithium (Li) Magnesium (Mg) Manganese (Mn) Molybdenum (Mo) Nickel (Ni) Phosphorus (P) Potassium (K) Selenium (Se) Silver (Ag) Sodium (Na) Strontium (Sr)	10.1 20.8 17700 580 1.19 25.9 520 1800 0.26 0.10 1480 135 <1000 0.259 <2.0		0.50 2.0 20 1.0 0.10 0.50 50 100 0.20 0.10 50	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19	R4906529 R4906529 R4906529 R4906529 R4906529 R4906529 R4906529 R4906529 R4906529 R4906529 R4906529 R4906529
Sampled By: CLIENT on 30-OCT-19 @ 15:03 Matrix: SOIL Metals in Soil by CRC ICPMS Lead (Pb) Lithium (Li) Magnesium (Mg) Manganese (Mn) Molybdenum (Mo) Nickel (Ni) Phosphorus (P) Potassium (K) Selenium (Se) Silver (Ag) Sodium (Na)	20.8 17700 580 1.19 25.9 520 1800 0.26 0.10 1480 135 <1000 0.259		2.0 20 1.0 0.10 0.50 50 100 0.20 0.10 50	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 18-NOV-19	R4906529 R4906529 R4906529 R4906529 R4906529 R4906529 R4906529 R4906529 R4906529
Matrix: SOIL Metals in Soil by CRC ICPMS Lead (Pb) Lithium (Li) Magnesium (Mg) Manganese (Mn) Molybdenum (Mo) Nickel (Ni) Phosphorus (P) Potassium (K) Selenium (Se) Silver (Ag) Sodium (Na)	20.8 17700 580 1.19 25.9 520 1800 0.26 0.10 1480 135 <1000 0.259		2.0 20 1.0 0.10 0.50 50 100 0.20 0.10 50	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 18-NOV-19	R4906529 R4906529 R4906529 R4906529 R4906529 R4906529 R4906529 R4906529 R4906529
Metals in Soil by CRC ICPMS Lead (Pb) Lithium (Li) Magnesium (Mg) Manganese (Mn) Molybdenum (Mo) Nickel (Ni) Phosphorus (P) Potassium (K) Selenium (Se) Silver (Ag) Sodium (Na)	20.8 17700 580 1.19 25.9 520 1800 0.26 0.10 1480 135 <1000 0.259		2.0 20 1.0 0.10 0.50 50 100 0.20 0.10 50	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 18-NOV-19	R4906529 R4906529 R4906529 R4906529 R4906529 R4906529 R4906529 R4906529 R4906529
Lead (Pb) Lithium (Li) Magnesium (Mg) Manganese (Mn) Molybdenum (Mo) Nickel (Ni) Phosphorus (P) Potassium (K) Selenium (Se) Silver (Ag) Sodium (Na)	20.8 17700 580 1.19 25.9 520 1800 0.26 0.10 1480 135 <1000 0.259		2.0 20 1.0 0.10 0.50 50 100 0.20 0.10 50	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 18-NOV-19	R4906529 R4906529 R4906529 R4906529 R4906529 R4906529 R4906529 R4906529 R4906529
Lithium (Li) Magnesium (Mg) Manganese (Mn) Molybdenum (Mo) Nickel (Ni) Phosphorus (P) Potassium (K) Selenium (Se) Silver (Ag) Sodium (Na)	20.8 17700 580 1.19 25.9 520 1800 0.26 0.10 1480 135 <1000 0.259		2.0 20 1.0 0.10 0.50 50 100 0.20 0.10 50	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 18-NOV-19	R4906529 R4906529 R4906529 R4906529 R4906529 R4906529 R4906529 R4906529 R4906529
Magnesium (Mg) Manganese (Mn) Molybdenum (Mo) Nickel (Ni) Phosphorus (P) Potassium (K) Selenium (Se) Silver (Ag) Sodium (Na)	17700 580 1.19 25.9 520 1800 0.26 0.10 1480 135 <1000 0.259		20 1.0 0.10 0.50 50 100 0.20 0.10 50	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 18-NOV-19	R4906529 R4906529 R4906529 R4906529 R4906529 R4906529 R4906529 R4916027
Manganese (Mn) Molybdenum (Mo) Nickel (Ni) Phosphorus (P) Potassium (K) Selenium (Se) Silver (Ag) Sodium (Na)	580 1.19 25.9 520 1800 0.26 0.10 1480 135 <1000 0.259		1.0 0.10 0.50 50 100 0.20 0.10 50	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 18-NOV-19	R4906529 R4906529 R4906529 R4906529 R4906529 R4906529 R4916027
Molybdenum (Mo) Nickel (Ni) Phosphorus (P) Potassium (K) Selenium (Se) Silver (Ag) Sodium (Na)	1.19 25.9 520 1800 0.26 0.10 1480 135 <1000 0.259		0.10 0.50 50 100 0.20 0.10 50	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 18-NOV-19	R4906529 R4906529 R4906529 R4906529 R4906529
Nickel (Ni) Phosphorus (P) Potassium (K) Selenium (Se) Silver (Ag) Sodium (Na)	25.9 520 1800 0.26 0.10 1480 135 <1000 0.259		0.50 50 100 0.20 0.10 50	mg/kg mg/kg mg/kg mg/kg mg/kg	12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19 12-NOV-19 18-NOV-19	R4906529 R4906529 R4906529 R4916027
Phosphorus (P) Potassium (K) Selenium (Se) Silver (Ag) Sodium (Na)	520 1800 0.26 0.10 1480 135 <1000 0.259		50 100 0.20 0.10 50	mg/kg mg/kg mg/kg mg/kg	12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19 18-NOV-19	R4906529 R4906529 R4916027
Potassium (K) Selenium (Se) Silver (Ag) Sodium (Na)	1800 0.26 0.10 1480 135 <1000 0.259		100 0.20 0.10 50	mg/kg mg/kg mg/kg	12-NOV-19 12-NOV-19 12-NOV-19	12-NOV-19 18-NOV-19	R4906529 R4916027
Silver (Ag) Sodium (Na)	0.10 1480 135 <1000 0.259		0.10 50	mg/kg mg/kg	12-NOV-19		
Sodium (Na)	1480 135 <1000 0.259		50	mg/kg		12 NOV 10	D4008500
	135 <1000 0.259			ma/ka		12-140 4-18	R4906529
Strontium (Sr)	<1000 0.259				12-NOV-19	12-NOV-19	R4906529
	0.259		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Sulfur (S)			1000	mg/kg	12-NOV-19	12-NOV-19	R4906529
Thallium (TI)	<20		0.050	mg/kg	12-NOV-19	12-NOV-19	R4906529
Tin (Sn)			2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Titanium (Ti)	59.2		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Tungsten (W)	<0.50		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Uranium (U)	2.38		0.050	mg/kg	12-NOV-19	12-NOV-19	R4906529
Vanadium (V)	46.8		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Zinc (Zn)	65.2		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Zirconium (Zr)	7.4		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Polyaromatic Hydrocarbons (PAHs)					07-NOV-19	14-NOV-19	-
1-Methyl Naphthalene 2-Methyl Naphthalene	<0.010 <0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809 R4906809
Acenaphthene	<0.010		0.010	mg/kg mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthylene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acridine	<0.010		0.000	mg/kg	07-NOV-19	14-NOV-19	R4906809
Anthracene	<0.010	DLCI	0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)anthracene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)pyrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(b&j)fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(g,h,i)perylene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(k)fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Chrysene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Dibenzo(a,h)anthracene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Fluorene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Indeno(1,2,3-cd)pyrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Phenanthrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Pyrene	0.045		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Quinoline B(a)B Tatal Batagay Equivalent	<0.010		0.010	mg/kg	07-NOV-19		R4906809
B(a)P Total Potency Equivalent IACR (CCME)	<0.020 <0.15		0.020	mg/kg	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	R4906809
Benzo(b+j+k)fluoranthene	<0.014		0.15 0.014	mg/kg	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	R4906809
Surrogate: Acenaphthene d10	<0.014 81.6		0.014 60-130	mg/kg %	07-NOV-19	14-NOV-19	R4906809 R4906809
Surrogate: Chrysene d12	115.6		60-130 60-130	%	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	R4906809
Surrogate: Naphthalene d8	96.0		50-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Phenanthrene d10	102.6		60-130	%	07-NOV-19	14-NOV-19	R4906809
	192.9		00-100		01-110/0-10	11100-10	



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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
10076470 7 04 000							
L2376472-7 H1-02M							
Sampled By: CLIENT on 30-OCT-19 @ 14:52							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS Benzene	<0.0050		0.0050	mg/kg	30-OCT-19	07-NOV-19	R4898700
Toluene	<0.0050		0.050	mg/kg	30-OCT-19	07-NOV-19	R4898700
Ethyl benzene	<0.015		0.030	mg/kg	30-OCT-19	07-NOV-19	R4898700
o-Xvlene	<0.010		0.010	mg/kg	30-OCT-19	07-NOV-19	R4898700
m+p-Xylenes	<0.050		0.050	mg/kg	30-OCT-19	07-NOV-19	R4898700
F1 (C6-C10)	<10		10	mg/kg	30-OCT-19	07-NOV-19	R4898700
Surrogate: 4-Bromofluorobenzene (SS)	106.6		70-130	%	30-OCT-19	07-NOV-19	R4898700
CCME Total Extractable Hydrocarbons							
F2 (C10-C16)	33		25	mg/kg	06-NOV-19	07-NOV-19	R4901116
F3 (C16-C34)	101		50	mg/kg	06-NOV-19	07-NOV-19	R4901116
F4 (C34-C50)	<50		50	mg/kg	06-NOV-19	07-NOV-19	R4901116
Surrogate: 2-Bromobenzotrifluoride	96.4		60-140	%	06-NOV-19	07-NOV-19	R4901116
Chrom. to baseline at nC50	YES				06-NOV-19	07-NOV-19	R4901116
CCME Total Hydrocarbons							
F1-BTEX	<10		10	mg/kg		25-NOV-19	
F2-Naphth	33		25	mg/kg		25-NOV-19	
F3-PAH	101		50	mg/kg		25-NOV-19	
Total Hydrocarbons (C6-C50)	134		76	mg/kg		25-NOV-19	
Sum of Xylene Isomer Concentrations Xylenes (Total)			0.074			25-NOV-19	
Aylenes (Total) Miscellaneous Parameters	<0.071		0.071	mg/kg		25-NOV-19	
Miscellaneous Parameters Moisture			0.40	%		07 1001/ 10	D4000004
	24.2		0.10	76		07-NOV-19	R4902864
Metals in Soil by CRC ICPMS Aluminum (Al)	17900		5000	mg/kg	12-NOV-19	12-NOV-19	R4906529
Antimony (Sb)	0.56		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Arsenic (As)	7.99		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Barium (Ba)	272		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Bervilium (Be)	0.78		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Boron (B)	16.7		5.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Bismuth (Bi)	<0.20		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Cadmium (Cd)	0.294		0.020	mg/kg	12-NOV-19	12-NOV-19	R4906529
Calcium (Ca)	44000		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Chromium (Cr)	25.2		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Cobalt (Co)	9.17		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Copper (Cu)	22.5		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Iron (Fe)	22400		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Lead (Pb)	10.6		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Lithium (Li)	23.5		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Magnesium (Mg)	19000		20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Manganese (Mn)	574		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Molybdenum (Mo)	1.18		0.10	mg/kg		12-NOV-19	R4906529
Nickel (Ni)	26.5		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Phosphorus (P)	555		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Potassium (K)	2410		100	mg/kg	12-NOV-19	12-NOV-19	R4906529
Selenium (Se)	0.33		0.20	mg/kg	12-NOV-19	18-NOV-19	R4916027
Silver (Ag)	0.11		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Sodium (Na)	1890		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Strontium (Sr) Sulfur (S)	146		0.50	mg/kg	12-NOV-19 12-NOV-19	12-NOV-19	R4906529
Sultur (S) Thallium (TI)	<1000		1000	mg/kg		12-NOV-19	R4906529
	0.273		0.050	mg/kg	12-NOV-19	12-NOV-19	R4906529
Tin (Sn)	<2.0		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529



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L2376472-7 H1-02M Sampled By: CLIENT on 30-OCT-19 @ 14:52 Matrix: SOIL Metals in Soil by CRC ICPMS Titanium (Ti)	49.8 <0.50					
Sampled By: CLIENT on 30-OCT-19 @ 14:52 Matrix: SOIL Metals in Soil by CRC ICPMS						
Matrix: SOIL Metals in Soil by CRC ICPMS						
Metals in Soil by CRC ICPMS						
		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Tungsten (W)		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Uranium (U)	3.79	0.050	mg/kg	12-NOV-19	12-NOV-19	R4906529
Vanadium (V)	51.5	0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Zinc (Zn)	68.1	2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Zirconium (Zr)	8.6	1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Polyaromatic Hydrocarbons (PAHs)						
1-Methyl Naphthalene	<0.010	0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
2-Methyl Naphthalene	<0.010	0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthene	< 0.0050	0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthylene	<0.0050	0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acridine	<0.010	0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Anthracene	<0.0040	0.0040	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)anthracene	<0.010	0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)pyrene	<0.010	0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(b&j)fluoranthene	<0.010	0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(g,h,i)perylene	<0.010	0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(k)fluoranthene	<0.010	0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Chrysene	<0.010	0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Dibenzo(a,h)anthracene	<0.0050	0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Fluoranthene	<0.010	0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Fluorene	<0.010	0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Indeno(1,2,3-cd)pyrene	<0.010	0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Naphthalene	<0.010	0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Phenanthrene	<0.010	0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Pyrene Quinoline	0.058 <0.010	0.010	mg/kg	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	R4906809 R4906809
B(a)P Total Potency Equivalent	<0.010	0.010	mg/kg	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	R4906809
IACR (CCME)	<0.020	0.020	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(b+i+k)fluoranthene	<0.014	0.014	mg/kg	07-NOV-19	14-NOV-19	R4906809
Surrogate: Acenaphthene d10	<0.014 94.5	60-130	mg/kg %	07-NOV-19	14-NOV-18	R4906809
Surrogate: Chrysene d12	122.5	60-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Naphthalene d8	83.2	50-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Phenanthrene d10	96.4	60-130	%	07-NOV-19	14-NOV-19	R4906809
L2376472-10 G1-02				51 115 1 10		
Sampled By: CLIENT on 30-OCT-19 @ 16:02						
Matrix: SOIL						
Matrix: SOIL BTEX and F1-F4 by Tumbler Method						
BTX plus F1 by GCMS						
BIX plus F1 by GCMS Benzene	<0.0050	0.0050	mg/kg	30-OCT-19	14-NOV-19	R4898700
Toluene	<0.050	0.050	mg/kg	30-OCT-19	14-NOV-19	R4898700
Ethyl benzene	<0.015	0.015	mg/kg	30-OCT-19	14-NOV-19	R4898700
o-Xylene	<0.050	0.050	mg/kg	30-OCT-19	14-NOV-19	R4898700
m+p-Xylenes	<0.050	0.050	mg/kg	30-OCT-19	14-NOV-19	R4898700
F1 (C6-C10)	<10	10	mg/kg	30-OCT-19	14-NOV-19	R4898700
Surrogate: 4-Bromofluorobenzene (SS)	96.8	70-130	%	30-OCT-19	14-NOV-19	R4898700
CCME Total Extractable Hydrocarbons						
F2 (C10-C16)	<25	25	mg/kg	06-NOV-19	07-NOV-19	R4901116
F3 (C16-C34)	<50	50	mg/kg	06-NOV-19	07-NOV-19	R4901116
F4 (C34-C50)	58	50	mg/kg	06-NOV-19	07-NOV-19	R4901116
Surrogate: 2-Bromobenzotrifluoride	93.3	60-140	%	06-NOV-19	07-NOV-19	R4901116



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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2376472-10 G1-02							
Sampled By: CLIENT on 30-OCT-19 @ 16:02							
Matrix: SOIL							
CCME Total Extractable Hydrocarbons							-
Chrom. to baseline at nC50	YES				06-NOV-19	07-NOV-19	R4901116
CCME Total Hydrocarbons F1-BTEX	<10		10	mg/kg		25-NOV-19	
F2-Naphth	<25		25	mg/kg		25-NOV-19	
F3-PAH	<50		50	mg/kg		25-NOV-19	
Total Hydrocarbons (C6-C50)	<76		76	mg/kg		25-NOV-19	
Sum of Xylene Isomer Concentrations							
Xylenes (Total)	<0.071		0.071	mg/kg		25-NOV-19	
Miscellaneous Parameters							
Moisture	25.4		0.10	%		07-NOV-19	R4902864
Metals in Soil by CRC ICPMS							
Aluminum (Al)	9070		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Antimony (Sb)	0.51		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Arsenic (As)	9.20		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Barium (Ba)	193		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Beryllium (Be) Boron (B)	0.51		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
	11.7		5.0	mg/kg	12-NOV-19 12-NOV-19	12-NOV-19	R4906529
Bismuth (Bi) Cadmium (Cd)	<0.20 0.291		0.20	mg/kg mg/kg	12-NOV-19	12-NOV-19 12-NOV-19	R4906529 R4906529
Calcium (Ca)	41900		50		12-NOV-19	12-NOV-19	R4906529
Chromium (Cr)	15.6		0.50	mg/kg mg/kg	12-NOV-19	12-NOV-19	R4906529
Cobalt (Co)	7.83	1	0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Copper (Cu)	15.9		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Iron (Fe)	16000		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Lead (Pb)	7.79		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Lithium (Li)	12.9		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Magnesium (Mg)	15700		20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Manganese (Mn)	618		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Molybdenum (Mo)	1.58		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Nickel (Ni)	22.8		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Phosphorus (P)	398		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Potassium (K)	1310		100	mg/kg	12-NOV-19	12-NOV-19	R4906529
Selenium (Se)	0.34		0.20	mg/kg	12-NOV-19	18-NOV-19	R4916027
Silver (Ag)	<0.10		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Sodium (Na) Strontium (Sr)	283		50	mg/kg	12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19	R4906529 R4906529
Sulfur (S)	65.6 <1000		0.50 1000	mg/kg	12-NOV-19	12-NOV-19	R4906529
Sultur (S) Thallium (TI)	0.228		0.050	mg/kg mg/kg	12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19	R4906529
Tin (Sn)	<2.0		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Titanium (Ti)	65.4		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Tungsten (W)	<0.50		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Uranium (U)	1.36		0.050	mg/kg		12-NOV-19	R4906529
Vanadium (V)	32.3		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Zinc (Zn)	49.1		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Zirconium (Zr)	7.7		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Polyaromatic Hydrocarbons (PAHs)							
1-Methyl Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
2-Methyl Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthylene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acridine	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809



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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2376472-10 G1-02							
Sampled By: CLIENT on 30-OCT-19 @ 16:02							
Matrix: SOIL							
Polyaromatic Hydrocarbons (PAHs)	<0.0040		0.0040		07-NOV-19	14-NOV-19	R4906809
Anthracene Benzo(a)anthracene	<0.0040 <0.010		0.0040	mg/kg	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	R4906809
Benzo(a)pyrene	<0.010		0.010	mg/kg mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(b);fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(g,h,i)perylene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(k)fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Chrysene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Dibenzo(a,h)anthracene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Fluorene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Indeno(1,2,3-cd)pyrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Phenanthrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Pyrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Quinoline	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
B(a)P Total Potency Equivalent	<0.020		0.020	mg/kg	07-NOV-19	14-NOV-19	R4906809
IACR (CCME)	<0.15		0.15		07-NOV-19	14-NOV-19	R4906809
Benzo(b+j+k)fluoranthene	<0.014		0.014	mg/kg	07-NOV-19	14-NOV-19	R4906809
Surrogate: Acenaphthene d10	111.7		60-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Chrysene d12	121.0		60-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Naphthalene d8	111.4		50-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Phenanthrene d10	104.8		60-130	%	07-NOV-19	14-NOV-19	R4906809
L2376472-11 G1-01M							
Sampled By: CLIENT on 30-OCT-19 @ 15:55							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS							
Benzene	< 0.0050		0.0050	mg/kg	30-OCT-19	07-NOV-19	R4898700
Toluene	<0.050		0.050	mg/kg	30-OCT-19	07-NOV-19	R4898700
Ethyl benzene o-Xvlene	<0.015 <0.050		0.015	mg/kg	30-OCT-19 30-OCT-19	07-NOV-19	R4898700 R4898700
m+p-Xylenes	<0.050		0.050	mg/kg	30-0CT-19 30-0CT-19	07-NOV-19 07-NOV-19	R4898700 R4898700
F1 (C6-C10)	<10		10	mg/kg mg/kg	30-OCT-19 30-OCT-19	07-NOV-19	R4898700
Surrogate: 4-Bromofluorobenzene (SS)	104.9		70-130	%	30-OCT-19	07-NOV-19	R4898700
CCME Total Extractable Hydrocarbons	104.0		70-100	/0	33-001-18	0/10/018	14080700
F2 (C10-C16)	<25		25	mg/kg	06-NOV-19	07-NOV-19	R4901116
F3 (C16-C34)	<50		50	mg/kg	06-NOV-19	07-NOV-19	R4901116
F4 (C34-C50)	<50		50	mg/kg	06-NOV-19	07-NOV-19	R4901116
Surrogate: 2-Bromobenzotrifluoride	89.0		60-140	%	06-NOV-19	07-NOV-19	R4901116
Chrom. to baseline at nC50	YES				06-NOV-19	07-NOV-19	R4901116
CCME Total Hydrocarbons							
F1-BTEX	<10		10	mg/kg		25-NOV-19	
F2-Naphth	<25		25	mg/kg		25-NOV-19	
F3-PAH	<50		50	mg/kg		25-NOV-19	
Total Hydrocarbons (C6-C50)	<76		76	mg/kg		25-NOV-19	
Sum of Xylene Isomer Concentrations				-			
Xylenes (Total)	<0.071		0.071	mg/kg		25-NOV-19	
Miscellaneous Parameters							
Moisture	14.5		0.10	%		07-NOV-19	R4902864
Metals in Soil by CRC ICPMS	0010		50	ma llen	12-NOV-19	12 NOV 10	DAGGESSO
Aluminum (Al)	6610		50	mg/kg	12-1404-19	12-NOV-19	R4906529



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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2376472-11 G1-01M							
Sampled By: CLIENT on 30-OCT-19 @ 15:55							
Matrix: SOIL							
Metals in Soil by CRC ICPMS Antimony (Sb)	0.38		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Arsenic (As)	6.94		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Barium (Ba)	110		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Beryllium (Be)	0.43		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Boron (B)	10.2		5.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Bismuth (Bi)	<0.20		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Cadmium (Cd)	0.184		0.020	mg/kg	12-NOV-19	12-NOV-19	R4906529
Calcium (Ca)	29500		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Chromium (Cr)	12.4		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Cobalt (Co)	6.02		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Copper (Cu)	10.5		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Iron (Fe)	15300		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Lead (Pb)	5.91		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Lithium (Li)	9.0		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Magnesium (Mg)	10300		20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Manganese (Mn)	468		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Molybdenum (Mo)	1.01		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Nickel (Ni)	16.1		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Phosphorus (P)	390		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Potassium (K)	970		100	mg/kg	12-NOV-19	12-NOV-19	R4906529
Selenium (Se)	0.28		0.20	mg/kg	12-NOV-19	18-NOV-19	R4916027
Silver (Ag)	<0.10		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Sodium (Na)	200		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Strontium (Sr)	51.3		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Sulfur (S)	<1000		1000	mg/kg	12-NOV-19	12-NOV-19	R4906529
Thallium (TI)	0.160		0.050	mg/kg	12-NOV-19	12-NOV-19	R4906529
Tin (Sn)	<2.0		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Titanium (Ti)	78.6		1.0	mg/kg	12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19	R4906529
Tungsten (W) Uranium (U)	<0.50 1.19		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529 R4906529
Vanadium (V)	26.5		0.050	mg/kg mg/kg	12-NOV-19	12-NOV-19	R4906529 R4906529
Zinc (Zn)	37.0		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Zirconium (Zr)	3.0		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Polyaromatic Hydrocarbons (PAHs)	3.0		1.9	ing/kg	12-140 4-18	12-140 4-18	104600328
1-Methyl Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
2-Methyl Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthene	< 0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthylene	< 0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acridine	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Anthracene	<0.0040		0.0040	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)anthracene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)pyrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(b&j)fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(g,h,i)perylene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(k)fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Chrysene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Dibenzo(a,h)anthracene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Fluorene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Indeno(1,2,3-cd)pyrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2376472-11 G1-01M							
Sampled By: CLIENT on 30-OCT-19 @ 15:55							
Matrix: SOIL Polyaromatic Hydrocarbons (PAHs)							
Phenanthrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Pyrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Quinoline	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
B(a)P Total Potency Equivalent	<0.020		0.020	mg/kg	07-NOV-19	14-NOV-19	R4906809
IACR (CCME)	<0.15		0.15		07-NOV-19	14-NOV-19	R4906809
Benzo(b+j+k)fluoranthene	<0.014		0.014	mg/kg	07-NOV-19	14-NOV-19	R4906809
Surrogate: Acenaphthene d10	111.5		60-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Chrysene d12	113.3		60-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Naphthalene d8 Surrogate: Phenanthrene d10	110.0 114.8		50-130 60-130	%	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	R4906809 R4906809
	114.0		00-130	70	07-1009-19	14-NOV-19	R4900809
L2376472-14 E2-03							
Sampled By: CLIENT on 30-OCT-19 @ 16:07							
Matrix: SOIL RTEX and E4 E4 by Turphies Method							
BTEX and F1-F4 by Tumbler Method BTX plus F1 by GCMS							
Benzene	<0.0050		0.0050	mg/kg	30-OCT-19	07-NOV-19	R4898700
Toluene	<0.050		0.050	mg/kg	30-OCT-19	07-NOV-19	R4898700
Ethyl benzene	<0.015		0.015	mg/kg	30-OCT-19	07-NOV-19	R4898700
o-Xylene	<0.050		0.050	mg/kg	30-OCT-19	07-NOV-19	R4898700
m+p-Xylenes	<0.050		0.050	mg/kg	30-OCT-19	07-NOV-19	R4898700
F1 (C6-C10)	<10	í	10	mg/kg	30-OCT-19	07-NOV-19	R4898700
Surrogate: 4-Bromofluorobenzene (SS)	112.5		70-130	%	30-OCT-19	07-NOV-19	R4898700
CCME Total Extractable Hydrocarbons F2 (C10-C18)	<250	DLM	250	ma/ka	06-NOV-19	10-NOV-19	R4901116
F3 (C18-C34)	2370	DLM	250	mg/kg mg/kg	06-NOV-19	10-NOV-19	R4901116 R4901116
F4 (C34-C50)	1720	DLM	500	mg/kg	06-NOV-19	10-NOV-19	R4901116
Surrogate: 2-Bromobenzotrifluoride	60.7		60-140	%	06-NOV-19	10-NOV-19	R4901116
Chrom. to baseline at nC50	NO				06-NOV-19	10-NOV-19	R4901116
CCME Total Hydrocarbons							
F1-BTEX	<10		10	mg/kg		25-NOV-19	
F2-Naphth	<250		250	mg/kg		25-NOV-19	
F3-PAH	2370		500	mg/kg		25-NOV-19	
Total Hydrocarbons (C6-C50)	4080		750	mg/kg		25-NOV-19	
Sum of Xylene Isomer Concentrations Xylenes (Total)	<0.071		0.071	mg/kg		25-NOV-19	
Miscellaneous Parameters	50.011		0.071			201101-10	
Moisture	17.6		0.10	%		07-NOV-19	R4902864
F4G-SG	9940		500	mg/kg		16-NOV-19	R4912268
Metals in Soil by CRC ICPMS							
Aluminum (Al)	2490		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Antimony (Sb)	<0.10		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Arsenic (As)	2.16		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Barium (Ba)	45.4		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Beryllium (Be) Boron (B)	0.15 <5.0		0.10 5.0	mg/kg	12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19	R4906529 R4906529
Bismuth (Bi)	<0.20		0.20	mg/kg mg/kg	12-NOV-19 12-NOV-19	12-NOV-19	R4906529 R4906529
Cadmium (Cd)	0.089		0.020	mg/kg	12-NOV-19	12-NOV-19	R4906529
Calcium (Ca)	7500		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Chromium (Cr)	6.19		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Cobalt (Co)	2.23		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Copper (Cu)	2.79		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2376472-14 E2-03							
Sampled By: CLIENT on 30-OCT-19 @ 16:07							
Matrix: SOIL							
Metals in Soil by CRC ICPMS	5050		50		10 1001 10	10 10 10 10	D4008500
Iron (Fe)	5950		50	mg/kg	12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19	R4906529
Lead (Pb)	2.88 2.6		0.50	mg/kg			R4906529 R4906529
Lithium (Li)			2.0	mg/kg	12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19	
Magnesium (Mg) Manganese (Mn)	1950 200		20	mg/kg			R4906529 R4906529
Molybdenum (Mo)	0.16		1.0 0.10	mg/kg	12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19	R4906529 R4906529
Nickel (Ni)	6.37		0.50	mg/kg mg/kg	12-NOV-19	12-NOV-19	R4906529
Phosphorus (P)	431		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Potassium (K)	470		100	mg/kg	12-NOV-19	12-NOV-19	R4906529
Selenium (Se)	<0.20		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Silver (Ag)	<0.10		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Sodium (Na)	55		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Strontium (Sr)	13.0		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Sulfur (S)	<1000		1000	mg/kg	12-NOV-19	12-NOV-19	R4906529
Thallium (TI)	0.054		0.050	mg/kg	12-NOV-19	12-NOV-19	R4906529
Tin (Sn)	<2.0		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Titanium (Ti)	77.1		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Tungsten (W)	<0.50		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Uranium (U)	0.507		0.050	mg/kg	12-NOV-19	12-NOV-19	R4906529
Vanadium (V)	13.1		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Zinc (Zn)	18.1		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Zirconium (Zr)	1.1		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Polyaromatic Hydrocarbons (PAHs)							
1-Methyl Naphthalene	0.060		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
2-Methyl Naphthalene	0.092		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthylene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acridine	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Anthracene	<0.010	DLCI	0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)anthracene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)pyrene	0.022	EMPC	0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(b&j)fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(g,h,i)perylene	0.061		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(k)fluoranthene	<0.010		0.010	mg/kg	07-NOV-19 07-NOV-19	14-NOV-19	R4906809
Chrysene Dibenzo(a,h)anthracene	0.077 <0.0050		0.010	mg/kg	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	R4906809 R4906809
Fluoranthene	<0.0050		0.0050	mg/kg	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	R4906809
Fluoranthene	<0.015		0.010	mg/kg mg/kg	07-NOV-19	14-NOV-19	R4906809
Indeno(1,2,3-cd)pyrene	<0.010	DLCI	0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Naphthalene	0.057		0.020	mg/kg	07-NOV-19	14-NOV-19	R4906809
Phenanthrene	0.025		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Pyrene	0.044		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Quinoline	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
B(a)P Total Potency Equivalent	0.029		0.020	mg/kg	07-NOV-19	14-NOV-19	R4906809
IACR (CCME)	0.20		0.15		07-NOV-19	14-NOV-19	R4906809
Benzo(b+j+k)fluoranthene	<0.014		0.014	mg/kg	07-NOV-19	14-NOV-19	R4906809
Surrogate: Acenaphthene d10	88.1		60-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Chrysene d12	84.2		60-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Naphthalene d8	116.7		50-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Phenanthrene d10	113.0		60-130	%	07-NOV-19	14-NOV-19	R4906809



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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2376472-15 E1-02M							
Sampled By: CLIENT on 30-OCT-19 @ 16:12							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS Benzene						07 1001/ 10	-
Toluene	0.0396 <0.050		0.0050	mg/kg	30-OCT-19 30-OCT-19	07-NOV-19 07-NOV-19	R4898700 R4898700
Ethyl benzene	0.045		0.030	mg/kg mg/kg	30-OCT-19 30-OCT-19	07-NOV-19	R4898700
o-Xylene	<0.045		0.015	mg/kg	30-OCT-19	07-NOV-19	R4898700
m+p-Xvlenes	<0.050		0.050	mg/kg	30-OCT-19	07-NOV-19	R4898700
F1 (C6-C10)	<10		10	mg/kg	30-OCT-19	07-NOV-19	R4898700
Surrogate: 4-Bromofluorobenzene (SS)	114.1		70-130	%	30-OCT-19	07-NOV-19	R4898700
CCME Total Extractable Hydrocarbons							
F2 (C10-C16)	<250	DLM	250	mg/kg	07-NOV-19	16-NOV-19	R4901116
F3 (C16-C34)	1610	DLM	500	mg/kg	07-NOV-19	16-NOV-19	R4901116
F4 (C34-C50)	1330	DLM	500	mg/kg	07-NOV-19	16-NOV-19	R4901116
Surrogate: 2-Bromobenzotrifluoride	80.2		60-140	%	07-NOV-19	16-NOV-19	R4901116
Chrom. to baseline at nC50	NO				07-NOV-19	16-NOV-19	R4901116
CCME Total Hydrocarbons			10			00 NO14 40	
F1-BTEX F2-Naphth	<10		10	mg/kg		26-NOV-19 26-NOV-19	
F3-PAH	<250 1810		250 500	mg/kg mg/kg		26-NOV-19	
Total Hydrocarbons (C6-C50)	2930		750	mg/kg		26-NOV-19	
Sum of Xvlene Isomer Concentrations	2000		100			201101-10	
Xylenes (Total)	<0.071		0.071	mg/kg		25-NOV-19	
Miscellaneous Parameters		1					
Moisture	19.6		0.10	%		07-NOV-19	R4902864
F4G-SG	7290		500	mg/kg		22-NOV-19	R4921870
Metals in Soil by CRC ICPMS							
Aluminum (Al)	2530		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Antimony (Sb)	<0.10		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Arsenic (As)	2.53		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Barium (Ba)	45.6		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Beryllium (Be)	0.17		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Boron (B)	<5.0		5.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Bismuth (Bi)	<0.20		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Cadmium (Cd) Calcium (Ca)	0.099		0.020 50	mg/kg	12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19	R4906529 R4906529
Chromium (Cr)	6.21		0.50	mg/kg mg/kg	12-NOV-19 12-NOV-19	12-NOV-19	R4906529
Cobalt (Co)	2.35		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Copper (Cu)	3.29		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Iron (Fe)	7150		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Lead (Pb)	2.86		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Lithium (Li)	2.7		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Magnesium (Mg)	3600		20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Manganese (Mn)	223		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Molybdenum (Mo)	0.20		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Nickel (Ni)	6.98		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Phosphorus (P)	351		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Potassium (K)	480		100	mg/kg	12-NOV-19	12-NOV-19	R4906529
Selenium (Se)	<0.20		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Silver (Ag)	<0.10		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Sodium (Na) Strontium (Sr)	57		50	mg/kg	12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19	R4906529
Sulfur (S)	13.9 <1000		0.50	mg/kg mg/kg	12-NOV-19	12-NOV-19	R4906529 R4906529
	-1000		1000		12-110/0-18	12-100 - 18	10100020



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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2376472-15 E1-02M							
Sampled By: CLIENT on 30-OCT-19 @ 16:12							
Matrix: SOIL							
Metals in Soil by CRC ICPMS							
Thallium (TI)	0.063		0.050	mg/kg	12-NOV-19	12-NOV-19	R4906529
Tin (Sn)	<2.0		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Titanium (Ti)	68.4		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Tungsten (W)	<0.50		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Uranium (U)	0.493		0.050	mg/kg	12-NOV-19	12-NOV-19	R4906529
Vanadium (V)	13.6		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Zinc (Zn)	18.2		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Zirconium (Zr)	<1.0		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Polyaromatic Hydrocarbons (PAHs)							
1-Methyl Naphthalene	0.058		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
2-Methyl Naphthalene	0.097		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthylene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acridine	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Anthracene	<0.010	DLCI	0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)anthracene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)pyrene	<0.020	DLCI	0.020	mg/kg	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	R4906809
Benzo(b&j)fluoranthene Benzo(o.h.i)pervlene	<0.050 0.053		0.050	mg/kg	07-NOV-19		R4906809
Benzo(g,n,i)perviene Benzo(k)fluoranthene	<0.053		0.010	mg/kg mg/kg	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	R4906809 R4906809
Chrysene	<0.010		0.010		07-NOV-19	14-NOV-19	R4906809
Dibenzo(a,h)anthracene	0.0057	i	0.0050	mg/kg mg/kg	07-NOV-19	14-NOV-19	R4906809
Fluoranthene	0.011		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Fluorene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Indeno(1,2,3-cd)pyrene	0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Naphthalene	0.058		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Phenanthrene	<0.050	DLCI	0.050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Pyrene	0.035		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Quinoline	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
B(a)P Total Potency Equivalent	0.021		0.020	mg/kg	07-NOV-19	14-NOV-19	R4906809
IACR (CCME)	0.27		0.25		07-NOV-19	14-NOV-19	R4906809
Benzo(b+j+k)fluoranthene	<0.051		0.051	mg/kg	07-NOV-19	14-NOV-19	R4906809
Surrogate: Acenaphthene d10	103.0		60-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Chrysene d12	82.4		60-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Naphthalene d8	117.5		50-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Phenanthrene d10	116.0		60-130	%	07-NOV-19	14-NOV-19	R4906809
L2376472-18 D2-03							
Sampled By: CLIENT on 31-OCT-19 @ 14:20							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS					21.007.10	07 1001 40	-
Benzene	<0.0050		0.0050	mg/kg	31-OCT-19	07-NOV-19	R4898700
Toluene Ethyl honzono	<0.050		0.050	mg/kg	31-OCT-19 21-OCT-10	07-NOV-19	R4898700
Ethyl benzene o-Xylene	<0.015 <0.050		0.015	mg/kg	31-OCT-19 31-OCT-19	07-NOV-19 07-NOV-19	R4898700 R4898700
m+p-Xylenes	<0.050		0.050	mg/kg mg/kg	31-0CT-19 31-0CT-19	07-NOV-19 07-NOV-19	R4898700 R4898700
F1 (C8-C10)	<10		10	mg/kg mg/kg	31-0CT-19 31-0CT-19	07-NOV-19	R4898700 R4898700
Surrogate: 4-Bromofluorobenzene (SS)	123.5		70-130	"'''''''''''''''''''''''''''''''''''''	31-OCT-19	07-NOV-19	R4898700 R4898700
CCME Total Extractable Hydrocarbons	120.0		10-100	/0	01-001-18	01-100-18	10000100
F2 (C10-C16)	<130	DLM	130	mg/kg	07-NOV-19	10-NOV-19	R4901116
F3 (C16-C34)	690	DLM	250	mg/kg	07-NOV-19	10-NOV-19	R4901116
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L2376472-18 D2-03 Sampled By: CLENT on 31-OCT-19 (g) 14:20 Matrix: SOIL CCME Total Extractable Hydrocarbons F4 (C34-C50) Surrogate: 2-Bromobenzotrifluoride Chrom. to baseline at nC50 CCME Total Extractable Hydrocarbons F1-BTEX F1-BTEX Surrogate: 2-Bromobenzotrifluoride F3-PAH 690 Total Hydrocarbons (C8-C50) Sum of Xylene Isomer Concentrations X/genes (Total) Miscullaneous Parameters Moisture Miscullaneous Parameters Moisture Attimum (A) Antimum (A) Antimum (Ba) Barium (Ba) Barium (Ba) Boron (B) Bismuf (C4) C10 D071 D071 D171 D217 Miscullaneous Parameters Moisture 15.3 D10 Miseullaneous Parameters Moisture	R4901116 R4901116 R4901118 R4902864 R4902864 R4912268
Sampled By: CLIENT on 31-OCT-19 (g) 14:20 Matrix: SOIL CCME Total Extractable Hydrocarbons 400 DLM 250 mg/kg 07-NOV-19 10-NOV-19 Chrom. to baseline at nC50 NO 06-140 % 07-NOV-19 10-NOV-19 Chrom. to baseline at nC50 NO 10 mg/kg 25-NOV-19 10-NOV-19 CCME Total Hydrocarbons F1-BTEX <10 10 mg/kg 25-NOV-19 F3-PAH 690 250 mg/kg 25-NOV-19 25-NOV-19 Sum of Xylene Isomer Concentrations <0.071 0.071 mg/kg 25-NOV-19 Moiscure 15.3 0.10 % 07-NOV-19 12-NOV-19 Miscellaneous Parameters <0.071 0.071 mg/kg 25-NOV-19 Metals in Soil by CRC ICPMS <0.071 0.071 mg/kg 12-NOV-19 12-NOV-19 Auminum (A) 1920 50 mg/kg 12-NOV-19 12-NOV-19 Arsenic (As) 2.10 0.	R4901116 R4901118 R4902864 R4912268
Matrix: SOIL CCME Total Extractable Hydrocarbons 400 DLM 250 mg/kg 07-NOV-19 10-NOV-19 Surrogatz: 2-Bromobenzotrifluoride 78.7 60-140 % 07-NOV-19 10-NOV-19 Chrom. to baseline at nC50 NO 07 10 mg/kg 07-NOV-19 10-NOV-19 CCME Total Hydrocarbons F1-BTEX <10	R4901116 R4901118 R4902864 R4912268
CCME Total Extractable Hydrocarbons 400 DLM 250 mg/kg 07-NOV-19 10-NOV-19 Surrogate: 2-Bromobenzotrifluoride 78, 7 NO 60-140 % 07-NOV-19 10-NOV-19 Chrom. to baseline at nC50 NO 01 mg/kg 07-NOV-19 10-NOV-19 CCME Total Hydrocarbons 10 mg/kg 25-NOV-19 10-NOV-19 F3-PAH 680 250 mg/kg 25-NOV-19 25-NOV-19 Total Hydrocarbons (C6-C50) 1080 380 mg/kg 25-NOV-19 Sum of Xylene Isomer Concentrations Xylenes (Total) <0.071	R4901116 R4901118 R4902864 R4912268
F4 (C34-C50) 400 DLM 250 mg/kg 07-NOV-19 10-NOV-19 Surrogate: 2-Bromobenzotrifluoride 78.7 NO 60-140 % 07-NOV-19 10-NOV-19 Chrom. to baseline at nC50 NO NO 10 mg/kg 07-NOV-19 10-NOV-19 CCME Total Hydrocarbons <10	R4901116 R4901118 R4902864 R4912268
Surrogate: 2-Bromobenzotrifluoride 78.7 60.140 % 07.NOV-19 10.NOV-19 Chrom. to baseline at nC50 NO 07.NOV-19 10.NOV-19 10.NOV-19 10.NOV-19 F1-BTEX <10	R4901116 R4901118 R4902864 R4912268
Chrom. to baseline at nC50 NO 07-NOV-19 10-NOV-19 CCME Total Hydrocarbons <10	R4901116 R4902864 R4912268
CCME Total Hydrocarbons </td <td>R4902864 R4912268</td>	R4902864 R4912268
F1-BTEX <10 10 mg/kg 25-NOV-19 F2-Naphth <130	R4912268
F2-Naphth 130 mg/kg 25-NOV-19 F3-PAH 690 250 mg/kg 25-NOV-19 Total Hydrocarbons (C8-C50) 1080 380 mg/kg 25-NOV-19 Sum of Xylene Isomer Concentrations Xylenes (Total) <0.071	R4912268
F3-PAH 800 250 mg/kg 25-NOV-19 Total Hydrocarbons (C6-C50) 1080 380 mg/kg 25-NOV-19 Sum of Xylene Isomer Concentrations Xylenes (Total) <0.071	R4912268
Total Hydrocarbons (C8-C50) 1080 380 mg/kg 25-NOV-19 Sum of Xylene Isomer Concentrations Xylenes (Total) <0.071	R4912268
Sum of Xylene Isomer Concentrations Xylenes (Total)	R4912268
Xylenes (Total) <0.071 0.071 mg/kg 25-NOV-19 Miscellaneous Parameters 15.3 0.10 % 07-NOV-19 F4G-SG 1500 500 mg/kg 16-NOV-19 Metals in Soil by CRC ICPMS 1920 50 mg/kg 12-NOV-19 12-NOV-19 Atuminum (Al) 1920 50 mg/kg 12-NOV-19 12-NOV-19 Arsenic (As) 2.10 0.10 mg/kg 12-NOV-19 12-NOV-19 Barium (Ba) 55.2 0.50 mg/kg 12-NOV-19 12-NOV-19 Beryllium (Be) 0.14 0.10 mg/kg 12-NOV-19 12-NOV-19 Bismuth (Bi) <0.20	R4912268
Miscellaneous Parameters Intervention Market Intervention Interventin Intervention <thintervent< td=""><td>R4912268</td></thintervent<>	R4912268
Moisture 15.3 0.10 % 07-NOV-19 F4G-SG 1500 500 mg/kg 16-NOV-19 16-NOV-19 Metals in Soil by CRC ICPMS 1920 50 mg/kg 12-NOV-19 12-NOV-19 12-NOV-19 Aluminum (Al) 1920 50 mg/kg 12-NOV-19 12-NOV-19 12-NOV-19 Arsenic (As) 2.10 0.10 mg/kg 12-NOV-19 12-NOV-19 Barium (Ba) 55.2 0.50 mg/kg 12-NOV-19 12-NOV-19 Beryllium (Be) 0.14 0.10 mg/kg 12-NOV-19 12-NOV-19 Boron (B) <5.0 5.0 mg/kg 12-NOV-19 12-NOV-19 Bismuth (Bi) <0.20 0.20 mg/kg 12-NOV-19 12-NOV-19 Cadinium (Cd) 0.055 0.020 mg/kg 12-NOV-19 12-NOV-19 Cadium (Ca) 10-NO 12-NOV-19 12-NOV-19 12-NOV-19 12-NOV-19 Cadium (Cd) 0.055 0.020 mg/kg 12-NOV-19	R4912268
F4G-SG 1500 500 mg/kg 16-NOV-19 Metals in Soil by CRC ICPMS 1920 50 mg/kg 16-NOV-19 Aluminum (Al) 1920 50 mg/kg 12-NOV-19 12-NOV-19 Antimony (Sb) <0.10	R4912268
Metals in Soil by CRC ICPMS 1920 50 mg/kg 12-NOV-19 12-NOV-19 Aluminum (Al) 1920 50 mg/kg 12-NOV-19 12-NOV-19 12-NOV-19 Antimony (Sb) <0.10	
Aluminum (Al) 1920 50 mg/kg 12-NOV-19 12-NOV-19 Antimony (Sb) <0.10	-
Antimory (Sb) 0.10 mg/kg 12-NOV-19 12-NOV-19 Arsenic (As) 2.10 0.10 mg/kg 12-NOV-19 12-NOV-19 Barium (Ba) 55.2 0.50 mg/kg 12-NOV-19 12-NOV-19 Beryllium (Be) 0.14 0.10 mg/kg 12-NOV-19 12-NOV-19 Boron (B) <5.0	
Arsenic (As) 2.10 0.10 mg/kg 12-NOV-19 12-NOV-19 Barium (Ba) 55.2 0.50 mg/kg 12-NOV-19 12-NOV-19 Beryllium (Be) 0.14 0.10 mg/kg 12-NOV-19 12-NOV-19 Boron (B) <5.0	R4906529
Barium (Ba) 55.2 0.50 mg/kg 12-NOV-19 12-NOV-19 Beryllium (Be) 0.14 0.10 mg/kg 12-NOV-19 12-NOV-19 Boron (B) <5.0	R4906529
Beryllium (Be) 0.14 0.10 mg/kg 12-NOV-19 12-NOV-19 Boron (B) <5.0	R4906529
Boron (B) <5.0 5.0 mg/kg 12-NOV-19 12-NOV-19 Bismuth (Bi) <0.20	R4906529
Bismuth (Bi) -0.20 0.20 mg/kg 12-NOV-19 12-NOV-19 Cadmium (Cd) 0.055 0.020 mg/kg 12-NOV-19 12-NOV-19 Cadmium (Ca) 18900 50 mg/kg 12-NOV-19 12-NOV-19 Chromium (Cr) 5.13 0.50 mg/kg 12-NOV-19 12-NOV-19 Cobalt (Co) 2.31 0.10 mg/kg 12-NOV-19 12-NOV-19 Copper (Cu) 2.31 0.10 mg/kg 12-NOV-19 12-NOV-19 Iron (Fe) 5450 50 mg/kg 12-NOV-19 12-NOV-19	R4906529
Cadmium (Cd) 0.055 0.020 mg/kg 12-NOV-19 12-NOV-19 Calcium (Ca) 18900 50 mg/kg 12-NOV-19 12-NOV-19 Chromium (Cr) 5.13 0.50 mg/kg 12-NOV-19 12-NOV-19 Cobalt (Co) 2.31 0.10 mg/kg 12-NOV-19 12-NOV-19 Copper (Cu) 2.31 0.10 mg/kg 12-NOV-19 12-NOV-19 Iron (Fe) 5450 50 mg/kg 12-NOV-19 12-NOV-19	R4906529
Calcium (Ca) 18900 50 mg/kg 12-NOV-19 12-NOV-19 Chromium (Cr) 5.13 0.50 mg/kg 12-NOV-19 12-NOV-19 Cobalt (Co) 2.31 0.10 mg/kg 12-NOV-19 12-NOV-19 Copper (Cu) 2.31 0.50 mg/kg 12-NOV-19 12-NOV-19 Iron (Fe) 5450 50 mg/kg 12-NOV-19 12-NOV-19	R4906529
Chromium (Cr) 5.13 0.50 mg/kg 12-NOV-19 12-NOV-19 Cobalt (Co) 2.31 0.10 mg/kg 12-NOV-19 12-NOV-19 Copper (Cu) 2.31 0.50 mg/kg 12-NOV-19 12-NOV-19 Iron (Fe) 50 mg/kg 12-NOV-19 12-NOV-19	R4906529
Cobalt (Co) 2.31 0.10 mg/kg 12-NOV-19 12-NOV-19 Copper (Cu) 2.31 0.50 mg/kg 12-NOV-19 12-NOV-19 Iron (Fe) 5450 50 mg/kg 12-NOV-19 12-NOV-19	
Copper (Cu) 2.31 0.50 mg/kg 12-NOV-19 12-NOV-19 Iron (Fe) 5450 50 mg/kg 12-NOV-19 12-NOV-19	R4906529
Iron (Fe) 5450 50 mg/kg 12-NOV-19 12-NOV-19	
Lead (Pb) 2.26 0.50 mg/kg 12-NOV-19 12-NOV-19	R4906529
	R4906529
Lithium (Li) 2.1 2.0 mg/kg 12-NOV-19 12-NOV-19	R4906529
Magnesium (Mg) 3440 20 mg/kg 12-NOV-19 12-NOV-19	R4906529
Manganese (Mn) 235 1.0 mg/kg 12-NOV-19 12-NOV-19	R4906529
Molybdenum (Mo) 0.21 0.10 mg/kg 12-NOV-19 12-NOV-19 Nickel (Ni) 5.41 0.50 mg/kg 12-NOV-19 12-NOV-19	R4906529 R4906529
Phosphorus (P) 347 50 mg/kg 12-NOV-19 12-NOV-19 Potassium (K) 250 100 mg/kg 12-NOV-19 12-NOV-19	R4906529 R4906529
Potassium (K) 250 100 mg/kg 12-NOV-19 12-NOV-19 Selenium (Se) <0.20 0.20 mg/kg 12-NOV-19 12-NOV-19	R4906529
	R4906529
Silver (Ag) <0.10 mg/kg 12-NOV-19 12-NOV-19 Sodium (Na) <50	R4906529
	R4906529
	R4906529
Sulfur (S) <1000 mg/kg 12-NOV-19 12-NOV-19 Thallium (TI) <0.050	R4906529
	R4906529
Titanium (Ti) <2.0	R4906529
Tungsten (W) <0.50 0.50 mg/kg 12-NOV-19 12-NOV-19	104800028
Uranium (U) 0.496 0.050 mg/kg 12-NOV-19 12-NOV-19	R4006520
Vanadium (V) 9.27 0.20 mg/kg 12-NOV-19 12-NOV-19	
Zinc (Zn) 12.5 2.0 mg/kg 12-NOV-19 12-NOV-19	R4906529
Zirconium (Zr) <1.0 1.0 mg/kg 12-NOV-19 12-NOV-19	R4906529 R4906529
Polyaromatic Hydrocarbons (PAHs)	R4906529 R4906529 R4906529
1-Methyl Naphthalene <0.010 0.010 mg/kg 07-NOV-19 14-NOV-19	R4906529 R4906529
2-Methyl Naphthalene <0.010 0.010 mg/kg 07-NOV-19 14-NOV-19	R4906529 R4906529 R4906529 R4906529
	R4906529 R4906529 R4906529



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L2376472-18 D2-03 Sampled By: CLIENT on 31-OCT-19 (@) 14:20 Matrix: SOL Polyaromatic Hydrocarbons (PAHs) Acenaphthylene Acridine Acridine Anthracene Sampled By: Dilyaromatic Hydrocarbons (PAHs) Acenaphthylene Acridine Acridine Anthracene Solution Benzo(a)anthracene Benzo(a)pyrene Benzo(a)pyrene Benzo(a)pyrene Benzo(bijfiluoranthene Q.010 Benzo(bijfiluoranthene Q.010 Diff Dibenzo(a,h,i)perylene Benzo(k)filuoranthene Q.010 Dibenzo(a,h)anthracene <0.010 Dibenzo(a,h)anthracene <0.010 Dibenzo(a,h)anthracene <0.010 Dibenzo(a,h)anthracene <0.010 Q.010 Dibenzo(a,h)anthracene <0.010 Q.010	/-19 R4906809 /-19 R4906809
Sampled By: CLIENT on 31-OCT-19 (g) 14:20 Matrix: SOIL Polyaromatic Hydrocarbons (PAHs) Acenaphthene <0.0050	/-19 R4906809 /-19 R4906809
Matrix: SOIL Polyaromatic Hydrocarbons (PAHs) <0.0050	/-19 R4906809 /-19 R4906809
Polyaromatic Hydrocarbons (PAHs) Acenaphthene <0.0050	/-19 R4906809 /-19 R4906809
Acenaphthene <0.0050 mg/kg 07-NOV-19 14-NO Acenaphthylene <0.0050	/-19 R4906809 /-19 R4906809
Acenaphthylene 0.0050 mg/kg 07-NOV-19 14-NOV Acridine <0.010	/-19 R4906809 /-19 R4906809
Acridine 0.010 mg/kg 07-NOV-19 14-NO Anthracene <0.010	Algo R4906809 /-19 R4906809
Anthracene <0.0050 DLCI 0.0050 mg/kg 07-NOV-19 14-NO Benzo(a)anthracene <0.010	/-19 R4906809
Benzo(a)anthracene 0.000 0.000 mg/kg 07-NOV-19 14-NO Benzo(a)pyrene 0.010 0.010 mg/kg 07-NOV-19 14-NO Benzo(a)pyrene 0.010 0.010 mg/kg 07-NOV-19 14-NO Benzo(b8)jfluoranthene 0.010 mg/kg 07-NOV-19 14-NO Benzo(k, filuoranthene 0.010 0.010 mg/kg 07-NOV-19 14-NO Benzo(k, filuoranthene 0.010 0.010 mg/kg 07-NOV-19 14-NO Chrysene 0.010 0.010 mg/kg 07-NOV-19 14-NO Dibenzo(a,h)anthracene 0.010 0.010 mg/kg 07-NOV-19 14-NO Fluoranthene 0.010 0.010 mg/kg 07-NOV-19 14-NO <	Algo R4906809 /-19 R4906809
Benzo(a)pyrene <0.010 0.010 mg/kg 07-NOV-19 14-NO Benzo(b§)fluoranthene <0.010	/-19 R4906809
Benzo(b,k)/fluoranthene -0.010 0.010 mg/kg 07-NOV-19 14-NO Benzo(g,h,i)perylene 0.017 0.010 mg/kg 07-NOV-19 14-NO Benzo(g,h,i)perylene 0.017 0.010 mg/kg 07-NOV-19 14-NO Benzo(g,h,i)perylene 0.010 0.010 mg/kg 07-NOV-19 14-NO Chrysene <0.010	/-19 R4906809
Benzo(g,h,i)perylene 0.017 0.010 mg/kg 07-NOV-19 14-NO Benzo(k)fluoranthene <0.010	/-19 R4906809 /-19 R4906809 /-19 R4906809 /-19 R4906809 /-19 R4906809 /-19 R4906809 /-19 R4906809
Benzo(k)fluoranthene 0.010 0.010 mg/kg 07-NOV-19 14-NO Chrysene <0.010	/-19 R4906809 /-19 R4906809 /-19 R4906809 /-19 R4906809 /-19 R4906809 /-19 R4906809
Chrysene <0.010 0.010 mg/kg 07-NOV-19 14-NO Dibenzo(a,h)anthracene <0.0050	/-19 R4906809 /-19 R4906809 /-19 R4906809 /-19 R4906809
Dibenzo(a,h)anthracene <0.0050 mg/kg 07-NOV-19 14-NO Fluoranthene <0.010	/-19 R4906809 /-19 R4906809
Fluoranthene <0.010 0.010 mg/kg 07-NOV-19 14-NO Fluorene <0.010	/-19 R4906809
Indeno(1,2,3-cd)pyrene <pre></pre> Indeno(1,2,3-cd)pyrene <0.010 mg/kg 07-NOV-19 14-NO' Naphthalene <0.010 0.010 mg/kg 07-NOV-19 14-NO'	
Naphthalene <0.010 0.010 mg/kg 07-NOV-19 14-NO	1.10
	/-19 R4906809
Phenanthrene < <p> O.010 0.010 mg/kg 07-NOV-19 14-NO</p>	/-19 R4906809
Pyrene 0.018 0.010 mg/kg 07-NOV-19 14-NO	
Quinoline <0.010 0.010 mg/kg 07-NOV-19 14-NO	
B(a)P Total Potency Equivalent <0.020 0.020 mg/kg 07-NOV-19 14-NO	
IACR (CCME) <0.15 0.15 07-NOV-19 14-NO	
Benzo(b+j+k)fluoranthene <0.014 0.014 mg/kg 07-NOV-19 14-NO	
Surrogate: Acenaphthene d10 99.0 60-130 % 07-NOV-19 14-NO	
Surrogate: Chrysene d12 115.7 60-130 % 07-NOV-19 14-NO	
Surrogate: Naphthalene d8 99.5 50-130 % 07-NOV-19 14-NO Surrogate: Phenanthrene d10 114.1 60-130 % 07-NOV-19 14-NO	
	/-19 R4906809
L2376472-19 D1-02M	
Sampled By: CLIENT on 31-OCT-19 @ 14:23	
Matrix: SOIL	
BTEX and F1-F4 by Tumbler Method	
BTX plus F1 by GCMS Benzene <<0.0050 0.0050 ma/kg 31-OCT-19 07-NO	/-19 R4898700
Benzene <0.0050 0.0050 mg/kg 31-OCT-19 07-NO Toluene <0.050	
Ethyl benzene <0.000 mg/kg 31-0C1-19 07-N0	
o-Xylene <0.050 0.050 mg/kg 31-OCT-19 07-NO	
m+p-Xylenes <0.000 0.000 mg/kg 31-0CT-19 07-NO	
F1 (C8-C10) <10 10 mg/kg 31-OCT-19 07-NO	
Surrogate: 4-Bromofluorobenzene (SS) 102.0 70-130 % 31-OCT-19 07-NO	
CCME Total Extractable Hydrocarbons	
F2 (C10-C16) <130 DLM 130 mg/kg 07-NOV-19 10-NO	/-19 R4901116
F3 (C16-C34) 720 DLM 250 mg/kg 07-NOV-19 10-NO	/-19 R4901116
F4 (C34-C50) 480 DLM 250 mg/kg 07-NOV-19 10-NO	/-19 R4901116
Surrogate: 2-Bromobenzotrifluoride 75.7 60-140 % 07-NOV-19 10-NO	/-19 R4901116
Chrom. to baseline at nC50 NO 07-NOV-19 10-NO	/-19 R4901116
CCME Total Hydrocarbons	
F1-BTEX <10 10 mg/kg 25-NO	
F2-Naphth <130 130 mg/kg 25-NO	
F3-PAH 720 250 mg/kg 25-NO Tatal kulturations (C8 CE0) 250 NO	
Total Hydrocarbons (C6-C50) 1200 380 mg/kg 25-NO	-19
Sum of Xylene Isomer Concentrations	/-19
Miscellaneous Parameters	



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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2376472-19 D1-02M							
Sampled By: CLIENT on 31-OCT-19 @ 14:23							
Matrix: SOIL Moisture				%		07-NOV-19	
	10.9		0.10				R4902864
F4G-SG	1550		500	mg/kg		16-NOV-19	R4912268
Metals in Soil by CRC ICPMS Aluminum (Al)	1940		50	malka	12-NOV-19	12-NOV-19	R4906529
Antimony (Sb)	0.12		0.10	mg/kg mg/kg	12-NOV-19	12-NOV-19	R4906529
Arsenic (As)	2.28		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Barium (Ba)	51.3		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Beryllium (Be)	0.14		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Boron (B)	<5.0		5.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Bismuth (Bi)	<0.20		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Cadmium (Cd)	0.086		0.020	mg/kg	12-NOV-19	12-NOV-19	R4906529
Calcium (Ca)	18400		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Chromium (Cr)	5.38		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Cobalt (Co)	2.40		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Copper (Cu)	2.39		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Iron (Fe)	5840		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Lead (Pb)	2.53		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Lithium (Li)	2.1		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Magnesium (Mg)	3800		20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Manganese (Mn)	248		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Molybdenum (Mo)	0.23		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Nickel (Ni)	5.62		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Phosphorus (P)	418		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Potassium (K)	250		100	mg/kg	12-NOV-19	12-NOV-19	R4906529
Selenium (Se)	<0.20 <0.10		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529 R4906529
Silver (Ag) Sodium (Na)	<0.10 60		0.10	mg/kg	12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19	R4906529
Strontium (Sr)	18,1		50 0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Sulfur (S)	<1000		1000	mg/kg mg/kg	12-NOV-19	12-NOV-19	R4906529
Thallium (TI)	<0.050		0.050	mg/kg	12-NOV-18	12-NOV-19	R4906529
Tin (Sn)	<2.0		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Titanium (Ti)	102		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Tungsten (W)	<0.50		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Uranium (U)	0.587		0.050	mg/kg	12-NOV-19	12-NOV-19	R4906529
Vanadium (V)	9.95		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Zinc (Zn)	20.4		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Zirconium (Zr)	1.0		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Polyaromatic Hydrocarbons (PAHs)							
1-Methyl Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
2-Methyl Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthylene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acridine	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Anthracene	<0.0040		0.0040	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)anthracene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)pyrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(b&j)fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(g,h,i)perylene	0.017		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(k)fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809 R4906809
Chrysene Dibenzo(a,h)anthracene	<0.010		0.010	mg/kg	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	
Fluoranthene	<0.0050 <0.010		0.0050	mg/kg mg/kg	07-NOV-19	14-NOV-19	R4906809 R4906809
r iuvidititere	~0.010		0.010	mg/kg	07-100-19	14-1007-18	14900008



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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2376472-19 D1-02M							
Sampled By: CLIENT on 31-OCT-19 @ 14:23							
Polyaromatic Hydrocarbons (PAHs) Fluorene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Indeno(1,2,3-cd)pyrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Phenanthrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Pyrene	0.014		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Quinoline	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
B(a)P Total Potency Equivalent	<0.020		0.020	mg/kg	07-NOV-19	14-NOV-19	R4906809
IACR (CCME)	<0.15		0.15		07-NOV-19	14-NOV-19	R4906809
Benzo(b+j+k)fluoranthene	<0.014		0.014	mg/kg	07-NOV-19	14-NOV-19	R4906809
Surrogate: Acenaphthene d10	99.2		60-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Chrysene d12	114.7		60-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Naphthalene d8	118.4		50-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Phenanthrene d10	102.9		60-130	%	07-NOV-19	14-NOV-19	R4906809
L2376472-22 C1-02							
Sampled By: CLIENT on 31-OCT-19 @ 14:35							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS							
Benzene	<0.0050		0.0050	mg/kg	31-OCT-19	07-NOV-19	R4898700
Toluene	<0.050		0.050	mg/kg	31-OCT-19	07-NOV-19	R4898700
Ethyl benzene	<0.015	(0.015	mg/kg	31-OCT-19	07-NOV-19	R4898700
o-Xylene	<0.050		0.050	mg/kg	31-OCT-19	07-NOV-19	R4898700
m+p-Xylenes	<0.050		0.050	mg/kg	31-OCT-19	07-NOV-19	R4898700
F1 (C8-C10)	<10		10	mg/kg %	31-OCT-19 31-OCT-19	07-NOV-19 07-NOV-19	R4898700
Surrogate: 4-Bromofluorobenzene (SS) CCME Total Extractable Hydrocarbons	107.0		70-130	70	31-001-19	07-NOV-19	R4898700
F2 (C10-C16)	<25		25	mg/kg	07-NOV-19	07-NOV-19	R4901116
F3 (C16-C34)	139		50	mg/kg	07-NOV-19	07-NOV-19	R4901116
F4 (C34-C50)	79		50	mg/kg	07-NOV-19	07-NOV-19	R4901116
Surrogate: 2-Bromobenzotrifluoride	73.9		60-140	%	07-NOV-19	07-NOV-19	R4901116
Chrom. to baseline at nC50	YES				07-NOV-19	07-NOV-19	R4901116
CCME Total Hydrocarbons							
F1-BTEX	<10		10	mg/kg		25-NOV-19	
F2-Naphth	<25		25	mg/kg		25-NOV-19	
F3-PAH	139		50	mg/kg		25-NOV-19	
Total Hydrocarbons (C6-C50)	218		76	mg/kg		25-NOV-19	
Sum of Xylene Isomer Concentrations Xylenes (Total)	<0.071		0.071	mg/kg		25-NOV-19	
Miscellaneous Parameters				•		07 1001 40	-
Moisture	15.7		0.10	%		07-NOV-19	R4902864
Metals in Soil by CRC ICPMS Aluminum (Al)	5840		50	maller	12-NOV-19	12 NOV 10	R4906529
Antimony (Sb)	0.30		0.10	mg/kg mg/kg	12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19	R4906529 R4906529
Arsenic (As)	5.54		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Barium (Ba)	111		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Beryllium (Be)	0.31		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Boron (B)	9.4		5.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Bismuth (Bi)	<0.20		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Cadmium (Cd)	0.255		0.020	mg/kg	12-NOV-19	12-NOV-19	R4906529
Calcium (Ca)	59200		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Chromium (Cr)	11.4		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529



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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2376472-22 C1-02							
Sampled By: CLIENT on 31-OCT-19 @ 14:35							
Matrix: SOIL							
Metals in Soil by CRC ICPMS Cobalt (Co)	4.83		0.10	malka	12-NOV-19	12-NOV-19	R4906529
Copper (Cu)	9.09		0.50	mg/kg mg/kg	12-NOV-19	12-NOV-19	R4906529
Iron (Fe)	11900		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Lead (Pb)	4.98		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Lithium (Li)	8.7		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Magnesium (Mg)	15200		20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Manganese (Mn)	556		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Molybdenum (Mo)	0.67		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Nickel (Ni)	14.0		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Phosphorus (P)	399		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Potassium (K)	850		100	mg/kg	12-NOV-19	12-NOV-19	R4906529
Selenium (Se)	<0.20		0.20	mg/kg	12-NOV-19	18-NOV-19	R4916027
Silver (Ag)	<0.10		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Sodium (Na)	181		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Strontium (Sr)	64.1		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Sulfur (S)	<1000		1000	mg/kg	12-NOV-19	12-NOV-19	R4906529
Thallium (TI)	0.152		0.050	mg/kg	12-NOV-19	12-NOV-19	R4906529
Tin (Sn)	<2.0		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Titanium (Ti)	124		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Tungsten (W)	<0.50		0.50	mg/kg	12-NOV-19 12-NOV-19	12-NOV-19	R4906529
Uranium (U) Vanadium (V)			0.050	mg/kg		12-NOV-19 12-NOV-19	R4906529
Zinc (Zn)	24.8 36.7		0.20	mg/kg	12-NOV-19 12-NOV-19	12-NOV-19	R4906529 R4906529
Zirconium (Zr)	1.8		1.0	mg/kg mg/kg	12-NOV-19	12-NOV-19	R4906529
Polyaromatic Hydrocarbons (PAHs)	1.0		1.0	119/19	12-140 4-18	12-140 4-18	R4800028
1-Methyl Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
2-Methyl Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthylene	< 0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acridine	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Anthracene	<0.0040		0.0040	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)anthracene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)pyrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(b&j)fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(g,h,i)perylene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(k)fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Chrysene Discourse (a b) anthronous	<0.010		0.010	mg/kg	07-NOV-19 07-NOV-19	14-NOV-19	R4906809
Dibenzo(a,h)anthracene	<0.0050		0.0050	mg/kg		14-NOV-19	R4906809
Fluoranthene Fluorene	<0.010		0.010	mg/kg	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	R4906809
Indeno(1,2,3-cd)pyrene	<0.010 <0.010		0.010	mg/kg	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	R4906809 R4906809
Naphthalene	<0.010		0.010	mg/kg	07-NOV-19 07-NOV-19		R4906809 R4906809
Phenanthrene	<0.010		0.010	mg/kg mg/kg	07-NOV-19 07-NOV-19	14-NOV-19	R4906809
Pyrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Quinoline	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
B(a)P Total Potency Equivalent	<0.020		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
IACR (CCME)	<0.15		0.15		07-NOV-19	14-NOV-19	R4906809
Benzo(b+j+k)fluoranthene	<0.014		0.014	mg/kg	07-NOV-19	14-NOV-19	R4906809
Surrogate: Acenaphthene d10	109.6		60-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Chrysene d12	109.6		60-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Naphthalene d8	86.6		50-130	%	07-NOV-19	14-NOV-19	R4906809



ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2376472-22 C1-02							
Sampled By: CLIENT on 31-OCT-19 @ 14:35							
Matrix: SOIL							
Polyaromatic Hydrocarbons (PAHs)							
Surrogate: Phenanthrene d10	112.3		60-130	%	07-NOV-19	14-NOV-19	R4906809
L2376472-23 C1-03M							
Sampled By: CLIENT on 31-OCT-19 @ 14:38							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS							
Benzene	<0.0050		0.0050	mg/kg	31-OCT-19	07-NOV-19	R4898700
Toluene	<0.050		0.050	mg/kg	31-OCT-19	07-NOV-19	R4898700
Ethyl benzene	<0.015		0.015	mg/kg	31-OCT-19	07-NOV-19	R4898700
o-Xylene	< 0.050		0.050	mg/kg	31-OCT-19	07-NOV-19	R4898700
m+p-Xylenes	<0.050 <10		0.050	mg/kg	31-OCT-19 31-OCT-19	07-NOV-19 07-NOV-19	R4898700 R4898700
F1 (C8-C10) Surrogate: 4-Bromofluorobenzene (SS)	<10		10 70-130	mg/kg %	31-OCT-19 31-OCT-19	07-NOV-19 07-NOV-19	R4898700 R4898700
CCME Total Extractable Hydrocarbons	108.7		70-130	/8	31-001-18	01-1004-18	144080700
F2 (C10-C16)	130		130	mg/kg	07-NOV-19	10-NOV-19	R4901116
F3 (C16-C34)	890	DLM	250	mg/kg	07-NOV-19	10-NOV-19	R4901116
F4 (C34-C50)	420	DLM	250	mg/kg	07-NOV-19	10-NOV-19	R4901116
Surrogate: 2-Bromobenzotrifluoride	71.2		60-140	%	07-NOV-19	10-NOV-19	R4901116
Chrom. to baseline at nC50	NO				07-NOV-19	10-NOV-19	R4901116
CCME Total Hydrocarbons							
F1-BTEX	<10	1	10	mg/kg		25-NOV-19	
F2-Naphth	<130		130	mg/kg		25-NOV-19	
F3-PAH	890		250	mg/kg		25-NOV-19	
Total Hydrocarbons (C6-C50)	1440		380	mg/kg		25-NOV-19	
Sum of Xylene Isomer Concentrations			0.074				
Xylenes (Total) Miscellaneous Parameters	<0.071		0.071	mg/kg		25-NOV-19	
Moisture	15.3		0.10	%		07-NOV-19	R4902864
F4G-SG	15.3		500			16-NOV-19	R4902804 R4912268
Metals in Soil by CRC ICPMS	1010		000	mg/kg		10-100-18	R4812200
Aluminum (Al)	6000		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Antimony (Sb)	0.27		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Arsenic (As)	5.27		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Barium (Ba)	103		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Beryllium (Be)	0.28		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Boron (B)	8.0		5.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Bismuth (Bi)	<0.20		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Cadmium (Cd)	0.206		0.020	mg/kg	12-NOV-19	12-NOV-19	R4906529
Calcium (Ca)	38900		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Chromium (Cr)	10.5		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Cobalt (Co)	4.75		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Copper (Cu)	8.53		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Iron (Fe) Lead (Pb)	11100		50 0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Lithium (Li)	5.19 7.2		2.0	mg/kg mg/kg	12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19	R4906529 R4906529
Magnesium (Mg)	11500		2.0	mg/kg	12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19	R4906529 R4906529
Manganese (Mn)	634		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Molybdenum (Mo)	0.57		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Nickel (Ni)	13.7		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Phosphorus (P)	397		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Potassium (K)	790		100	mg/kg	12-NOV-19	12-NOV-19	R4906529



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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2376472-23 C1-03M							
Sampled By: CLIENT on 31-OCT-19 @ 14:38							
Matrix: SOIL							
Metals in Soil by CRC ICPMS							
Selenium (Se)	0.23		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Silver (Ag)	<0.10		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Sodium (Na)	150		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Strontium (Sr)	49.1		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Sulfur (S)	<1000		1000	mg/kg	12-NOV-19	12-NOV-19	R4906529
Thallium (TI)	0.146		0.050	mg/kg	12-NOV-19	12-NOV-19	R4906529
Tin (Sn)	<2.0		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Titanium (Ti)	104		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Tungsten (W)	<0.50		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Uranium (U)	0.929		0.050	mg/kg	12-NOV-19	12-NOV-19	R4906529
Vanadium (V)	22.2		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Zinc (Zn)	42.1		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Zirconium (Zr)	1.6		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Polyaromatic Hydrocarbons (PAHs)					07 1001 10	11.10011.00	
1-Methyl Naphthalene 2-Methyl Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthene	<0.010 <0.0050		0.010	mg/kg	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	R4906809 R4906809
Acenaphthylene	<0.0050		0.0050	mg/kg mg/kg	07-NOV-19	14-NOV-19	R4906809
Acridine	<0.000		0.0000	mg/kg	07-NOV-19	14-NOV-19	R4906809
Anthracene	<0.0040		0.0040	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)anthracene	<0.0040		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)pyrene	<0.010	(0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(b&j)fluoranthene	<0.020	DLCI	0.020	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(g,h,i)pervlene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(k)fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Chrysene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Dibenzo(a,h)anthracene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Fluorene	0.014		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Indeno(1,2,3-cd)pyrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Phenanthrene	0.018		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Pyrene	0.035		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Quinoline	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
B(a)P Total Potency Equivalent IACR (CCME)	<0.020 <0.15		0.020	mg/kg	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	R4906809 R4906809
Benzo(b+i+k)fluoranthene	<0.15		0.15	ma/ka	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	R4906809 R4906809
Surrogate: Acenaphthene d10	98.2		60-130	mg/kg %	07-NOV-19	14-NOV-19	R4906809
Surrogate: Chrysene d12	81.9		60-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Naphthalene d8	105.8		50-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Phenanthrene d10	115.9		60-130	%	07-NOV-19	14-NOV-19	R4906809
L2376472-26 B2-01							
Sampled By: CLIENT on 31-OCT-19 @ 14:52							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS Benzene	<0.0050		0.0050	mg/kg	31-OCT-19	07-NOV-19	R4898700
Toluene	<0.050		0.050	mg/kg	31-OCT-19	07-NOV-19	R4898700
Ethyl benzene	<0.015		0.015	mg/kg	31-OCT-19	07-NOV-19	R4898700
o-Xylene	<0.050		0.050	mg/kg	31-OCT-19	07-NOV-19	R4898700
m+p-Xylenes	<0.050		0.050	mg/kg	31-OCT-19	07-NOV-19	R4898700



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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2376472-26 B2-01							
Sampled By: CLIENT on 31-OCT-19 @ 14:52							
Matrix: SOIL							
BTX plus F1 by GCMS F1 (C8-C10)	<10		10	malka	31-OCT-19	07-NOV-19	R4898700
Surrogate: 4-Bromofluorobenzene (SS)	97.0		70-130	mg/kg %	31-0CT-19	07-NOV-19	R4898700
CCME Total Extractable Hydrocarbons	87.0		70-130	~	31-001-18	0/1000-10	R4080700
F2 (C10-C16)	122		25	ma/ka	07-NOV-19	07-NOV-19	R4901116
F3 (C16-C34)	136		50	mg/kg	07-NOV-19	07-NOV-19	R4901116
F4 (C34-C50)	<50		50	mg/kg	07-NOV-19	07-NOV-19	R4901116
Surrogate: 2-Bromobenzotrifluoride	91.9		60-140	%	07-NOV-19	07-NOV-19	R4901116
Chrom. to baseline at nC50	YES				07-NOV-19	07-NOV-19	R4901116
CCME Total Hydrocarbons							
F1-BTEX	<10		10	mg/kg		25-NOV-19	
F2-Naphth	122		25	mg/kg		25-NOV-19	
F3-PAH	136		50	mg/kg		25-NOV-19	
Total Hydrocarbons (C6-C50)	258		76	mg/kg		25-NOV-19	
Sum of Xylene Isomer Concentrations				-			
Xylenes (Total)	<0.071		0.071	mg/kg		25-NOV-19	
Miscellaneous Parameters							
Moisture	11.9		0.10	%		07-NOV-19	R4902864
Metals in Soil by CRC ICPMS	0.000						-
Aluminum (Al)	2400		50	mg/kg	12-NOV-19 12-NOV-19	12-NOV-19	R4906529
Antimony (Sb)	0.14 3.55		0.10	mg/kg	12-NOV-19	12-NOV-19 12-NOV-19	R4906529 R4906529
Arsenic (As) Barium (Ba)	3.00		0.10	mg/kg	12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19	
Beryllium (Be)	0.14		0.50	mg/kg mg/kg	12-NOV-19	12-NOV-19	R4906529 R4906529
Boron (B)	5.6		5.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Bismuth (Bi)	<0.20		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Cadmium (Cd)	0.127		0.020	mg/kg	12-NOV-19	12-NOV-19	R4906529
Calcium (Ca)	44400		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Chromium (Cr)	6.04		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Cobalt (Co)	2.51		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Copper (Cu)	3.09		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Iron (Fe)	7080		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Lead (Pb)	2.51		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Lithium (Li)	3.9		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Magnesium (Mg)	10100		20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Manganese (Mn)	545		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Molybdenum (Mo)	0.81		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Nickel (Ni)	6.44		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Phosphorus (P)	365		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Potassium (K)	410		100	mg/kg	12-NOV-19	12-NOV-19	R4906529
Selenium (Se)	<0.20		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Silver (Ag)	<0.10		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Sodium (Na) Strontium (Sr)	85		50 0.50	mg/kg		12-NOV-19	R4906529
Sulfur (S)	69.2 <1000		1000	mg/kg	12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19	R4906529 R4906529
Thallium (TI)	0.065		0.050	mg/kg mg/kg	12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19	R4906529 R4906529
Tin (Sn)	<2.0		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529 R4906529
Titanium (Ti)	91.4		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Tungsten (W)	<0.50		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Uranium (U)	0.632		0.050	mg/kg	12-NOV-19	12-NOV-19	R4906529
Vanadium (V)	11.1		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Zinc (Zn)	15.7		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529



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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2376472-26 B2-01							
Sampled By: CLIENT on 31-OCT-19 @ 14:52							
Matrix: SOIL							
Metals in Soil by CRC ICPMS Zirconium (Zr)	<1.0		1.0	mailer	12-NOV-19	12-NOV-19	R4906529
	\$1.0		1.0	mg/kg	12-NOV-19	12-NOV-19	R4900029
Polyaromatic Hydrocarbons (PAHs) 1-Methyl Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
2-Methyl Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthylene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acridine	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Anthracene	<0.0040		0.0040	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)anthracene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)pyrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(b&j)fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(g,h,i)perylene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(k)fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Chrysene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Dibenzo(a,h)anthracene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Fluorene	<0.010		0.010	mg/kg	07-NOV-19 07-NOV-19	14-NOV-19	R4906809
Indeno(1,2,3-cd)pyrene	<0.010 <0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809 R4906809
Naphthalene Phenanthrene	<0.010		0.010	mg/kg	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	R4906809
Pyrene	0.010		0.010	mg/kg mg/kg	07-NOV-19	14-NOV-19	R4906809
Quinoline	<0.015	1	0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
B(a)P Total Potency Equivalent	<0.020		0.020	mg/kg	07-NOV-19	14-NOV-19	R4906809
IACR (CCME)	<0.15		0.15		07-NOV-19	14-NOV-19	R4906809
Benzo(b+i+k)fluoranthene	<0.014		0.014	mg/kg	07-NOV-19	14-NOV-19	R4906809
Surrogate: Acenaphthene d10	88.3		60-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Chrysene d12	110.8		60-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Naphthalene d8	119.2		50-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Phenanthrene d10	110.4		60-130	%	07-NOV-19	14-NOV-19	R4906809
L2376472-27 B2-03M							
Sampled By: CLIENT on 31-OCT-19 @ 14:55							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS							
Benzene	<0.0050		0.0050	mg/kg	31-OCT-19	07-NOV-19	R4898700
Toluene	<0.050		0.050	mg/kg	31-OCT-19	07-NOV-19	R4898700
Ethyl benzene	<0.015		0.015	mg/kg	31-OCT-19	07-NOV-19	R4898700
o-Xylene	<0.050		0.050	mg/kg	31-OCT-19	07-NOV-19	R4898700
m+p-Xylenes	<0.050		0.050	mg/kg	31-OCT-19	07-NOV-19	R4898700
F1 (C8-C10)	<10		10	mg/kg	31-OCT-19	07-NOV-19	R4898700
Surrogate: 4-Bromofluorobenzene (SS)	108.3		70-130	%	31-OCT-19	07-NOV-19	R4898700
CCME Total Extractable Hydrocarbons F2 (C10-C16)	36		25	mg/kg	07-NOV-19	07-NOV-19	R4901116
F3 (C18-C34)	30 55		25 50		07-NOV-19	07-NOV-19	R4901116 R4901116
F4 (C34-C50)	<50		50	mg/kg mg/kg	07-NOV-19	07-NOV-19	R4901116
Surrogate: 2-Bromobenzotrifluoride	88.3		60-140	%	07-NOV-19	07-NOV-19	R4901116
Chrom. to baseline at nC50	YES		00-140	~	07-NOV-19	07-NOV-19	R4901116
CCME Total Hydrocarbons						21 1121 10	
F1-BTEX	<10		10	mg/kg		25-NOV-19	
F2-Naphth	36		25	mg/kg		25-NOV-19	
F3-PAH	55		50	mg/kg		25-NOV-19	
l							



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ALS ENVIRONMENTAL ANALYTICAL REPORT

L237472.27 B2.03M Sampled By: CUENT on 31-OCT-19 (g) 14:55 Matrix: SOIL CCCE Total Hydroxatons Control 0.071 0.071 mg/kg 25-N0V-19 Sumole Systems (Total) <0.071 0.071 mg/kg 25-N0V-19 R400529 Auminum (X) Auminum (X) 0.071 0.071 mg/kg 12-N0V-19 R400529 Antinory (B) 0.14 0.10 mg/kg 12-N0V-19 R400529 Antinory (B) 0.15 0.10 mg/kg 12-N0V-19 R400529 Barium (Ba) 115 0.50 mg/kg 12-N0V-19 R400529 Barium (B) 0.15 0.10 mg/kg 12-N0V-19 R400529 Cachium (Ca) 4.0200 50 mg/kg 12-N0V-19 R400529 Cachium (Ca) 4.0200 50 mg/kg 12-N0V-19 R400529 Cachium (Ca) 4.2200 50 mg/kg 12-N0V-19 R400529 Cachium (Ca) 2.26 0.01 mg/kg <th>Sample Details/Parameters</th> <th>Result</th> <th>Qualifier*</th> <th>D.L.</th> <th>Units</th> <th>Extracted</th> <th>Analyzed</th> <th>Batch</th>	Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
Samplet By: CLENT on S1-OCT-19 (g) 14-55 Marin: SGM CME Total Hydrocarbons C2 76 mg/kg 25-N0V-19 CALE Total Hydrocarbons C2 76 mg/kg 25-N0V-19 Samo of Xylene Somer Concentrations Qu071 Qu071 mg/kg 25-N0V-19 Misseline-cous Parameters Matslin Soil by CRC ICPMS N 0.071 mg/kg 12-N0V-19 R4802864 Antimory (Sb) 0.14 0.10 mg/kg 12-N0V-19 R4802824 Antimory (Sb) 0.14 0.10 mg/kg 12-N0V-19 R4802824 Antimory (Sb) 0.15 0.10 mg/kg 12-N0V-19 R4802824 Bartun (Ba) 115 0.50 mg/kg 12-N0V-19 R4802824 Cadinum (Ca) 0.109 0.20 mg/kg 12-N0V-19 R4802824 Cadinum (Ca) 2.01 1.00 mg/kg 12-N0V-19 R4802824 Cadinum (Ca) 2.02 mg/kg 12-N0V-19 R4802824 Cadinum (Ca) 2	10070170.07							
Matrix SOL Coll Coll Total Hydrocarbons 25-NIOV-19 Sum of Xylens Isome Concentrations Xylens (Tota) <0.071								
CCBE Total Hydrocarbons 92 76 mg/kg 25-NOV-19 Sum of Xylene Isomer Concentrations 20.071 0.071 mg/kg 25-NOV-19 Miscellaneous Parameters 13.4 0.10 % 07-NOV-19 R4002864 Matals in Sol by CRC ICPMS 13.4 0.10 % 07-NOV-19 R4002864 Antimory (Sb) 0.14 0.10 mg/kg 12-NOV-19 12-NOV-19 R4006229 Antimory (Sb) 0.14 0.10 mg/kg 12-NOV-19 12-NOV-19 R4006229 Antimory (Sb) 0.14 0.10 mg/kg 12-NOV-19 R4006229 Barium (Ba) 115 0.50 mg/kg 12-NOV-19 R4006229 Berg (B) 6.5 5.0 mg/kg 12-NOV-19 R4006229 Cadium (Ca) 0.109 0.020 mg/kg 12-NOV-19 R4006229 Cadium (Ca) 2.50 0.10 mg/kg 12-NOV-19 R4006229 Cadium (Ca) 2.50 0.50 mg/kg 12-NOV-19								
Total Hydrocarfons (Co:CSD) 92 76 mg/kg 25-NOV-19 Sum of Xylene Isomer Concentrations Xylenes (Total) 40.071 0.071 mg/kg 25-NOV-19 Miscellaneous Parameters Miciture 13.4 0.10 % 07-NOV-19 R490284 Auminum (A) 2570 50 mg/kg 12-NOV-19 12-NOV-19 R490259 Auminum (A) 319 0.10 mg/kg 12-NOV-19 12-NOV-19 R490259 Arsmin (Ba) 115 0.50 mg/kg 12-NOV-19 12-NOV-19 R490259 Bartim (Ba) 0.15 0.10 mg/kg 12-NOV-19 12-NOV-19 R490259 Born (B) 5.6 5.0 mg/kg 12-NOV-19 12-NOV-19 R490252 Cadium (Ca) -0.20 0.20 mg/kg 12-NOV-19 12-NOV-19 R490252 Cadium (Ca) -0.20 0.20 mg/kg 12-NOV-19 R490252 Cadium (Ca) -0.20 0.20 mg/kg 12-NOV-19 R490252 Cadium								
Sum of Xylene Isome Concentrations L In No. L In No. L L No. L L L No. L L No. L L L No. L <thl< th=""> L L <thl<< td=""><td></td><td></td><td> </td><td></td><td></td><td></td><td></td><td></td></thl<<></thl<>								
Xyteses (Total) Q.0.71 Q.0.71 Mg/gt 25-HOV-19 Miscelfanceus Parameters 13.4 0.10 % 07-HOV-19 R4902884 Metals in Soil by CRC LCPMS - - 07-HOV-19 R4902829 Antinium (A) 2.570 50 mg/kg 12-MOV-19 12-MOV-19 R4906229 Antimory (Sb) 0.14 0.10 mg/kg 12-MOV-19 12-MOV-19 R4906229 Barim (Ba) 115 0.50 mg/kg 12-MOV-19 12-MOV-19 R4906229 Berylium (Be) 0.15 0.10 mg/kg 12-MOV-19 12-MOV-19 R4906229 Bismuth (Bi) <0.20		92		76	mg/kg		25-NOV-19	
Miscellaneous Parameters Local Local <thlocal< th=""> Local Loca</thlocal<>								
Mosture Mature Aluminum (A) 13.4 0.10 % 07-NOV-19 R4902844 Metals in Soil by CRC ICPMS 7 50 mg/kg 12-MOV-16 12-MOV-16 R4906239 Antimum (Sa) 0.14 0.10 mg/kg 12-MOV-16 12-MOV-16 R4006239 Barium (Ba) 115 0.50 mg/kg 12-MOV-19 12-MOV-19 R4006239 Berylium (Be) 0.15 0.10 mg/kg 12-MOV-19 12-MOV-19 R4006239 Boron (B) 5.6 5.0 mg/kg 12-MOV-19 12-MOV-19 R4006230 Calcium (Ca) 0.109 0.020 mg/kg 12-MOV-19 12-MOV-19 R4006230 Calcium (Ca) 0.100 0.100 mg/kg 12-MOV-19 12-MOV-19 R4006230 Cobart (Ca) 2.50 0.10 mg/kg 12-MOV-19 12-MOV-19 R4006230 Cobart (Ca) 2.51 0.50 mg/kg 12-MOV-19 12-MOV-19 R4006230 Calcium (Ca) 2.58 0.50 <td< td=""><td></td><td><0.071</td><td> </td><td>0.071</td><td>mg/kg</td><td></td><td>25-NOV-19</td><td></td></td<>		<0.071		0.071	mg/kg		25-NOV-19	
Metals in Soil by CRC ICPMS International Construction International Construction <t< td=""><td></td><td></td><td> </td><td></td><td></td><td></td><td></td><td></td></t<>								
Aluminum (A) 2570 50 mg/kg 12-NOV-19 R4005239 Barinum (Ba) 0.15 0.10 mg/kg 12-NOV-19 12-NOV-19 12-NOV-19 R400523 Berofilium (Be) 0.15 0.10 mg/kg 12-NOV-19 12-NOV-19 R400523 Caluim (Ca) 0.109 0.020 mg/kg 12-NOV-19 12-NOV-19 R400523 Cabilit (Ca) 2.97 0.50 mg/kg 12-NOV-19 12-NOV-19 R400523 Cobalt (Ca) 2.67 0.50 mg/kg 12-NOV-19 12-NOV-19 R400523 Cobalt (Ca) 2.67 0.50 mg/kg 12-NOV-19 12-NOV-19 R400523 Cobalt (Ca) 2.68 0.50 mg/kg 12-NOV-19 12-NOV-19		13.4		0.10	%		07-NOV-19	R4902864
Antimory (Sb) 0.14 0.10 mg/kg 12-NOV-10 12-NOV-1						40 1001 40	40.0004.40	
Arsenic /Asy 3.70 0.10 mg/m 12.400/-19 12.400/-19 R4008529 Barum (Ba) 115 0.50 mg/m 12.400/-19 12.400/-19 R4008529 Boron (B) 5.6 5.0 mg/m 12.400/-19 12.400/-19 R4008529 Boron (B) 5.6 5.0 mg/m 12.400/-19 R4008529 Cadimim (Cd) 0.109 0.020 mg/m 12.400/-19 R4008529 Cadimim (Ca) 42900 50 mg/m 12.400/-19 R4008529 Cadimim (Ca) 42900 50 mg/m 12.400/-19 R4008529 Cobalt (Co) 2.50 0.10 mg/m 12.400/-19 R4008529 Cobalt (Co) 2.57 0.50 mg/m 12.400/-19 R4008529 Lead (Pb) 2.56 0.50 mg/m 12.400/-19 R4008529 Lead (Pb) 2.56 0.50 mg/m 12.400/-19 R4008529 Maganesium (Ma) 860 1.0 mg/m 12.4								
Barium (Ba) 115 0.50 mg/lg 12.4107-19 12.4007-19 R4605229 Beron (B) 5.6 5.0 mg/lg 12.4107-19 12.4077-19 R460529 Bismuth (B) 5.6 5.0 mg/lg 12.4107-19 12.4077-19 R460529 Cadinium (Cd) 0.109 0.020 mg/lg 12.4107-19 12.4077-19 R460529 Cadinium (Cd) 0.109 0.020 mg/lg 12.4107-19 12.4007-19 R460529 Cadinium (Cd) 0.109 0.020 mg/lg 12.4107-19 12.4007-19 R460529 Cobert (Ca) 2.50 0.10 mg/lg 12.4107-19 R460529 Coper (Cu) 2.97 0.50 mg/lg 12.4107-19 R460529 Lead (Pb) 2.58 0.50 mg/lg 12.4107-19 R460529 Lead (Pb) 2.58 0.50 mg/lg 12.4107-19 R460529 Magnesium (Mg) 9220 20 mg/lg 12.4107-19 R460529 Magna								
Berylium (Be) 0.15 0.10 mg/lg 12-NOV-19 12-NOV-19 R4005229 Bronn (B) 5.6 5.0 mg/lg 12-NOV-19 12-NOV-19 R4005229 Cadium (Cd) 0.109 0.020 mg/lg 12-NOV-19 12-NOV-19 R400529 Cadium (Ca) 42900 50 mg/lg 12-NOV-19 12-NOV-19 R400529 Cadium (Ca) 42900 50 mg/lg 12-NOV-19 R400529 Cobalt (Co) 2.50 0.10 mg/lg 12-NOV-19 R400529 Cobalt (Co) 2.97 0.50 mg/lg 12-NOV-19 R400529 Lead (Pb) 2.58 0.50 mg/lg 12-NOV-19 R400529 Magnesium (Mg) 4.1 2.0 mg/lg 12-NOV-19 R400529 Magnesium (Mb) 0.63 0.10 mg/lg 12-NOV-19 R400529 Magnesium (Mg) 2280 20 mg/lg 12-NOV-19 R400529 Molybdenum (Mo) 0.63 0.10 <t< td=""><td></td><td></td><td> </td><td></td><td></td><td></td><td></td><td></td></t<>								
Boron (B) 56 5.0 mg/kg 12.NUV-19 12.NUV-19 12.NUV-19 R4008229 Cadmium (Cd) 0.109 0.102 mg/kg 12.NUV-19 12.NUV								
Bismuth (B) cl_20 0.20 mg/kg 12-M0V-10 12-M0V-10 R4008529 Cadimum (Cd) 0.109 0.000 mg/kg 12-M0V-10 12-M0V-10 R4008529 Calcium (Ca) 42900 50 mg/kg 12-M0V-19 12-M0V-19 R4008529 Cobalt (Co) 2.50 0.10 mg/kg 12-M0V-19 12-M0V-19 R4008529 Cobalt (Co) 2.97 0.50 mg/kg 12-M0V-19 12-M0V-19 R4008529 Lead (Pb) 2.58 0.50 mg/kg 12-M0V-19 12-M0V-19 R4008529 Lead (Pb) 2.58 0.50 mg/kg 12-M0V-19 12-M0V-19 R4008529 Magnesium (Mg) 62280 20 mg/kg 12-M0V-19 12-M0V-19 R4008529 Magnesium (Mo) 0.63 0.10 mg/kg 12-M0V-19 12-M0V-19 R4008529 Mokel (Nh) 6.41 0.50 mg/kg 12-M0V-19 12-M0V-19 R4008529 Solenum (No) 0.63 0.00								
Cadmium (Cd) 0.109 0.020 mg/kg 12.NDV-19 12.NDV-19 R4908529 Calcium (Ca) 42900 50 mg/kg 12.NDV-19 12.NDV-19 R4908529 Chromium (Cr) 6.24 0.50 mg/kg 12.NDV-19 12.NDV-19 R4908529 Copper (Cu) 2.97 0.50 mg/kg 12.NDV-19 12.NDV-19 R4908529 Lead (Pb) 2.58 0.50 mg/kg 12.NDV-19 12.NDV-19 R4908529 Ladd (Pb) 2.58 0.50 mg/kg 12.NDV-19 12.NDV-19 R4908529 Manganesium (Mg) 9280 20 mg/kg 12.NDV-19 12.NDV-19 R4908529 Malydonum (Mo) 0.63 0.10 mg/kg 12.NDV-19 12.NDV-19 R4908529 Nicklel (Ni) 6.41 0.50 mg/kg 12.NDV-19 12.NDV-19 R4908529 Potassium (K) 430 100 mg/kg 12.NDV-19 12.NDV-19 R4908529 Solium (Na) 74 5 <								
Calcium (Ca) 42900 50 mg/kg 124NOV-19 124NOV-19<								
Chromium (Cr) 6.24 0.50 mg/kg 12-NOV-19 12-NOV-19 R4008529 Cobatt (Co) 2.50 0.10 mg/kg 12-NOV-19 12-NOV-19 R4008529 Copper (Cu) 2.97 0.50 mg/kg 12-NOV-19 12-NOV-19 R4008529 Lead (Pb) 2.58 0.50 mg/kg 12-NOV-19 12-NOV-19 R4008529 Magnessem (Mg) 2280 20 mg/kg 12-NOV-19 12-NOV-19 R4008529 Magnessem (Mo) 0.83 0.10 mg/kg 12-NOV-19 12-NOV-19 R4008529 Nobjdenum (Mo) 0.63 0.10 mg/kg 12-NOV-19 12-NOV-19 R4008529 Nobjdenum (Mo) 0.63 0.10 mg/kg 12-NOV-19 12-NOV-19 R4008529 Nobjdenum (Mo) 0.63 0.10 mg/kg 12-NOV-19 12-NOV-19 R4008529 Solum (Na) 6.41 0.50 mg/kg 12-NOV-19 12-NOV-19 R4008529 Solum (K) 430 100								
Cobait (Co) 2.50 0.10 mg/kg 12-NOV-19 12-NOV-19 R4906529 Copper (Cu) 2.97 0.50 mg/kg 12-NOV-19 12-NOV-19 R4906529 Lead (Pb) 2.58 0.50 mg/kg 12-NOV-19 12-NOV-19 R4906529 Lithium (Li) 4.1 2.0 mg/kg 12-NOV-19 12-NOV-19 R4906529 Magnesium (Mg) 9280 20 mg/kg 12-NOV-19 12-NOV-19 R4906529 Magnesium (Mo) 0.63 0.10 mg/kg 12-NOV-19 12-NOV-19 R4906529 Molybdenum (Mo) 0.63 0.10 mg/kg 12-NOV-19 R4906529 Phosphorus (P) 353 50 mg/kg 12-NOV-19 R4906529 Selenium (Se) <0.20								
Copper (Cu) 2.07 0.50 mg/kg 12-NOV-19 12-NOV-19 R4008529 Lead (Pb) 2.58 0.50 mg/kg 12-NOV-19 12-NOV-19 R4008529 Lithium (L) 4.1 2.0 mg/kg 12-NOV-19 12-NOV-19 R4008529 Maganesim (Mg) 9280 20 mg/kg 12-NOV-19 12-NOV-19 R4008529 Maganesim (Mg) 9280 20 mg/kg 12-NOV-19 12-NOV-19 R4008529 Maganesim (Mo) 0.63 0.10 mg/kg 12-NOV-19 12-NOV-19 R4908529 Nickel (Ni) 6.41 0.50 mg/kg 12-NOV-19 12-NOV-19 R4908529 Potassium (K) 430 100 mg/kg 12-NOV-19 12-NOV-19 R4908529 Solum (Na) 74 50 mg/kg 12-NOV-19 R4908529 Solum (Na) 71.5 0.50 mg/kg 12-NOV-19 R4908529 Solum (Na) 74 50 mg/kg 12-NOV-19 R4908529								
Iron (Fe) 7180 50 mg/kg 12-NOV-19 12-NOV-19 R4808529 Lead (Pb) 2.58 0.50 mg/kg 12-NOV-19 12-NOV-19 R4808529 Magnesium (Mg) 9280 20 mg/kg 12-NOV-19 12-NOV-19 R4808529 Magnesium (Mg) 9280 20 mg/kg 12-NOV-19 R4908529 Molydeinum (Mo) 0.63 0.10 mg/kg 12-NOV-19 12-NOV-19 R4908529 Nickel (Ni) 6.41 0.50 mg/kg 12-NOV-19 12-NOV-19 R4908529 Phosphorus (P) 383 50 mg/kg 12-NOV-19 12-NOV-19 R4908529 Selenium (Se) <0.20								
Lead (Pb) 2.58 0.50 mg/kg 12-NOV-19 12-NOV-19 R4008529 Lithium (L) 4.1 2.0 mg/kg 12-NOV-19 12-NOV-19 R4008529 Magnesium (Mg) 02800 20 mg/kg 12-NOV-19 R4008529 Magnesium (Mg) 0280 20 mg/kg 12-NOV-19 R4008529 Molybdenum (Mo) 0.63 0.10 mg/kg 12-NOV-19 R4008529 Nickel (Ni) 6.41 0.50 mg/kg 12-NOV-19 R4008529 Ptassium (K) 430 100 mg/kg 12-NOV-19 R4008529 Selenium (Se) -0.20 0.20 mg/kg 12-NOV-19 R4008529 Sodium (Na) 74 50 mg/kg 12-NOV-19 R4008529 Sodium (Na) 71.5 0.50 mg/kg 12-NOV-19 R4008529 Sodium (Na) 71.5 0.50 mg/kg 12-NOV-19 R4008529 Sodium (Na) 71.5 0.50 mg/kg 12-NOV-19 <								
Lithium (Li) 4.1 2.0 mg/kg 12-NOV-19 R4808529 Magnesium (Mg) 9280 20 mg/kg 12-NOV-19 12-NOV-19 R4808529 Manganese (Mn) 360 1.0 mg/kg 12-NOV-19 12-NOV-19 R4808529 Molybdenum (Mo) 0.63 0.10 mg/kg 12-NOV-19 12-NOV-19 R4808529 Nickel (Ni) 6.41 0.50 mg/kg 12-NOV-19 12-NOV-19 R4808529 Phosphorus (P) 353 50 mg/kg 12-NOV-19 12-NOV-19 R4908529 Selenium (Se) <0.20								
Magnesium (Mg) 9280 20 mg/kg 12-NOV-19 12-NOV-19 R4908529 Manganese (Mn) 380 1.0 mg/kg 12-NOV-19 12-NOV-19 R4908529 Molybdenum (Mo) 0.83 0.10 mg/kg 12-NOV-19 12-NOV-19 R4908529 Phosphorus (P) 353 50 mg/kg 12-NOV-19 12-NOV-19 R4908529 Potassium (K) 430 100 mg/kg 12-NOV-19 12-NOV-19 R4908529 Silver (Ag) <0.20								
Manganese (Mn) 360 1.0 mg/kg 12-NOV-19 12-NOV-19 R4908529 Molybdenum (Mo) 0.63 0.10 mg/kg 12-NOV-19 12-NOV-19 R4908529 Nickel (Ni) 6.41 0.50 mg/kg 12-NOV-19 12-NOV-19 R4908529 Phosphorus (P) 353 50 mg/kg 12-NOV-19 12-NOV-19 R4908529 Potassium (K) 430 100 mg/kg 12-NOV-19 R4908529 Selenium (Se) <0.20			(
Molybdenum (Mo) 0.63 0.10 mg/kg 12-NOV-19 12-NOV-19 R4908529 Nickel (Ni) 6.41 0.50 mg/kg 12-NOV-19 12-NOV-19 R4908529 Phosphorus (P) 353 50 mg/kg 12-NOV-19 12-NOV-19 R4908529 Potassium (K) 430 100 mg/kg 12-NOV-19 12-NOV-19 R4908529 Selenium (Se) <0.20								
Nickel (Ni) 6.41 0.50 mg/kg 12-NOV-19 R4906529 Phosphorus (P) 353 50 mg/kg 12-NOV-19 12-NOV-19 R4906529 Potassium (K) 430 100 mg/kg 12-NOV-19 12-NOV-19 R4906529 Selenium (Se) -0.20 0.20 mg/kg 12-NOV-19 R4906529 Silver (Ag) <0.10								
Phospharus (P) 353 50 mg/kg 12-NOV-19 R4906529 Potassium (K) 430 100 mg/kg 12-NOV-19 R4906529 Selenium (Se) <0.20		6.41		0.50		12-NOV-19	12-NOV-19	R4906529
Potassium (K) 430 100 mg/kg 12-NOV-19 R4908529 Selenium (Se) <0.20	Phosphorus (P)	353		50		12-NOV-19	12-NOV-19	R4906529
Silver (Ag) -0.10 0.10 mg/kg 12-NOV-19 12-NOV-19 R4908529 Sodium (Na) 74 50 mg/kg 12-NOV-19 12-NOV-19 R4908529 Strontium (Sr) 71.5 0.50 mg/kg 12-NOV-19 12-NOV-19 R4908529 Sulfur (S) <1000	Potassium (K)	430		100	mg/kg	12-NOV-19	12-NOV-19	R4906529
Sodium (Na) 74 50 mg/kg 12-NOV-19 12-NOV-19 R4908529 Strontium (Sr) 71.5 0.50 mg/kg 12-NOV-19 12-NOV-19 R4908529 Sulfur (S) <1000	Selenium (Se)	<0.20		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Strontium (Sr) 71.5 0.50 mg/kg 12-NOV-19 R4908529 Sulfur (S) <1000	Silver (Ag)	<0.10		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Sulfur (S) <1000 mg/kg 12-NOV-19 12-NOV-19 R4908529 Thallium (TI) 0.062 0.050 mg/kg 12-NOV-19 12-NOV-19 R4908529 Tin (Sn) <2.0	Sodium (Na)	74		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Thallium (TI) 0.062 0.050 mg/kg 12-NOV-19 12-NOV-19 R4008529 Tin (Sn) <2.0	Strontium (Sr)	71.5		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Tin (Sn) <2.0 2.0 mg/kg 12-NOV-19 12-NOV-19 R4908529 Titanium (Ti) 77.9 1.0 mg/kg 12-NOV-19 12-NOV-19 R4908529 Tungsten (W) <0.50	Sulfur (S)	<1000		1000	mg/kg	12-NOV-19	12-NOV-19	R4906529
Titanium (Ti) 77.9 1.0 mg/kg 12-NOV-19 12-NOV-19 R4908529 Tungsten (W) <0.50	Thallium (TI)			0.050	mg/kg	12-NOV-19	12-NOV-19	R4906529
Tungsten (W) <0.50 mg/kg 12-NOV-19 12-NOV-19 R4908529 Uranium (U) 0.648 0.050 mg/kg 12-NOV-19 12-NOV-19 R4908529 Vanadium (V) 11.7 0.20 mg/kg 12-NOV-19 12-NOV-19 R4908529 Zinc (Zn) 11.7 0.20 mg/kg 12-NOV-19 12-NOV-19 R4908529 Zinconium (Zr) 15.9 2.0 mg/kg 12-NOV-19 12-NOV-19 R4908529 Polyaromatic Hydrocarbons (PAHs) 1.0 mg/kg 07-NOV-19 14-NOV-19 R4908809 2-Methyl Naphthalene <0.010				2.0				R4906529
Uranium (U) 0.648 0.050 mg/kg 12-NOV-19 12-NOV-19 R4908529 Vanadium (V) 11.7 0.20 mg/kg 12-NOV-19 12-NOV-19 R4908529 Zinc (Zn) 15.9 2.0 mg/kg 12-NOV-19 12-NOV-19 R4908529 Zirconium (Zr) <1.0								
Vanadium (V) 11.7 0.20 mg/kg 12-NOV-19 12-NOV-19 R4908529 Zinc (Zn) 15.9 2.0 mg/kg 12-NOV-19 12-NOV-19 R4908529 Zirconium (Zr) <1.0								
Zinc (Zn) 15.9 2.0 mg/kg 12-NOV-19 12-NOV-19 R4908529 Zirconium (Zr) <1.0								
Zirconium (Zr) <1.0 mg/kg 12-NOV-19 12-NOV-19 R4906529 Polyaromatic Hydrocarbons (PAHs) - 0.010 0.010 mg/kg 07-NOV-19 14-NOV-19 R4906809 2-Methyl Naphthalene <0.010								
Polyaromatic Hydrocarbons (PAHs) 0.010 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908809 2-Methyl Naphthalene <0.010								
1-Methyl Naphthalene <0.010 0.010 mg/kg 07-NOV-19 14-NOV-19 R4906809 2-Methyl Naphthalene <0.010		<1.0		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
2-Methyl Naphthalene 0.010 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908809 Acenaphthene 0.0050 0.0050 mg/kg 07-NOV-19 14-NOV-19 R4908809 Acenaphthene 0.0050 mg/kg 07-NOV-19 14-NOV-19 R4908809 Acenaphthylene 0.0050 mg/kg 07-NOV-19 14-NOV-19 R4908809 Acridine 0.010 0.010 mg/kg 07-NOV-19 14-NOV-19 R4906809 Anthracene 0.010 0.010 mg/kg 07-NOV-19 14-NOV-19 R4906809 Benzo(a)anthracene <		-0.010		0.040		07 1001 10	44.0004.40	D.40000000
Acenaphthene <0.0050 mg/kg 07-NOV-19 14-NOV-19 R4908809 Acenaphthylene <0.0050								
Acenaphthylene <0.0050 mg/kg 07-NOV-19 14-NOV-19 R4908809 Acridine <0.010								
Acridine <0.010 0.010 mg/kg 07-NOV-19 14-NOV-19 R4906809 Anthracene <0.0040								
Anthracene <0.0040 mg/kg 07-NOV-19 14-NOV-19 R4908809 Benzo(a)anthracene <0.010								
Benzo(a)anthracene <0.010 0.010 mg/kg 07-NOV-19 14-NOV-19 R4906809 Benzo(a)pyrene <0.010								
Benzo(a)pyrene <0.010 0.010 mg/kg 07-NOV-19 14-NOV-19 R4906809 Benzo(b&j)fluoranthene <0.010								
Benzo(b&j)fluoranthene <0.010 0.010 mg/kg 07-NOV-19 14-NOV-19 R4906809								
	Denzo(8.0,1)perfrence	50.010		0.010		01-110-1-10	1.11001-10	14800008



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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2376472-27 B2-03M							
Matrix: SOIL							
Polyaromatic Hydrocarbons (PAHs) Benzo(k)fluoranthene	<0.010		0.010		07-NOV-19	14-NOV-19	R4906809
Chrysene	<0.010		0.010	mg/kg mg/kg	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	R4906809
Dibenzo(a,h)anthracene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Fluoranthene	<0.000		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Fluorene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Indeno(1,2,3-cd)pyrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Phenanthrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Pyrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Quinoline	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
B(a)P Total Potency Equivalent	<0.020		0.020	mg/kg	07-NOV-19	14-NOV-19	R4906809
IACR (CCME)	<0.15		0.15		07-NOV-19	14-NOV-19	R4906809
Benzo(b+j+k)fluoranthene	<0.014		0.014	mg/kg	07-NOV-19	14-NOV-19	R4906809
Surrogate: Acenaphthene d10	109.8		60-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Chrysene d12	117.8		60-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Naphthalene d8	102.9		50-130	%	07-NOV-19		R4906809
Surrogate: Phenanthrene d10	118.3		60-130	%	07-NOV-19	14-NOV-19	R4906809
L2376472-30 A4-02							
Sampled By: CLIENT on 31-OCT-19 @ 15:11							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS							
Benzene	<0.0050		0.0050	mg/kg	31-OCT-19	07-NOV-19	R4898700
Toluene	<0.050		0.050	mg/kg	31-OCT-19	07-NOV-19	R4898700
Ethyl benzene	<0.015		0.015	mg/kg	31-OCT-19	07-NOV-19	R4898700
o-Xylene	<0.050		0.050	mg/kg	31-OCT-19	07-NOV-19	R4898700
m+p-Xylenes	<0.050		0.050	mg/kg	31-OCT-19 31-OCT-19	07-NOV-19 07-NOV-19	R4898700
F1 (C8-C10)	<10 110.0		10 70-130	mg/kg %	31-0CT-19 31-0CT-19	07-NOV-19	R4898700 R4898700
Surrogate: 4-Bromofluorobenzene (SS) CCME Total Extractable Hydrocarbons	110.0		70-130	70	31-001-19	07-NOV-19	R4696700
F2 (C10-C16)	98		25	mg/kg	07-NOV-19	10-NOV-19	R4901116
F3 (C16-C34)	611		50	mg/kg	07-NOV-19	10-NOV-19	R4901116
F4 (C34-C50)	314		50	mg/kg	07-NOV-19	10-NOV-19	R4901116
Surrogate: 2-Bromobenzotrifluoride	79.4		60-140	%	07-NOV-19	10-NOV-19	R4901116
Chrom. to baseline at nC50	NO				07-NOV-19	10-NOV-19	R4901116
CCME Total Hydrocarbons							
F1-BTEX	<10		10	mg/kg		25-NOV-19	
F2-Naphth	98		25	mg/kg		25-NOV-19	
F3-PAH	611		50	mg/kg		25-NOV-19	
Total Hydrocarbons (C6-C50)	1020		76	mg/kg		25-NOV-19	
Sum of Xylene Isomer Concentrations				-		05 10011 45	
Xylenes (Total)	<0.071		0.071	mg/kg		25-NOV-19	
Miscellaneous Parameters							-
Moisture	17.9		0.10	%		07-NOV-19	R4902864
F4G-SG	1140		500	mg/kg		16-NOV-19	R4912268
Metals in Soil by CRC ICPMS	7010		50		12 101/ 10	12 101/10	04008500
Aluminum (Al)	7010		50	mg/kg	12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19	R4906529
Antimony (Sb) Arsenic (As)	0.41 5.87		0.10	mg/kg	12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19	R4906529 R4906529
Barium (Ba)	122		0.10	mg/kg mg/kg	12-NOV-19 12-NOV-19	12-NOV-19	R4906529 R4906529
Beryllium (Be)	0.35		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
	0.00		0.10				111000020



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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2376472-30 A4-02							
Sampled By: CLIENT on 31-OCT-19 @ 15:11							
Matrix: SOIL							
Metals in Soil by CRC ICPMS							
Boron (B)	9.0		5.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Bismuth (Bi)	<0.20		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Cadmium (Cd)	0.302		0.020	mg/kg	12-NOV-19	12-NOV-19	R4906529
Calcium (Ca)	62500		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Chromium (Cr)	12.4		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Cobalt (Co) Copper (Cu)	5.69		0.10	mg/kg	12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19	R4906529
Iron (Fe)	11.9 13400		0.50 50	mg/kg	12-NOV-19	12-NOV-19	R4906529 R4906529
Lead (Pb)	5.68			mg/kg	12-NOV-19 12-NOV-19	12-NOV-19 12-NOV-19	
Lithium (Li)	9.1		0.50 2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529 R4906529
Magnesium (Mg)	18700		2.0	mg/kg mg/kg	12-NOV-19	12-NOV-19	R4906529
Magaese (Mn)	694		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Molybdenum (Mo)	1.21		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Nickel (Ni)	16.2		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Phosphorus (P)	496		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Potassium (K)	910		100	mg/kg	12-NOV-19	12-NOV-19	R4906529
Selenium (Se)	<0.20		0.20	mg/kg	12-NOV-19	18-NOV-19	R4916027
Silver (Ag)	<0.10		0.10	mg/kg	12-NOV-19	12-NOV-19	R4906529
Sodium (Na)	228		50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Strontium (Sr)	70.3		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Sulfur (S)	<1000		1000	mg/kg	12-NOV-19	12-NOV-19	R4906529
Thallium (TI)	0.189		0.050	mg/kg	12-NOV-19	12-NOV-19	R4906529
Tin (Sn)	<2.0		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Titanium (Ti)	90.3		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Tungsten (W)	<0.50		0.50	mg/kg	12-NOV-19	12-NOV-19	R4906529
Uranium (U)	1.46		0.050	mg/kg	12-NOV-19	12-NOV-19	R4906529
Vanadium (V)	26.8		0.20	mg/kg	12-NOV-19	12-NOV-19	R4906529
Zinc (Zn)	38.5		2.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Zirconium (Zr)	3.3		1.0	mg/kg	12-NOV-19	12-NOV-19	R4906529
Polyaromatic Hydrocarbons (PAHs)							
1-Methyl Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
2-Methyl Naphthalene Acenaphthene	<0.010		0.010	mg/kg	07-NOV-19 07-NOV-19	14-NOV-19	R4906809
	<0.0050 <0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19 14-NOV-19	R4906809 R4906809
Acenaphthylene Acridine	<0.000		0.0000	mg/kg mg/kg	07-NOV-19	14-NOV-19	R4906809
Anthracene	<0.010		0.0040	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)anthracene	<0.0040		0.0040	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)pyrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(b&i)fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(g,h,i)perylene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(k)fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Chrysene	<0.010		0.010	mg/kg		14-NOV-19	R4906809
Dibenzo(a,h)anthracene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Fluoranthene	<0.010		0.010	mg/kg	07-NOV-19		R4906809
Fluorene	<0.010		0.010	mg/kg	07-NOV-19		R4906809
Indeno(1,2,3-cd)pyrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Phenanthrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Pyrene	0.023		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Quinoline	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
B(a)P Total Potency Equivalent	<0.020		0.020	mg/kg	07-NOV-19	14-NOV-19	R4906809
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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2376472-30 A4-02							
Sampled By: CLIENT on 31-OCT-19 @ 15:11							
Matrix: SOIL							
Polyaromatic Hydrocarbons (PAHs)	<0.15		0.15		07-NOV-19	14-NOV-19	R4906809
IACR (CCME) Benzo(b+i+k)fluoranthene	<0.15		0.15	ma/kg	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	R4906809
Surrogate: Acenaphthene d10	110.6		60-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Chrysene d12	108.2		60-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Naphthalene d8	108.2		50-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Phenanthrene d10	120.2		60-130	×.	07-NOV-19	14-NOV-19	R4906809
L2376472-31 A8-04							
Sampled By: CLIENT on 31-OCT-19 @ 15:16							
Matrix: SOIL RTEX and E4 E4 by Tumbler Method							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS Benzene	<0.0050		0.0050	mg/kg	31-OCT-19	07-NOV-19	R4898700
Toluene	<0.050		0.050	mg/kg	31-OCT-19	07-NOV-19	R4898700
Ethyl benzene	<0.030		0.015	mg/kg	31-OCT-19	07-NOV-19	R4898700
o-Xvlene	<0.050		0.050	mg/kg	31-OCT-19	07-NOV-19	R4898700
m+p-Xylenes	<0.050		0.050	mg/kg	31-OCT-19	07-NOV-19	R4898700
F1 (C8-C10)	<10		10	mg/kg	31-OCT-19	07-NOV-19	R4898700
Surrogate: 4-Bromofluorobenzene (SS)	117.4		70-130	%	31-OCT-19	07-NOV-19	R4898700
CCME Total Extractable Hydrocarbons							
F2 (C10-C16)	<130	DLM	130	mg/kg	07-NOV-19	09-NOV-19	R4901116
F3 (C16-C34)	690	DLM	250	mg/kg	07-NOV-19	09-NOV-19	R4901116
F4 (C34-C50)	380	DLM	250	mg/kg	07-NOV-19	09-NOV-19	R4901116
Surrogate: 2-Bromobenzotrifluoride	85.9		60-140	%	07-NOV-19	09-NOV-19	R4901116
Chrom. to baseline at nC50	NO				07-NOV-19	09-NOV-19	R4901116
CCME Total Hydrocarbons F1-BTEX						25-NOV-19	
	<10 <130		10	mg/kg			
F2-Naphth F3-PAH	<130		130 250	mg/kg mg/kg		25-NOV-19 25-NOV-19	
Total Hydrocarbons (C6-C50)	1070		250 380	mg/kg		25-NOV-19	
Sum of Xylene Isomer Concentrations	10/0		300	mg/kg		20-100-18	
Xylenes (Total)	<0.071		0.071	mg/kg		25-NOV-19	
Miscellaneous Parameters						201101 10	
Moisture	14.3		0.10	%		07-NOV-19	R4902864
F4G-SG	1770		500	mg/kg		16-NOV-19	R4912268
Metals in Soil by CRC ICPMS							
Aluminum (Al)	7290		50	mg/kg	13-NOV-19	14-NOV-19	R4907389
Antimony (Sb)	0.40		0.10	mg/kg	13-NOV-19	14-NOV-19	R4907389
Arsenic (As)	6.33		0.10	mg/kg	13-NOV-19	14-NOV-19	R4907389
Barium (Ba)	133		0.50	mg/kg	13-NOV-19	14-NOV-19	R4907389
Beryllium (Be)	0.35		0.10	mg/kg	13-NOV-19	14-NOV-19	R4907389
Boron (B)	9.2		5.0	mg/kg	13-NOV-19	14-NOV-19	R4907389
Bismuth (Bi)	<0.20		0.20	mg/kg	13-NOV-19	14-NOV-19	R4907389
Cadmium (Cd)	0.294		0.020	mg/kg	13-NOV-19	14-NOV-19	R4907389
Calcium (Ca)	47700		50	mg/kg	13-NOV-19	14-NOV-19	R4907389
Chromium (Cr)	13.2		0.50	mg/kg	13-NOV-19	14-NOV-19	R4907389
Cobalt (Co)	6.00		0.10	mg/kg	13-NOV-19	14-NOV-19	R4907389
Copper (Cu)	11.4		0.50	mg/kg	13-NOV-19	14-NOV-19	R4907389
Iron (Fe) Lead (Pb)	12800		50	mg/kg	13-NOV-19 13-NOV-19	14-NOV-19	R4907389
Lead (PD) Lithium (Li)	5.85 9.4		0.50 2.0	mg/kg	13-NOV-19 13-NOV-19	14-NOV-19 14-NOV-19	R4907389 R4907389
Magnesium (Mg)	15500		2.0	mg/kg mg/kg	13-NOV-19 13-NOV-19	14-NOV-19 14-NOV-19	R4907389 R4907389
(mg)	10000		20	9.49	101101010	11100-10	144607 308



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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2376472-31 A8-04							
Sampled By: CLIENT on 31-OCT-19 @ 15:16							
Matrix: SOIL							
Metals in Soil by CRC ICPMS							
Manganese (Mn)	665		1.0	mg/kg	13-NOV-19	14-NOV-19	R4907389
Molybdenum (Mo)	1.14		0.10	mg/kg	13-NOV-19	14-NOV-19	R4907389
Nickel (Ni)	17.3		0.50	mg/kg	13-NOV-19	14-NOV-19	R4907389
Phosphorus (P) Potassium (K)	479 1000		50 100	mg/kg	13-NOV-19 13-NOV-19	14-NOV-19 14-NOV-19	R4907389 R4907389
Selenium (Se)	0.21		0.20	mg/kg mg/kg	13-NOV-19 13-NOV-19	14-NOV-19 14-NOV-19	R4907389 R4907389
Silver (Aq)	<0.10		0.20	mg/kg	13-NOV-19	14-NOV-19	R4907389
Sodium (Na)	165		50	mg/kg	13-NOV-19	14-NOV-19	R4907389
Strontium (Sr)	57.0		0.50	mg/kg	13-NOV-19	14-NOV-19	R4907389
Sulfur (S)	<1000		1000	mg/kg	13-NOV-19	14-NOV-19	R4907389
Thallium (TI)	0.208		0.050	mg/kg	13-NOV-19	14-NOV-19	R4907389
Tin (Sn)	<2.0		2.0	mg/kg	13-NOV-19	14-NOV-19	R4907389
Titanium (Ti)	116		1.0	mg/kg	13-NOV-19	14-NOV-19	R4907389
Tungsten (W)	<0.50		0.50	mg/kg	13-NOV-19	14-NOV-19	R4907389
Uranium (U)	1.66		0.050	mg/kg	13-NOV-19	14-NOV-19	R4907389
Vanadium (V)	28.7		0.20	mg/kg	13-NOV-19	14-NOV-19	R4907389
Zinc (Zn)	37.9		2.0	mg/kg	13-NOV-19	14-NOV-19	R4907389
Zirconium (Zr)	4.3		1.0	mg/kg	13-NOV-19	14-NOV-19	R4907389
Polyaromatic Hydrocarbons (PAHs)							
1-Methyl Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
2-Methyl Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthene	<0.0050		0.0050	mg/kg	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	R4906809
Acenaphthylene Acridine	<0.0050 <0.010		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809 R4906809
Anthracene	<0.010		0.0040	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)anthracene	<0.0040		0.0040	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)pyrene	<0.010		0.010	mg/kg mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(b&i)fluoranthene	<0.010	DLCI	0.020	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(g,h,i)perylene	0.013		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(k)fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Chrysene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Dibenzo(a,h)anthracene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Fluorene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Indeno(1,2,3-cd)pyrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Phenanthrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Pyrene	0.018		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Quinoline	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
B(a)P Total Potency Equivalent	<0.020		0.020	mg/kg	07-NOV-19	14-NOV-19	R4906809
IACR (CCME)	<0.15		0.15		07-NOV-19	14-NOV-19	R4906809
Benzo(b+j+k)fluoranthene	<0.014		0.014	mg/kg		14-NOV-19 14-NOV-19	R4906809
Surrogate: Acenaphthene d10 Surrogate: Chrysene d12	108.6		60-130 60-130	%	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	R4906809
Surrogate: Chrysene d12 Surrogate: Naphthalene d8	119.0		60-130 50-130	%	07-NOV-19 07-NOV-19	14-NOV-19 14-NOV-19	R4906809 R4906809
Surrogate: Phenanthrene d10	117.3 117.6		50-130 60-130	%	07-NOV-19	14-NOV-19	R4906809 R4906809
	117.0		00-130	/0	01-140-18	14-1VOV-18	144800008
L2376472-32 A5-02M							
Sampled By: CLIENT on 31-OCT-19 @ 15:23							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS							



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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
10070470 00 45 0014							
L2376472-32 A5-02M							
Sampled By: CLIENT on 31-OCT-19 @ 15:23							
Matrix: SOIL							
BTX plus F1 by GCMS Benzene	<0.0050		0.0050		31-OCT-19	07-NOV-19	R4898700
Toluene	<0.000		0.0050	mg/kg mg/kg	31-0CT-19 31-0CT-19	07-NOV-19 07-NOV-19	R4898700 R4898700
Ethyl benzene	<0.050		0.050	mg/kg	31-OCT-19	07-NOV-19	R4898700
o-Xylene	<0.013		0.015	mg/kg	31-OCT-19	07-NOV-19	R4898700
m+p-Xylenes	<0.050		0.050	mg/kg	31-OCT-19	07-NOV-19	R4898700
F1 (C8-C10)	<10		10	mg/kg	31-OCT-19	07-NOV-19	R4898700
Surrogate: 4-Bromofluorobenzene (SS)	117.8		70-130	%	31-OCT-19	07-NOV-19	R4898700
CCME Total Extractable Hydrocarbons							
F2 (C10-C16)	120		25	mg/kg	07-NOV-19	10-NOV-19	R4901116
F3 (C16-C34)	692		50	mg/kg	07-NOV-19	10-NOV-19	R4901116
F4 (C34-C50)	354		50	mg/kg	07-NOV-19	10-NOV-19	R4901116
Surrogate: 2-Bromobenzotrifluoride	76.6		60-140	%	07-NOV-19	10-NOV-19	R4901116
Chrom. to baseline at nC50	NO				07-NOV-19	10-NOV-19	R4901116
CCME Total Hydrocarbons			15	-		05 10011 10	
F1-BTEX	<10		10	mg/kg		25-NOV-19	
F2-Naphth F3-PAH	120		25	mg/kg		25-NOV-19 25-NOV-19	
Total Hydrocarbons (C8-C50)	692 1170		50 76	mg/kg		25-NOV-19	
Sum of Xylene Isomer Concentrations	11/0		10	mg/kg		20-100-18	
Xylenes (Total)	<0.071		0.071	mg/kg		25-NOV-19	
Miscellaneous Parameters			0.071			201101 10	
Moisture	22.0	1	0.10	%		07-NOV-19	R4902864
F4G-SG	1050		500	mg/kg		16-NOV-19	R4912268
Metals in Soil by CRC ICPMS	1000		000				141012200
Aluminum (Al)	8300		50	mg/kg	13-NOV-19	14-NOV-19	R4907389
Antimony (Sb)	0.39		0.10	mg/kg	13-NOV-19	14-NOV-19	R4907389
Arsenic (As)	5.93		0.10	mg/kg	13-NOV-19	14-NOV-19	R4907389
Barium (Ba)	125		0.50	mg/kg	13-NOV-19	14-NOV-19	R4907389
Beryllium (Be)	0.39		0.10	mg/kg	13-NOV-19	14-NOV-19	R4907389
Boron (B)	10.6		5.0	mg/kg	13-NOV-19	14-NOV-19	R4907389
Bismuth (Bi)	<0.20		0.20	mg/kg	13-NOV-19	14-NOV-19	R4907389
Cadmium (Cd)	0.297		0.020	mg/kg	13-NOV-19	14-NOV-19	R4907389
Calcium (Ca)	50800		50	mg/kg	13-NOV-19	14-NOV-19	R4907389
Chromium (Cr) Cobalt (Co)	15.8		0.50	mg/kg	13-NOV-19 13-NOV-19	14-NOV-19 14-NOV-19	R4907389
Copper (Cu)	6.29 11.6		0.10	mg/kg	13-NOV-19	14-NOV-19	R4907389 R4907389
Iron (Fe)	13300		50	mg/kg mg/kg	13-NOV-19	14-NOV-19	R4907389
Lead (Pb)	6.03		0.50	mg/kg	13-NOV-19	14-NOV-19	R4907389
Lithium (Li)	11.0		2.0	mg/kg	13-NOV-19	14-NOV-19	R4907389
Magnesium (Mg)	15900		20	mg/kg	13-NOV-19	14-NOV-19	R4907389
Manganese (Mn)	575		1.0	mg/kg	13-NOV-19	14-NOV-19	R4907389
Molybdenum (Mo)	1.09		0.10	mg/kg	13-NOV-19	14-NOV-19	R4907389
Nickel (Ni)	18.5		0.50	mg/kg	13-NOV-19	14-NOV-19	R4907389
Phosphorus (P)	464		50	mg/kg	13-NOV-19	14-NOV-19	R4907389
Potassium (K)	1160		100	mg/kg	13-NOV-19	14-NOV-19	R4907389
Selenium (Se)	<0.20		0.20	mg/kg	13-NOV-19	14-NOV-19	R4907389
Silver (Ag)	<0.10		0.10	mg/kg	13-NOV-19	14-NOV-19	R4907389
Sodium (Na)	173		50	mg/kg	13-NOV-19	14-NOV-19	R4907389
Strontium (Sr)	60.2		0.50	mg/kg	13-NOV-19	14-NOV-19	R4907389
Sulfur (S)	<1000		1000	mg/kg	13-NOV-19	14-NOV-19	R4907389
Thallium (TI)	0.211		0.050	mg/kg	13-NOV-19	14-NOV-19	R4907389



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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2376472-32 A5-02M							
Sampled By: CLIENT on 31-OCT-19 @ 15:23							
Matrix: SOIL							
Metals in Soil by CRC ICPMS Tin (Sn)	<2.0		2.0	mg/kg	13-NOV-19	14-NOV-19	R4907389
Titanium (Ti)	145		1.0	mg/kg	13-NOV-19	14-NOV-19	R4907389
Tungsten (W)	<0.50		0.50	mg/kg	13-NOV-19	14-NOV-19	R4907389
Uranium (U)	1.47		0.050	mg/kg	13-NOV-19	14-NOV-19	R4907389
Vanadium (V)	33.0		0.20	mg/kg	13-NOV-19	14-NOV-19	R4907389
Zinc (Zn)	40.8		2.0	mg/kg	13-NOV-19	14-NOV-19	R4907389
Zirconium (Zr)	4.8		1.0	mg/kg	13-NOV-19	14-NOV-19	R4907389
Polyaromatic Hydrocarbons (PAHs)							
1-Methyl Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
2-Methyl Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthylene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acridine	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Anthracene	<0.0040		0.0040	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)anthracene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(a)pyrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(b&j)fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(g,h,i)perylene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(k)fluoranthene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Chrysene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Dibenzo(a,h)anthracene Fluoranthene	<0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19 14-NOV-19	R4906809
Fluoranthene	<0.010 <0.010		0.010	mg/kg mg/kg	07-NOV-19 07-NOV-19	14-NOV-19	R4906809 R4906809
Indeno(1,2,3-cd)pyrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Phenanthrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Pyrene	0.012	EMPC	0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Quinoline	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
B(a)P Total Potency Equivalent	<0.020		0.020	mg/kg	07-NOV-19	14-NOV-19	R4906809
IACR (CCME)	<0.15		0.15		07-NOV-19	14-NOV-19	R4906809
Benzo(b+j+k)fluoranthene	<0.014		0.014	mg/kg	07-NOV-19	14-NOV-19	R4906809
Surrogate: Acenaphthene d10	117.4		60-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Chrysene d12	123.6		60-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Naphthalene d8	113.5		50-130	%	07-NOV-19	14-NOV-19	R4906809
Surrogate: Phenanthrene d10	120.6		60-130	%	07-NOV-19	14-NOV-19	R4906809
L2376472-35 F1-01M							
Sampled By: CLIENT on 31-OCT-19							
Matrix: SOIL							
BTEX and F1-F4 by Tumbler Method							
BTX plus F1 by GCMS							
Benzene	<0.0050		0.0050	mg/kg	31-OCT-19	07-NOV-19	R4898700
Toluene	<0.050		0.050	mg/kg	31-OCT-19	07-NOV-19	R4898700
Ethyl benzene	<0.015		0.015	mg/kg	31-OCT-19	07-NOV-19	R4898700
o-Xylene	<0.050		0.050	mg/kg	31-OCT-19	07-NOV-19	R4898700
m+p-Xylenes	<0.050		0.050	mg/kg	31-OCT-19	07-NOV-19	R4898700
F1 (C6-C10)	<10		10	mg/kg	31-OCT-19	07-NOV-19	R4898700
Surrogate: 4-Bromofluorobenzene (SS)	110.9		70-130	%	31-OCT-19	07-NOV-19	R4898700
CCME Total Extractable Hydrocarbons	20		25		00 1001 10	00 1001 10	Decourses
F2 (C10-C16) F3 (C16-C34)	33 3210		25 50	mg/kg	08-NOV-19 08-NOV-19	08-NOV-19 08-NOV-19	R4901116 R4901116
F3 (C10-C34) F4 (C34-C50)	3210		50	mg/kg mg/kg	08-NOV-19 08-NOV-19	08-NOV-19	R4901116 R4901116
11(001000)	3/4		50		30110118	301107-18	Reautito



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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2376472-35 F1-01M							
L23/04/2-35 F1-01M Sampled By: CLIENT on 31-OCT-19							
Matrix: SOIL							
CCME Total Extractable Hydrocarbons	83.4		60-140	%	08-NOV-19	08-NOV-19	R4901116
Surrogate: 2-Bromobenzotrifluoride Chrom. to baseline at nC50	YES		00-140	76	08-NOV-19 08-NOV-19	08-NOV-19 08-NOV-19	R4901116 R4901116
	TES				00-140 V-18	00-100-18	R4901110
CCME Total Hydrocarbons F1-BTEX	<10		10	mg/kg		25-NOV-19	
F2-Naphth	33		25	mg/kg		25-NOV-19	
F3-PAH	3210		50	mg/kg		25-NOV-19	
Total Hydrocarbons (C6-C50)	3620		76	mg/kg		25-NOV-19	
Sum of Xylene Isomer Concentrations							
Xvlenes (Total)	<0.071		0.071	mg/kg		25-NOV-19	
Miscellaneous Parameters							
Moisture	19.6		0.10	%		07-NOV-19	R4902864
Metals in Soil by CRC ICPMS							
Aluminum (Al)	5380		50	mg/kg	13-NOV-19	14-NOV-19	R4907389
Antimony (Sb)	0.68		0.10	mg/kg	13-NOV-19	14-NOV-19	R4907389
Arsenic (As)	5.98		0.10	mg/kg	13-NOV-19	14-NOV-19	R4907389
Barium (Ba)	173		0.50	mg/kg	13-NOV-19	14-NOV-19	R4907389
Beryllium (Be)	0.38		0.10	mg/kg	13-NOV-19	14-NOV-19	R4907389
Boron (B)	11.9		5.0	mg/kg	13-NOV-19	14-NOV-19	R4907389
Bismuth (Bi)	<0.20		0.20	mg/kg	13-NOV-19	14-NOV-19	R4907389
Cadmium (Cd)	0.229		0.020	mg/kg	13-NOV-19	14-NOV-19	R4907389
Calcium (Ca)	23200		50	mg/kg	13-NOV-19	14-NOV-19	R4907389
Chromium (Cr)	11.3		0.50	mg/kg	13-NOV-19	14-NOV-19	R4907389
Cobalt (Co)	8.95		0.10	mg/kg	13-NOV-19	14-NOV-19	R4907389
Copper (Cu)	15.1		0.50	mg/kg	13-NOV-19	14-NOV-19	R4907389
Iron (Fe) Lead (Pb)	11200		50	mg/kg	13-NOV-19 13-NOV-19	14-NOV-19 14-NOV-19	R4907389
Lithium (Li)	15.7 7.4		0.50 2.0	mg/kg	13-NOV-19	14-NOV-19	R4907389 R4907389
Magnesium (Mg)	8130		2.0	mg/kg mg/kg	13-NOV-19	14-NOV-19	R4907389 R4907389
Magnesium (Mg) Manganese (Mn)	3740		100	mg/kg	13-NOV-19	14-NOV-19	R4907389
Molybdenum (Mo)	0.85		0.10	mg/kg	13-NOV-19	14-NOV-19	R4907389
Nickel (Ni)	32.5		0.50	mg/kg	13-NOV-19	14-NOV-19	R4907389
Phosphorus (P)	389		50	mg/kg	13-NOV-19	14-NOV-19	R4907389
Potassium (K)	1270		100	mg/kg	13-NOV-19	14-NOV-19	R4907389
Selenium (Se)	0.29		0.20	mg/kg	13-NOV-19	14-NOV-19	R4907389
Silver (Ag)	<0.10		0.10	mg/kg	13-NOV-19	14-NOV-19	R4907389
Sodium (Na)	246		50	mg/kg	13-NOV-19	14-NOV-19	R4907389
Strontium (Sr)	43.2		0.50	mg/kg	13-NOV-19	14-NOV-19	R4907389
Sulfur (S)	<1000		1000	mg/kg	13-NOV-19	14-NOV-19	R4907389
Thallium (TI)	0.139		0.050	mg/kg	13-NOV-19	14-NOV-19	R4907389
Tin (Sn)	<2.0		2.0	mg/kg	13-NOV-19	14-NOV-19	R4907389
Titanium (Ti)	98.5		1.0	mg/kg	13-NOV-19	14-NOV-19	R4907389
Tungsten (W)	<0.50		0.50	mg/kg		14-NOV-19	R4907389
Uranium (U)	0.936		0.050	mg/kg	13-NOV-19	14-NOV-19	R4907389
Vanadium (V)	30.1		0.20	mg/kg	13-NOV-19	14-NOV-19	R4907389
Zinc (Zn)	89.5		2.0	mg/kg	13-NOV-19	14-NOV-19	R4907389
Zirconium (Zr)	3.4		1.0	mg/kg	13-NOV-19	14-NOV-19	R4907389
Polyaromatic Hydrocarbons (PAHs) 1-Methyl Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
2-Methyl Naphthalene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthene	< 0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Acenaphthylene	< 0.0050		0.0050	mg/kg	07-NOV-19	14-NOV-19	R4906809



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Anthracene <0.010	Sampled By: CLIENT on 31-OCT-19							
Matrix: SOIL Polyaromatic Hydrocarbons (PAHs) 0.010 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908802 Anthracene <0.010								
Polyaromatic Hydrocarbons (PAHs) Acridine 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908802 Anthracene <0.010								
Polyaromatic Hydrocarbons (PAHs) Acridine 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908802 Anthracene <0.010	Matrix: SOIL							
Acridine R4908802 Anthracene 0.010 DLCI 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908802 Benzo(a)anthracene 0.050 DLCI 0.050 mg/kg 07-NOV-19 14-NOV-19 R4908802 Benzo(a)ayrene 0.010 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908802 Benzo(a)pyrene 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908802 Benzo(k)fluoranthene 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908802 Chrysene 0.018 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908802 Dibenzo(a,h)anthracene 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908802 Fluoranthene 0.010 mg/kg 07-NOV-19 14-NOV-19 R4906802 Indeno(1.2,3-cd)								
Anthracene <0.010 DLCI 0.010 mg/kg 07-NOV-19 14-NOV-19 R490809 Benzo(a)anthracene <0.050		<0.010		0.010	ma/ka	07-NOV-19	14-NOV-19	R4906809
Benzo(a)pyrene C0.010 D010 mg/kg 07-NOV-19 14-NOV-19 R4908808 Benzo(a)pyrene 0.010 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908808 Benzo(a)pyrene 0.010 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908808 Benzo(k)fluoranthene 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908808 Chrysene 0.050 DLCI 0.050 mg/kg 07-NOV-19 14-NOV-19 R4908808 Dibenzo(a,h)anthracene 0.050 mg/kg 07-NOV-19 14-NOV-19 R4908808 Fluoranthene 0.037 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908808 Fluorene 0.010 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908808 Indeno(1,2,3-cd)pyrene 0.010 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908808 Pyrene 0.016 EMPC	Anthracene	<0.010	DLCI	0.010		07-NOV-19	14-NOV-19	R4906809
Benzo(b8)jfluoranthene <0.010 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908809 Benzo(g,h,i)perylene 0.018 0.010 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908809 Benzo(k,fluoranthene <0.010	Benzo(a)anthracene	<0.050	DLCI	0.050	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(g,h,i)perylene 0.018 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908809 Benzo(k)fluoranthene <0.010	Benzo(a)pyrene	<0.010		0.010	mg/kg	07-NOV-19	14-NOV-19	R4906809
Benzo(k)fluoranthene <0.010 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908809 Chrysene <0.050				0.010	mg/kg			R4906809
Chrysene <0.050 DLCI 0.050 mg/kg 07-NOV-19 14-NOV-19 R4908809 Dibenzo(a,h)anthracene <0.0050								R4906809
Diberzo(a,h)anthracene <0.0050 mg/kg 07-NOV-19 14-NOV-19 R4908809 Fluoranthene 0.037 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908809 Fluorene <0.010								
Fluoranthene 0.037 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908809 Fluorene <0.010			DLCI					
Fluorene 0.010 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908808 Naphthalene 0.010 0.010 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908808 Naphthalene <0.010								
Indeno(1,2,3-od)pyrene 0.010 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908808 Naphthalene <0.010								
Naphthalene <0.010 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908809 Phenanthrene 0.016 EMPC 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908809 Pyrene 0.074 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908809 Quinoline 0.010 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908809 B(a)P Total Potency Equivalent <0.020								
Phenanthrene 0.016 EMPC 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908000 Pyrene 0.074 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908000 Quinoline 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908000 B(a)P Total Potency Equivalent 0.020 mg/kg 07-NOV-19 14-NOV-19 R4908000 IACR (CCME) 0.19 0.15 07-NOV-19 14-NOV-19 R4908000 Benzo(b+j+k)fluoranthene 0.014 0.014 mg/kg 07-NOV-19 14-NOV-19 R4908000 Surrogate: Acenaphthene d10 119.0 60-130 % 07-NOV-19 14-NOV-19 R4908000 Surrogate: Chrysene d12 126.8 60-130 % 07-NOV-19 14-NOV-19 R4908000 Surrogate: Naphthalene d8 106.4 50-130 % 07-NOV-19 14-NOV-19 R4908000								
Pyrene 0.074 0.010 mg/kg 07-NOV-19 14-NOV-19 R490800 Quinoline <0.010			EMPC					
Quinoline 0.010 0.010 mg/kg 07-NOV-19 14-NOV-19 R4908809 B(a)P Total Potency Equivalent 0.020 0.020 mg/kg 07-NOV-19 14-NOV-19 R4908809 IACR (CCME) 0.19 0.15 07-NOV-19 14-NOV-19 R4908809 Benzo(b+j+k)fluoranthene <0.014								R4906809
B(a)P Total Potency Equivalent <0.020 0.020 mg/kg 07-NOV-19 14-NOV-19 R4908809 IACR (CCME) 0.19 0.15 07-NOV-19 14-NOV-19 R4908809 Benzo(b+j+k)fluoranthene <0.014	Quinoline							R4906809
Benzo(b+j+k)fluoranthene <0.014 0.014 mg/kg 07-NOV-19 14-NOV-19 R4908080 Surrogate: Acenaphthene d10 119.0 80-130 % 07-NOV-19 14-NOV-19 R4908080 Surrogate: Chrysene d12 126.8 80-130 % 07-NOV-19 14-NOV-19 R4908080 Surrogate: Naphthalene d8 106.4 50-130 % 07-NOV-19 14-NOV-19 R4908080	B(a)P Total Potency Equivalent	<0.020		0.020		07-NOV-19	14-NOV-19	R4906809
Surrogate: Acenaphthene d10 119.0 60-130 % 07-NOV-19 14-NOV-19 R4908080 Surrogate: Chrysene d12 126.8 60-130 % 07-NOV-19 14-NOV-19 R4908080 Surrogate: Naphthalene d8 106.4 50-130 % 07-NOV-19 14-NOV-19 R4908080	IACR (CCME)	0.19		0.15		07-NOV-19	14-NOV-19	R4906809
Surrogate: Chrysene d12 126.8 80-130 % 07-NOV-19 14-NOV-19 R4906809 Surrogate: Naphthalene d8 106.4 50-130 % 07-NOV-19 14-NOV-19 R4906809		<0.014		0.014	mg/kg	07-NOV-19	14-NOV-19	R4906809
Surrogate: Naphthalene d8 106.4 50-130 % 07-NOV-19 14-NOV-19 R4906809		119.0		60-130		07-NOV-19	14-NOV-19	R4906809
				60-130		07-NOV-19		R4906809
Surrogate: Phenanthrene d10 94.2 60-130 % 07-NOV-19 14-NOV-19 R490800								R4906809
	Surrogate: Phenanthrene d10	94.2		60-130	%	07-NOV-19	14-NOV-19	R4906809



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Reference Information

Qualifiers for Individual Samples Listed:

Lab Sample ID	Client Sample ID	Qualifier	Description
L2376472-1	12-03	VOCC	Soil jar was submitted as VOC sample container. VOC results may be biased low, and do not meet federal (CCME) or provincial requirements (for BC, AB-Tier1, MB, ON, SK).
L2376472-10	G1-02	VOCC	Sol, Sol, Sol, Sol, Sol, Sol, Sol, Sol,
L2376472-14	E2-03	VOCC	Sin, Solid jar was submitted as VOC sample container. VOC results may be biased low, and do not meet federal (CCME) or provincial requirements (for BC, AB-Tier1, MB, ON, SK).
L2376472-18	D2-03	VOCC	Sin). Soil jar was submitted as VOC sample container. VOC results may be biased low, and do not meet federal (CCME) or provincial requirements (for BC, AB-Tier1, MB, ON, SK).
L2376472-2	14-01	VOCC	Sin, . Soil jar was submitted as VOC sample container. VOC results may be biased low, and do not meet federal (CCME) or provincial requirements (for BC, AB-Tier1, MB, ON, SK).
L2376472-22	C1-02	VOCC	Sin, Sin
L2376472-26	B2-01	VOCC	Soli jar was submitted as VOC sample container. VOC results may be biased low, and do not meet federal (CCME) or provincial requirements (for BC, AB-Tier1, MB, ON, SK).
L2376472-30	A4-02	VOCC	Soil jar was submitted as VOC sample container. VOC results may be biased low, and do not meet federal (CCME) or provincial requirements (for BC, AB-Tier1, MB, ON, SK).
L2376472-31	A8-04	VOCC	Soil jar was submitted as VOC sample container. VOC results may be biased low, and do not meet federal (CCME) or provincial requirements (for BC, AB-Tier1, MB, ON, SK).
L2376472-6	H2-03	VOCC	Soil jar was submitted as VOC sample container. VOC results may be biased low, and do not meet federal (CCME) or provincial requirements (for BC, AB-Tier1, MB, ON, SK).

Qualifier	Description
в	Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.
DLCI	Detection Limit Raised: Chromatographic Interference due to co-elution.
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.
EMPC	Estimated Maximum Possible Concentration. Parameter detected but didn't meet all criteria for positive identification.
MES	Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Paramete Scan (considered acceptable as per OMOE & CCME).

Test Method References: Test Description 11.1.1 ALC THE COL

ALS Test Code	Matrix	Test Description	Method Reference**
BTEXS+F1-HSMS-WP	Soil	BTX plus F1 by GCMS	EPA 8260C
		water and reagents, then heated in a d concentrations are measured using	sealed vial to equilibrium. The headspace from the vial is transferred into a mass spectrometry detection.

F1-F4-CALC-WP Soil CCME Total Hydrocarbons CCME CWS-PHC, Pub #1310, Dec 2001-S

Analytical methods used for analysis of CCME Petroleum Hydrocarbons have been validated and comply with the Reference Method for the CWS PHC.

In cases where results for both F4 and F4G are reported, the greater of the two results must be used in any application of the CWS PHC guidelines and the gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons. In samples where BTEX and F1 were analyzed, F1-BTEX represents a value where the sum of Benzene, Toluene, Ethylbenzene and total Xylenes has been subtracted from F1.

In samples where PAHs, F2 and F3 were analyzed, F2-Naphth represents the result where Naphthalene has been subtracted from F2. F3-PAH represents a result where the sum of Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, and Pyrene has been subtracted from F3.

Unless otherwise qualified, the following quality control criteria have been met for the F1 hydrocarbon range: 1. All extraction and analysis holding times were met.

Instrument performance showing response factors for C8 and C10 within 30% of the response factor for toluene.
 Linearity of gasoline response within 15% throughout the calibration range.



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Reference Information

LS Test Code	Matrix	Test Description	Method Reference**
. All extraction and anal . Instrument performance. Instrument performance.	ysis holding t ce showing C ce showing th	10, C16 and C34 response factors within 10%	of their average. ge of the C10, C16 and C34 response factors.
2-F4-TMB-FID-WP	Soil	CCME Total Extractable Hydrocarbons	CCME CWS-PHC, Pub #1310, Dec 2001
			d by a silica gel clean up to facilitate separation of the hydrocarbor natograph equipped with a flame -ionization detector.
4G-TMB-WP	Soil	CCME Gravimetric Heavy Hydrocarbons	CCME CWS-PHC, Pub #1310, Dec 2001-S
		i with 1:1 hexane/acetone in a tumbler, followe ot of the solvent is analyzed using gravimetric	d by a silica gel clean up to facilitate separation of the hydrocarbo method
IET-200.2-CCMS-WP	Soil	Metals in Soil by CRC ICPMS	EPA 200.2/6020B (mod)
		and sieved (2 mm). Strong Acid Leachable M ental analysis is by Collision / Reaction Cell ICF	letals in the <2mm fraction are solubilized by heated digestion with MS.
artially recovered (matri	ix dependent)		ilicate minerals are not solubilized. Some metals may be only nd Zr. Elemental Sulfur may be poorly recovered by this method. torage, or digestion.
IOISTURE-WP	Soil	% Moisture	CCME PHC in Soil - Tier 1 (mod)
Noisture content in solid	matrices is d	etermined gravimetrically after drying to const	ant weight at 105⊡C.
AH, PANH-WP	Soil	Polyaromatic Hydrocarbons (PAHs)	EPA SW 846/8270-GC/MS
amples are rotary extra oluene extract is analyze			xtracts are concentrated and solvent exchanged to toluene. The
YLENES-SUM-CALC-	Soil	Sum of Xylene Isomer Concentrations	CALCULATED RESULT
otal xylenes represents	the sum of o	-xylene and m&p-xylene.	
ALS test methods may i	incorporate m	nodifications from specified reference methods	to improve performance.

 Laboratory Definition Code
 Laboratory Location

 WP
 ALS ENVIRONMENTAL - WINNIPEG, MANITOBA, CANADA

 Chain of Custody Numbers:
 Chain of Custody Numbers



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Reference Information

ALS Test Code	Matrix	Test Description	Method Reference**
GLOSSARY OF REPO	RT TERMS		
		nilar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For
			eck on recovery. In reports that display the D.L. column, laboratory
bjectives for surrogate	s are listed ther	e.	
ng/kg - milligrams per	kilogram based (on dry weight of sample	
ng/kg wwt - milligrams	per kilogram ba	sed on wet weight of sample	

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight mg/L - unit of concentration based on volume, parts per million. < - Less than.

D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory. UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION. Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Client:

Contact: Test

Batch

Benzene

Toluene

o-Xylene

Benzene

Toluene

o-Xylene

Workorder: L2376472 Report Date: 26-NOV-19 Page 1 of 14 MWM Environmental Box 459 Souris MB R0K 2C0 BRANDI BERTHOLET Qualifier RPD Analyzed Matrix Reference Result Units Limit Soll BTEXS+F1-HSMS-WP R4898700 WG3211885-8 DUP L2376472-31 < 0.0050 <0.0050 RPD-NA mg/kg N/A 50 07-NOV-19 < 0.050 < 0.050 RPD-NA mg/kg N/A 50 07-NOV-19 Ethyl benzene <0.015 <0.015 RPD-NA mg/kg N/A 50 07-NOV-19 < 0.050 < 0.050 RPD-NA mg/kg N/A 50 07-NOV-19 m+p-Xylenes <0.050 < 0.050 RPD-NA mg/kg 50 07-NOV-19 N/A F1 (C6-C10) <10 <10 RPD-NA mg/kg N/A 50 07-NOV-19 WG3211885-2 LCS % 116.0 70-130 07-NOV-19 111.8 % 70-130 07-NOV-19 Ethyl benzene 106.6 % 70-130 07-NOV-19 -19 -19 -19

Quality Control Report

o-Xylene		115.8	%	70-130	07-NOV-19
m+p-Xylenes		116.2	%	70-130	07-NOV-19
WG3211885-3 F1 (C6-C10)	LCS	87.5	%	70-130	06-NOV-19
WG3211885-6 Benzene	LCS	96.7	%	70-130	07-NOV-19
Toluene		93.3	%	70-130	07-NOV-19
Ethyl benzene		87.7	%	70-130	07-NOV-19
o-Xylene		95.1	%	70-130	07-NOV-19
m+p-Xylenes		99.7	%	70-130	07-NOV-19
WG3211885-7 F1 (C6-C10)	LCS	84.5	%	70-130	07-NOV-19
WG3211885-1 Benzene	MB	<0.0050			
			mg/kg	0.005	07-NOV-19
Toluene		<0.050	mg/kg	0.05	07-NOV-19
Ethyl benzene		<0.015	mg/kg	0.015	07-NOV-19
o-Xylene		<0.050	mg/kg	0.05	07-NOV-19
m+p-Xylenes		<0.050	mg/kg	0.05	07-NOV-19
F1 (C6-C10)		<10	mg/kg	10	07-NOV-19
Surrogate: 4-B	romofluorobenzene (SS)	82.8	%	70-130	07-NOV-19
WG3211885-5	MB				
Benzene		<0.0050	mg/kg	0.005	07-NOV-19
Toluene		<0.050	mg/kg	0.05	07-NOV-19
Ethyl benzene		<0.015	mg/kg	0.015	07-NOV-19

< 0.050

mg/kg

07-NOV-19

0.05



Workorder: L2376472 Report Date: 26-NOV-19 Page 2 of 14 Test RPD Matrix Reference Qualifier Units Limit Analyzed Result BTEXS+F1-HSMS-WP Soll Batch R4898700 WG3211885-5 MB m+p-Xylenes <0.050 mg/kg 0.05 07-NOV-19 F1 (C6-C10) <10 mg/kg 10 07-NOV-19 Surrogate: 4-Bromofluorobenzene (SS) 78.6 % 70-130 07-NOV-19 F2-F4-TMB-FID-WP Soll Batch R4901116 WG3211960-4 DUP L2376472-6 F2 (C10-C16) 284 129 DUP-H mg/kg 75 40 07-NOV-19 F3 (C16-C34) 479 289 DUP-H mg/kg 50 40 07-NOV-19 F4 (C34-C50) <50 <50 RPD-NA mg/kg N/A 40 07-NOV-19 WG3212837-4 DUP L2376472-26 F2 (C10-C16) 122 157 mg/kg 25 40 07-NOV-19 F3 (C16-C34) 136 158 mg/kg 15 40 07-NOV-19 F4 (C34-C50) <50 <50 RPD-NA mg/kg N/A 40 07-NOV-19 WG3211960-3 IRM ALS PHC RM3 F2 (C10-C16) 96.0 % 70-130 06-NOV-19 F3 (C16-C34) 96.0 % 06-NOV-19 70-130 F4 (C34-C50) 100.4 % 70-130 06-NOV-19 WG3212837-3 IRM ALS PHC RM3 F2 (C10-C16) 92.2 % 07-NOV-19 70-130 F3 (C16-C34) 88.4 % 70-130 07-NOV-19 F4 (C34-C50) 106.0 % 70-130 07-NOV-19 WG3214233-3 IRM ALS PHC RM3 F2 (C10-C16) 92.7 % 09-NOV-19 70-130 F3 (C16-C34) 87.8 % 70-130 09-NOV-19 F4 (C34-C50) 95.5 % 09-NOV-19 70-130 WG3211960-2 LCS F2 (C10-C16) 104.8 % 70-130 06-NOV-19 97.8 F3 (C16-C34) % 70-130 06-NOV-19 F4 (C34-C50) 101.6 % 06-NOV-19 70-130 WG3212837-2 LCS F2 (C10-C16) 105.1 % 70-130 07-NOV-19 F3 (C16-C34) 94.6 % 70-130 07-NOV-19 F4 (C34-C50) % 114.0 07-NOV-19 70-130 WG3214233-2 LCS F2 (C10-C16) 87.1 % 08-NOV-19 70-130 F3 (C16-C34) 88.5 % 70-130 08-NOV-19



		Workorder: I	L2376472	I	Report Date: 2	6-NOV-19	Pa	age 3 of 1
Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F2-F4-TMB-FID-WP	Soll							
Batch R49	01116							
WG3214233-2	LCS							
F4 (C34-C50)			98.1		%		70-130	08-NOV-19
WG3211960-1	MB							
F2 (C10-C16)			<25		mg/kg		25	06-NOV-19
F3 (C16-C34)			<50		mg/kg		50	06-NOV-19
F4 (C34-C50)			<50		mg/kg		50	06-NOV-19
Surrogate: 2-Bro	mobenzotrifluoride		96.5		%		60-140	06-NOV-19
WG3212837-1	MB							
F2 (C10-C16)			<25		mg/kg		25	07-NOV-19
F3 (C16-C34)			<50		mg/kg		50	07-NOV-19
F4 (C34-C50)			<50		mg/kg		50	07-NOV-19
Surrogate: 2-Bro	mobenzotrifluoride		94.6		%		60-140	07-NOV-19
WG3214233-1	мв							
F2 (C10-C16)			<25		mg/kg		25	08-NOV-19
F3 (C16-C34)			<50		mg/kg		50	08-NOV-19
F4 (C34-C50)			<50		mg/kg		50	08-NOV-19
Surrogate: 2-Bro	mobenzotrifluoride		85.7		%		60-140	08-NOV-19
F4G-TMB-WP	Soll							
Batch R49	12268							
WG3220371-2	IRM	ALS PHC RM3						
F4G-SG			93.9		%		70-130	16-NOV-19
WG3220371-1	MB							
F4G-SG			<500		mg/kg		500	16-NOV-19
Batch R49	21870							
WG3225069-10	IRM	ALS PHC RM3						
F4G-SG			86.9		%		70-130	22-NOV-19
WG3225069-9	MB							
F4G-SG			<500		mg/kg		500	22-NOV-19
MET-200.2-CCMS-V	VP Soll							
Batch R49	06529							
WG3216909-4	CRM	CANMET TILL-	-					
Antimony (Sb)			104.3		%		70-130	12-NOV-19
Arsenic (As)			100.6		%		70-130	12-NOV-19
Barium (Ba)			96.6		%		70-130	12-NOV-19
Beryllium (Be)			104.4		%		70-130	12-NOV-19





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		Workorder:	L237647	2	Report Date: 26	6-NOV-19	Pag	e 4 of 14
Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WP	Soll							
Batch R4906529								
WG3216909-4 CRM		CANMET TIL						
Bismuth (Bi)			104.4		%		70-130	12-NOV-19
Cadmium (Cd)			103.3		%		70-130	12-NOV-19
Calcium (Ca)			93.9		%		70-130	12-NOV-19
Chromium (Cr)			94.8		%		70-130	12-NOV-19
Cobalt (Co)			96.1		%		70-130	12-NOV-19
Copper (Cu)			102.1		%		70-130	12-NOV-19
Iron (Fe)			98.6		%		70-130	12-NOV-19
Lead (Pb)			102.9		%		70-130	12-NOV-19
Lithium (Li)			101.6		%		70-130	12-NOV-19
Magnesium (Mg)			107.4		%		70-130	12-NOV-19
Molybdenum (Mo)			102.1		%		70-130	12-NOV-19
Nickel (Ni)			96.1		%		70-130	12-NOV-19
Phosphorus (P)			98.6		%		70-130	12-NOV-19
Potassium (K)			74.7		%		70-130	12-NOV-19
Selenium (Se)			0.30		mg/kg		0.12-0.52	12-NOV-19
Silver (Ag)			0.23		mg/kg		0.12-0.32	12-NOV-19
Sodium (Na)			82.0		%		70-130	12-NOV-19
Strontium (Sr)			93.5		%		70-130	12-NOV-19
Thallium (TI)			0.134		mg/kg		0.075-0.175	5 12-NOV-19
Tin (Sn)			1.0		mg/kg		0-3.1	12-NOV-19
Titanium (Ti)			80.6		%		70-130	12-NOV-19
Tungsten (W)			0.19		mg/kg		0-0.66	12-NOV-19
Uranium (U)			102.6		%		70-130	12-NOV-19
Vanadium (V)			95.1		%		70-130	12-NOV-19
Zinc (Zn)			97.6		%		70-130	12-NOV-19
Zirconium (Zr)			0.7		mg/kg		0-1.8	12-NOV-19
WG3216909-2 LCS			0				u=1.0	12-1001-18
Aluminum (Al)			106.3		%		80-120	12-NOV-19
Antimony (Sb)			108.3		%		80-120	12-NOV-19
Arsenic (As)			105.8		%		80-120	12-NOV-19
Barium (Ba)			103.6		%		80-120	12-NOV-19
Beryllium (Be)			106.0		%		80-120	12-NOV-19
Boron (B)			108.9		%		80-120	12-NOV-19





			Quali	ty Contro	пкерог			
		Workorder	: L237647	2	Report Date: 2	6-NOV-19	Pa	age 5 of 14
lest .	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WP	Soll							
Batch R490652								
WG3216909-2 LCS	i		104.0					
Cadmium (Cd) Calcium (Ca)			104.3 106.3		%		80-120	12-NOV-19
					%		80-120	12-NOV-19
Chromium (Cr) Cobalt (Co)			107.0 104.3		%		80-120	12-NOV-19
			104.3		%		80-120	12-NOV-19
Copper (Cu)					%		80-120	12-NOV-19
Iron (Fe)			94.5				80-120	12-NOV-19
Lead (Pb)			104.8		%		80-120	12-NOV-19
Lithium (Li)			107.1		%		80-120	12-NOV-19
Magnesium (Mg)			121.4	MES	%		80-120	12-NOV-19
Manganese (Mn)			108.2		%		80-120	12-NOV-19
Molybdenum (Mo)			105.9		%		80-120	12-NOV-19
Nickel (Ni)			102.9		%		80-120	12-NOV-19
Phosphorus (P)			109.1		%		80-120	12-NOV-19
Potassium (K)			105.8		%		80-120	12-NOV-19
Selenium (Se)			106.9		%		80-120	12-NOV-19
Silver (Ag)			103.3		%		80-120	12-NOV-19
Sodium (Na)			109.6		%		80-120	12-NOV-19
Strontium (Sr)			105.7		%		80-120	12-NOV-19
Sulfur (S)			110.0		%		70-130	12-NOV-19
Thallium (TI)			105.1		%		80-120	12-NOV-19
Tin (Sn)			105.2		%		80-120	12-NOV-19
Titanium (Ti)			101.4		%		80-120	12-NOV-19
Tungsten (W)			106.1		%		70-130	12-NOV-19
Uranium (U)			106.6		%		80-120	12-NOV-19
Vanadium (V)			107.8		%		80-120	12-NOV-19
Zinc (Zn)			107.3		%		80-120	12-NOV-19
Zirconium (Zr)			101.8		%		80-120	12-NOV-19
WG3216909-1 MB								
Aluminum (Al)			<50		mg/kg		50	12-NOV-19
Antimony (Sb)			<0.10		mg/kg		0.1	12-NOV-19
Arsenic (As)			<0.10		mg/kg		0.1	12-NOV-19
Barium (Ba)			<0.50		mg/kg		0.5	12-NOV-19
Beryllium (Be)			<0.10		mg/kg		0.1	12-NOV-19
Boron (B)			<5.0		mg/kg		5	12-NOV-19



(ALS) Environmental

			Qualit	ty Conti	rol Report				
		Workorder: L2376472			Report Date: 2	6-NOV-19	Page 6 of 14		
Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed	
MET-200.2-CCMS-WP	Soll								
Batch R4906529									
WG3216909-1 MB									
Bismuth (Bi)			<0.20		mg/kg		0.2	12-NOV-19	
Cadmium (Cd)			<0.020		mg/kg		0.02	12-NOV-19	
Calcium (Ca)			<50		mg/kg		50	12-NOV-19	
Chromium (Cr)			<0.50		mg/kg		0.5	12-NOV-19	
Cobalt (Co)			<0.10		mg/kg		0.1	12-NOV-19	
Copper (Cu)			<0.50		mg/kg		0.5	12-NOV-19	
Iron (Fe)			<50		mg/kg		50	12-NOV-19	
Lead (Pb)			<0.50		mg/kg		0.5	12-NOV-19	
Lithium (Li)			<2.0		mg/kg		2	12-NOV-19	
Magnesium (Mg)			<20		mg/kg		20	12-NOV-19	
Manganese (Mn)			<1.0		mg/kg		1	12-NOV-19	
Molybdenum (Mo)			<0.10		mg/kg		0.1	12-NOV-19	
Nickel (Ni)			<0.50		mg/kg		0.5	12-NOV-19	
Phosphorus (P)			<50		mg/kg		50	12-NOV-19	
Potassium (K)			<100		mg/kg		100	12-NOV-19	
Selenium (Se)			0.36	в	mg/kg		0.2	12-NOV-19	
Silver (Ag)			<0.10		mg/kg		0.1	12-NOV-19	
Sodium (Na)			<50		mg/kg		50	12-NOV-19	
Strontium (Sr)			<0.50		mg/kg		0.5	12-NOV-19	
Sulfur (S)			<1000		mg/kg		1000	12-NOV-19	
Thallium (TI)			<0.050		mg/kg		0.05	12-NOV-19	
Tin (Sn)			<2.0		mg/kg		2	12-NOV-19	
Titanium (Ti)			<1.0		mg/kg		1	12-NOV-19	
Tungsten (W)			<0.50		mg/kg		0.5	12-NOV-19	
Uranium (U)			<0.050		mg/kg		0.05	12-NOV-19	
Vanadium (V)			<0.20		mg/kg		0.2	12-NOV-19	
Zinc (Zn)			<2.0		mg/kg		2	12-NOV-19	
Zirconium (Zr)			<1.0		mg/kg		1	12-NOV-19	
			S1.0				1	12-140-18	
Batch R4907389 WG3217613-4 CRM		CANMET TIL							
Aluminum (Al)			105.3		%		70-130	14-NOV-19	
Antimony (Sb)			102.3		%		70-130	14-NOV-19	
Arsenic (As)			101.6		%		70-130	14-NOV-19	
Barium (Ba)			100.8		%		70-130	14-NOV-19	



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		Workorder	: L237647	2	Report Date: 2	6-NOV-19	Page	e 7 of 14
Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WP	Soll							
Batch R490738	39							
WG3217613-4 CR	N	CANMET TIL						
Beryllium (Be)			100.0		%		70-130	14-NOV-19
Boron (B)			6.3		mg/kg		0-8.2	14-NOV-19
Bismuth (Bi)			106.6		%		70-130	14-NOV-19
Cadmium (Cd)			103.6		%		70-130	14-NOV-19
Calcium (Ca)			94.5		%		70-130	14-NOV-19
Chromium (Cr)			100.9		%		70-130	14-NOV-19
Cobalt (Co)			100.3		%		70-130	14-NOV-19
Copper (Cu)			105.7		%		70-130	14-NOV-19
Iron (Fe)			99.4		%		70-130	14-NOV-19
Lead (Pb)			103.1		%		70-130	14-NOV-19
Lithium (Li)			102.6		%		70-130	14-NOV-19
Magnesium (Mg)			105.2		%		70-130	14-NOV-19
Manganese (Mn)			106.6		%		70-130	14-NOV-19
Molybdenum (Mo)			99.4		%		70-130	14-NOV-19
Nickel (Ni)			100.8		%		70-130	14-NOV-19
Phosphorus (P)			100.2		%		70-130	14-NOV-19
Potassium (K)			89.4		%		70-130	14-NOV-19
Selenium (Se)			0.29		mg/kg		0.12-0.52	14-NOV-19
Silver (Ag)			0.25		mg/kg		0.12-0.32	14-NOV-19
Sodium (Na)			97.0		%		70-130	14-NOV-19
Strontium (Sr)			97.9		%		70-130	14-NOV-19
Thallium (TI)			0.126		mg/kg		0.075-0.175	14-NOV-19
Tin (Sn)			1.0		mg/kg		0-3.1	14-NOV-19
Titanium (Ti)			90.5		%		70-130	14-NOV-19
Tungsten (W)			0.15		mg/kg		0-0.66	14-NOV-19
Uranium (U)			108.3		%		70-130	14-NOV-19
Vanadium (V)			99.7		%		70-130	14-NOV-19
Zinc (Zn)			101.5		%		70-130	14-NOV-19
Zirconium (Zr)			0.8		mg/kg		0-1.8	14-NOV-19
WG3217613-2 LCS Aluminum (Al)	5		102.4		%		80-120	14-NOV-19
Antimony (Sb)			103.4		%		80-120	14-NOV-19
Arsenic (As)			102.1		%		80-120	14-NOV-19
Barium (Ba)			102.4		%		80-120	14-NOV-19
- and (and)							00-120	11-110-1-10



Environmental

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		Workorder	: L237647	2	Report Date: 2	6-NOV-19	Pa	age 8 of 14
Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WP	Soll							
Batch R490738	9							
WG3217613-2 LCS								
Beryllium (Be)			102.3		%		80-120	14-NOV-19
Boron (B)			87.9		%		80-120	14-NOV-19
Bismuth (Bi)			101.2		%		80-120	14-NOV-19
Cadmium (Cd)			102.7		%		80-120	14-NOV-19
Calcium (Ca)			101.2		%		80-120	14-NOV-19
Chromium (Cr)			102.4		%		80-120	14-NOV-19
Cobalt (Co)			101.5		%		80-120	14-NOV-19
Copper (Cu)			101.3		%		80-120	14-NOV-19
Iron (Fe)			91.1		%		80-120	14-NOV-19
Lead (Pb)			104.7		%		80-120	14-NOV-19
Lithium (Li)			103.1		%		80-120	14-NOV-19
Magnesium (Mg)			111.9		%		80-120	14-NOV-19
Manganese (Mn)			101.4		%		80-120	14-NOV-19
Molybdenum (Mo)			104.4		%		80-120	14-NOV-19
Nickel (Ni)			101.2		%		80-120	14-NOV-19
Phosphorus (P)			105.9		%		80-120	14-NOV-19
Potassium (K)			98.3		%		80-120	14-NOV-19
Selenium (Se)			100.9		%		80-120	14-NOV-19
Silver (Ag)			103.2		%		80-120	14-NOV-19
Sodium (Na)			101.5		%		80-120	14-NOV-19
Strontium (Sr)			105.3		%		80-120	14-NOV-19
Sulfur (S)			104.5		%		70-130	14-NOV-19
Thallium (TI)			98.9		%		80-120	14-NOV-19
Tin (Sn)			103.5		%		80-120	14-NOV-19
Titanium (Ti)			98.9		%		80-120	14-NOV-19
Tungsten (W)			104.8		%		70-130	14-NOV-19
Uranium (U)			108.5		%		80-120	14-NOV-19
Vanadium (V)			102.6		%		80-120	14-NOV-19
Zinc (Zn)			100.7		%		80-120	14-NOV-19
Zirconium (Zr)			102.4		%		80-120	14-NOV-19
WG3217613-1 MB			192.1		14		00-120	14100-18
Aluminum (Al)			<50		mg/kg		50	14-NOV-19
Antimony (Sb)			<0.10		mg/kg		0.1	14-NOV-19
Arsenic (As)			<0.10		mg/kg		0.1	14-NOV-19
v = /								



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		Workorder	: L237647	2	Report Date: 2	6-NOV-19	P	age 9 of 1
est	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WP	Soll							
Batch R490738 WG3217613-1 MB	9							
Barium (Ba)			<0.50		mg/kg		0.5	14-NOV-19
Beryllium (Be)			<0.10		mg/kg		0.1	14-NOV-19
Boron (B)			<5.0		mg/kg		5	14-NOV-19
Bismuth (Bi)			<0.20		mg/kg		0.2	14-NOV-19
Cadmium (Cd)			<0.020		mg/kg		0.02	14-NOV-19
Calcium (Ca)			<50		mg/kg		50	14-NOV-19
Chromium (Cr)			<0.50		mg/kg		0.5	14-NOV-19
Cobalt (Co)			<0.10		mg/kg		0.1	14-NOV-19
Copper (Cu)			<0.50		mg/kg		0.5	14-NOV-19
Iron (Fe)			<50		mg/kg		50	14-NOV-19
Lead (Pb)			<0.50		mg/kg		0.5	14-NOV-19
Lithium (Li)			<2.0		mg/kg		2	14-NOV-19
Magnesium (Mg)			<20		mg/kg		20	14-NOV-19
Manganese (Mn)			<1.0		mg/kg		1	14-NOV-19
Molybdenum (Mo)			<0.10		mg/kg		0.1	14-NOV-19
Nickel (Ni)			<0.50		mg/kg		0.5	14-NOV-19
Phosphorus (P)			<50		mg/kg		50	14-NOV-19
Potassium (K)			<100		mg/kg		100	14-NOV-19
Selenium (Se)			<0.20		mg/kg		0.2	14-NOV-19
Silver (Ag)			<0.10		mg/kg		0.1	14-NOV-19
Sodium (Na)			<50		mg/kg		50	14-NOV-19
Strontium (Sr)			<0.50		mg/kg		0.5	14-NOV-19
Sulfur (S)			<1000		mg/kg		1000	14-NOV-19
Thallium (TI)			<0.050		mg/kg		0.05	14-NOV-19
Tin (Sn)			<2.0		mg/kg		2	14-NOV-19
Titanium (Ti)			<1.0		mg/kg		1	14-NOV-19
Tungsten (W)			<0.50		mg/kg		0.5	14-NOV-19
Uranium (U)			<0.050		mg/kg		0.05	14-NOV-19
Vanadium (V)			<0.20		mg/kg		0.2	14-NOV-19
Zinc (Zn)			<2.0		mg/kg		2	14-NOV-19
Zirconium (Zr)			<1.0		mg/kg		1	14-NOV-19

MOISTURE-WP

Soll



Environmental

			Workorder:		2		IS NOV 40	-	40 - 4 - 4 - 4
Test		Matrix	Reference	Result	Qualifier	Report Date: 2	RPD	Limit	Analyzed
			Neierenve	Result	quanter	onits	N D	Link	relative
MOISTURE-WP		Soll							
Batch R4 WG3213309-3	902864 DUP		L2376472-1						
Moisture	001		6.87	6.92		%	0.8	20	07-NOV-19
WG3213309-6 Moisture	DUP		L2376472-22 15.7	16.4		%	4.7	20	07-NOV-19
WG3213309-2 Moisture	LCS			100.5		%		90-110	07-NOV-19
WG3213309-5 Moisture	LCS			100.3		%		90-110	07-NOV-19
WG3213309-1	MB								
Moisture				<0.10		%		0.1	07-NOV-19
WG3213309-4 Moisture	MB			<0.10		%		0.1	07-NOV-19
PAH, PANH-WP		Soll							
Batch R4	906809								
WG3216483-3	DUP		L2376472-26						
1-Methyl Naphth			<0.010	<0.010	RPD-N		N/A	50	14-NOV-19
2-Methyl Naphth	nalene		<0.010	<0.010	RPD-N		N/A	50	14-NOV-19
Acenaphthene			<0.0050	<0.0050	RPD-N		N/A	50	14-NOV-19
Acenaphthylene	•		<0.0050	<0.0050	RPD-N		N/A	50	14-NOV-19
Acridine			<0.010	<0.010	RPD-N		N/A	50	14-NOV-19
Anthracene			<0.0040	<0.0040	RPD-N		N/A	50	14-NOV-19
Benzo(a)anthra	cene		<0.010	<0.010	RPD-N	A mg/kg	N/A	50	14-NOV-19
Benzo(a)pyrene			<0.010	<0.010	RPD-N	A mg/kg	N/A	50	14-NOV-19
Benzo(b&j)fluora			<0.010	<0.010	RPD-N	A mg/kg	N/A	50	14-NOV-19
Benzo(g,h,i)pery	lene		<0.010	<0.010	RPD-N	A mg/kg	N/A	50	14-NOV-19
Benzo(k)fluoran	thene		<0.010	<0.010	RPD-N	A mg/kg	N/A	50	14-NOV-19
Chrysene			<0.010	<0.010	RPD-N	A mg/kg	N/A	50	14-NOV-19
Dibenzo(a,h)ant	hracene	1	<0.0050	<0.0050	RPD-N	A mg/kg	N/A	50	14-NOV-19
Fluoranthene			<0.010	<0.010	RPD-N	A mg/kg	N/A	50	14-NOV-19
Fluorene			<0.010	<0.010	RPD-N	A mg/kg	N/A	50	14-NOV-19
Indeno(1,2,3-cd)pyrene		<0.010	<0.010	RPD-N	A mg/kg	N/A	50	14-NOV-19
Naphthalene			<0.010	<0.010	RPD-N	A mg/kg	N/A	50	14-NOV-19
Phenanthrene			<0.010	<0.010	RPD-N		N/A	50	14-NOV-19
Pyrene			0.015	0.014		mg/kg	4.2	50	14-NOV-19
Quinoline			<0.010	<0.010	RPD-N	A mg/kg	N/A	50	14-NOV-19
WG3216483-4	IRM		ALS PAH RM	,					



Environmental

			Quality	Contro	i Report			
		Workorder:	L2376472	F	Report Date: 26	6-NOV-19	Pa	ige 11 of 1
Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH, PANH-WP	Soll							
Batch R4906809								
WG3216483-4 IRM		ALS PAH RM2						
1-Methyl Naphthalene			102.4		%		65-130	14-NOV-19
2-Methyl Naphthalene			110.2		%		65-130	14-NOV-19
Acenaphthene			125.0		%		65-130	14-NOV-19
Acenaphthylene			78.9		%		65-130	14-NOV-19
Anthracene			93.9		%		65-130	14-NOV-19
Benzo(a)anthracene			85.7		%		65-130	14-NOV-19
Benzo(a)pyrene			87.5		%		65-130	14-NOV-19
Benzo(b&j)fluoranthene	•		90.9		%		65-130	14-NOV-19
Benzo(g,h,i)perylene			84.6		%		65-130	14-NOV-19
Benzo(k)fluoranthene			97.3		%		65-130	14-NOV-19
Chrysene			106.0		%		65-130	14-NOV-19
Dibenzo(a,h)anthracen	e		92.3		%		65-130	14-NOV-19
Fluoranthene			99.8		%		65-130	14-NOV-19
Fluorene			101.7		%		65-130	14-NOV-19
Indeno(1,2,3-cd)pyrene			74.5		%		65-130	14-NOV-19
Naphthalene			123.8		%		65-130	14-NOV-19
Phenanthrene			105.8		%		65-130	14-NOV-19
Pyrene			100.0		%		65-130	14-NOV-19
WG3216483-2 LCS								
1-Methyl Naphthalene			121.4		%		60-130	14-NOV-19
2-Methyl Naphthalene			119.8		%		60-130	14-NOV-19
Acenaphthene			123.0		%		60-130	14-NOV-19
Acenaphthylene			114.0		%		60-130	14-NOV-19
Acridine			108.6		%		60-130	14-NOV-19
Anthracene			106.8		%		60-130	14-NOV-19
Benzo(a)anthracene			108.5		%		60-130	14-NOV-19
Benzo(a)pyrene			107.6		%		60-130	14-NOV-19
Benzo(b&j)fluoranthene	2		116.8		%		60-130	14-NOV-19
Benzo(g,h,i)perylene			109.7		%		60-130	14-NOV-19
Benzo(k)fluoranthene			91.9		%		60-130	14-NOV-19
Chrysene			107.9		%		60-130	14-NOV-19
Dibenzo(a,h)anthracen	e		122.3		%		60-130	14-NOV-19
Fluoranthene			102.7		%		60-130	14-NOV-19
Fluorene			112.4		%		60-130	14-NOV-19
							00-100	141100110



Workorder: L2376472 Report Date: 26-NOV-19 Page 12 of 14 Test Matrix Reference Units RPD Analyzed Result Qualifier Limit PAH, PANH-WP Soll Batch R4906809 WG3216483-2 LCS Indeno(1,2,3-cd)pyrene 110.7 % 60-130 14-NOV-19 Naphthalene 114.3 % 50-130 14-NOV-19 Phenanthrene % 118.9 60-130 14-NOV-19 Pyrene 120.4 % 60-130 14-NOV-19 Quinoline 117.9 % 60-130 14-NOV-19 WG3216483-1 MB 1-Methyl Naphthalene <0.010 mg/kg 0.01 14-NOV-19 2-Methyl Naphthalene < 0.010 mg/kg 0.01 14-NOV-19 Acenaphthene < 0.0050 mg/kg 0.005 14-NOV-19 < 0.0050 Acenaphthylene mg/kg 0.005 14-NOV-19 Acridine <0.010 mg/kg 0.01 14-NOV-19 < 0.0040 mg/kg Anthracene 0.004 14-NOV-19 Benzo(a)anthracene <0.010 mg/kg 0.01 14-NOV-19 < 0.010 Benzo(a)pyrene mg/kg 0.01 14-NOV-19 < 0.010 Benzo(b&j)fluoranthene mg/kg 0.01 14-NOV-19 <0.010 Benzo(g,h,i)perylene mg/kg 0.01 14-NOV-19 Benzo(k)fluoranthene < 0.010 mg/kg 0.01 14-NOV-19 <0.010 Chrysene mg/kg 0.01 14-NOV-19 Dibenzo(a,h)anthracene < 0.0050 mg/kg 0.005 14-NOV-19 Fluoranthene < 0.010 mg/kg 0.01 14-NOV-19 <0.010 Fluorene mg/kg 0.01 14-NOV-19 <0.010 Indeno(1,2,3-cd)pyrene mg/kg 0.01 14-NOV-19 Naphthalene <0.010 mg/kg 0.01 14-NOV-19 Phenanthrene <0.010 mg/kg 0.01 14-NOV-19 Pyrene <0.010 mg/kg 0.01 14-NOV-19 Quinoline < 0.010 mg/kg 0.01 14-NOV-19 Surrogate: Acenaphthene d10 100.8 % 60-130 14-NOV-19 107.6 Surrogate: Chrysene d12 % 60-130 14-NOV-19 Surrogate: Naphthalene d8 86.1 % 50-130 14-NOV-19 Surrogate: Phenanthrene d10 106.5 % 60-130 14-NOV-19



Workorder:	L2376472	Report Date:	26-NOV-19
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Legend:	
Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description				
В	Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.				
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.				
MES	Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME).				
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.				



Workorder: L2376472

Report Date: 26-NOV-19

Page 14 of 14

Hold	Time	Exceed	ances:
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Sample						
ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
lydrocarbons	i					
14	30-OCT-19 16:07	16-NOV-19 10:45	14	17	days	EHT
15	30-OCT-19 16:12	22-NOV-19 07:30	14	23	days	EHT
18	31-OCT-19 14:20	16-NOV-19 10:45	14	16	days	EHT
19	31-OCT-19 14:23	16-NOV-19 10:45	14	16	days	EHT
23	31-OCT-19 14:38	16-NOV-19 10:45	14	16	days	EHT
30	31-OCT-19 15:11	16-NOV-19 10:45	14	16	days	EHT
31	31-OCT-19 15:16	16-NOV-19 10:45	14	16	days	EHT
32	31-OCT-19 15:23	16-NOV-19 10:45	14	16	days	EHT
	ID lydrocarbons 14 15 18 19 23 30 31	ID Sampling Date lydrocarbons 14 30-OCT-19 16:07 15 30-OCT-19 16:12 18 31-OCT-19 14:20 19 31-OCT-19 14:23 23 31-OCT-19 14:38 30 31-OCT-19 14:38 30 31-OCT-19 15:11 31 31-OCT-19 15:16 15:16 15:16	ID Sampling Date Date Processed hydrocarbons 14 30-OCT-19 16:07 16-NOV-19 10:45 15 30-OCT-19 16:12 22-NOV-19 07:30 18 31-OCT-19 14:20 16-NOV-19 10:45 19 31-OCT-19 14:23 16-NOV-19 10:45 23 31-OCT-19 14:38 16-NOV-19 10:45 30 31-OCT-19 15:11 18-NOV-19 10:45 31 31-OCT-19 15:16 16-NOV-19 10:45	ID Sampling Date Date Processed Rec. HT hydrocarbons 14 30-OCT-19 16:07 16-NOV-19 10:45 14 15 30-OCT-19 16:12 22-NOV-19 07:30 14 18 31-OCT-19 14:20 16-NOV-19 10:45 14 19 31-OCT-19 14:23 16-NOV-19 10:45 14 23 31-OCT-19 14:38 16-NOV-19 10:45 14 30 31-OCT-19 15:11 16-NOV-19 10:45 14 31 31-OCT-19 15:16 16-NOV-19 10:45 14	ID Sampling Date Date Processed Rec. HT Actual HT hydrocarbons 14 30-OCT-19 16:07 16-NOV-19 10:45 14 17 15 30-OCT-19 16:12 22-NOV-19 07:30 14 23 18 31-OCT-19 14:20 16-NOV-19 10:45 14 16 19 31-OCT-19 14:23 16-NOV-19 10:45 14 16 23 31-OCT-19 14:38 16-NOV-19 10:45 14 16 30 31-OCT-19 15:11 16-NOV-19 10:45 14 16 31 31-OCT-19 15:16 16-NOV-19 10:45 14 16	ID Sampling Date Date Processed Rec. HT Actual HT Units hydrocarbons 14 30-OCT-19 16:07 16-NOV-19 10:45 14 17 days 15 30-OCT-19 16:12 22-NOV-19 07:30 14 23 days 18 31-OCT-19 14:20 16-NOV-19 10:45 14 16 days 23 31-OCT-19 14:23 16-NOV-19 10:45 14 16 days 30 31-OCT-19 14:38 16-NOV-19 10:45 14 16 days 31 31-OCT-19 15:11 16-NOV-19 10:45 14 16 days

Legend & Qualifier Definitions:

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.

EHTR: Exceeded ALS recommended hold time prior to sample receipt.

EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.

EHT: Exceeded ALS recommended hold time prior to analysis.

Rec. HT: ALS recommended hold time (see units).

Notes*:

Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes. Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L2376472 were received on 04-NOV-19 11:15.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

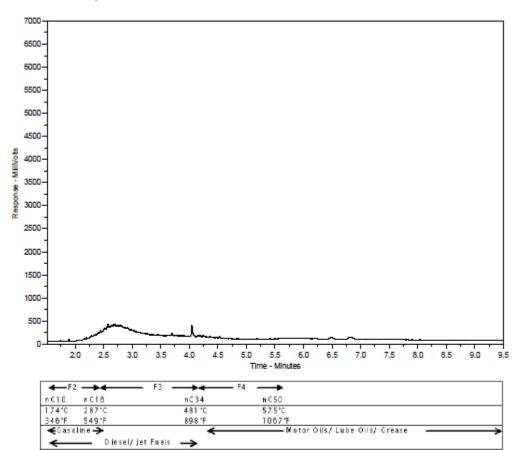
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.





ALS Sample ID: L2376472-1 Client Sample ID: I2-03



The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

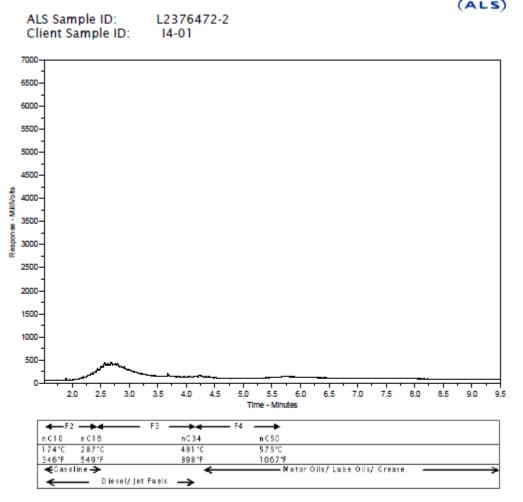
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

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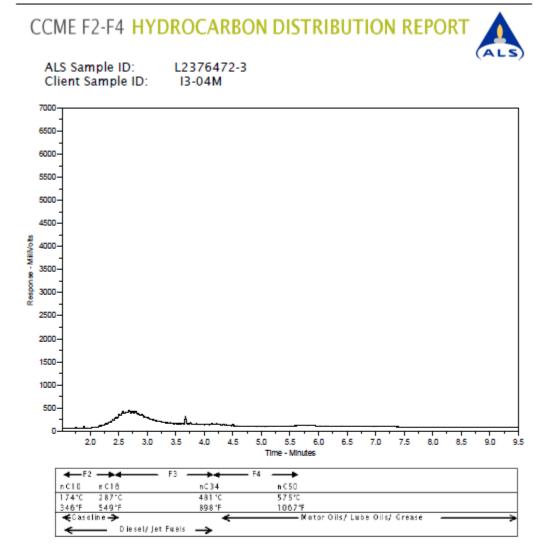
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at <u>www.alsglobal.com</u>.

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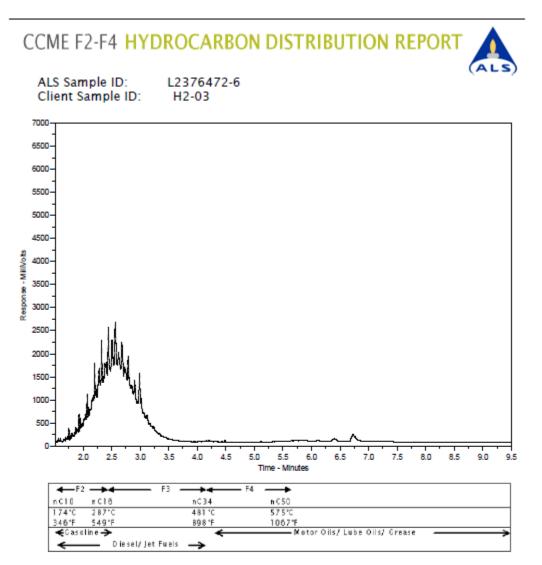
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

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The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

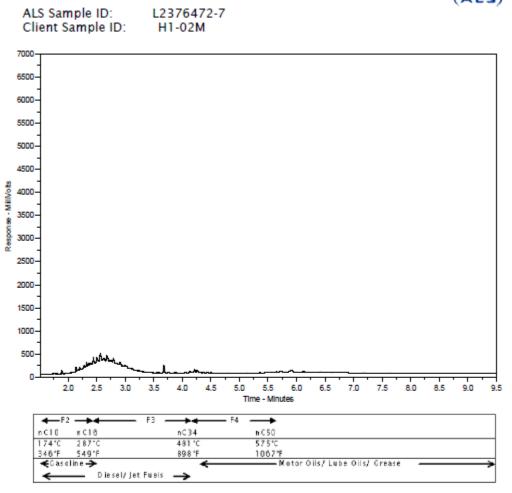
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

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The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

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ALS Sample ID: L2376472-10 Client Sample ID: G1-02 7000 6500 6000-5500-5000-4500-Response - MillVolts 4000-3500-3000 2500 2000 1500-1000-500-0 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0 7.5 8.0 8.5 9.0 9.5 Time - Minutes ←F2 → 4 F3 F4 ---n C I D r C18 nC34 n C 50 17410 28710 481.10 575% 346°F 549°F 898 °F 10677 €Caseline → Motor Oils/ Lube Oils/ Grease 4 Diesel/Jet Fuels →

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at <u>www.alsglobal.com</u>.

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ALS Sample ID: L2376472-11 Client Sample ID: G1-01M 7000 65**00**-6000-5500-5000-4500-Response - MIINots 4000-3500-3000-2500-2000 1500 1000-500 0-5.5 9.0 20 2.5 3.0 3.5 4.0 4.5 5.0 6.0 6.5 7.0 7.5 80 8.5 9.5 Time - Minutes **←**F2 →**4** E3 F4 -nC34 n C I O r C18 $n \in 50$ 17410 28710 481.10 57.510 346'F 549°F 898 °F 10677 €Caseline → Motor Oils/ Lube Oils/ Grease Diesel/Jet Fuels 4 \rightarrow

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

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Response - MillVolts



ALS Sample ID: L2376472-14 Client Sample ID: E2-03 7000-6500· 6000-5500-5000· 4500-4000-3500-3000-2500-2000-1500-1000-500-0 20 3.0 4.0 5.0 8.0 9.0 6.0 7.0 Time - Minutes ٠ F3 F4 n C I D r C18 nC34 n C 50 28710 57.510 17410 481.10 549°F 346°F 89.8 °F 1067% Motor Oils/ Lube Oils/ Grease €Caseline → Diesel/Jet Fuels ~ ⇒

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

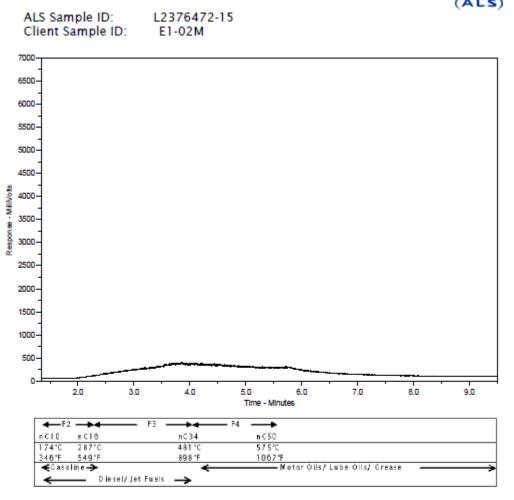
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

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The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

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ALS Sample ID:



L2376472-18

Client Sample ID: D2-03 7000 6500 6000 5500-5000 4500-- MIINots 4000-3500-68000 86 3000 2500 2000-1500-1000-500 0-20 3.0 4.0 5.0 6.0 7.0 8.0 9.0 Time - Minutes 4 -F2 -++ E R . 54 . r C18 nC34 n C I D n C 50 575% 481.10 17410 287 549°F 346°F 898 °F 1067% Motor Oils/ Lube Oils/ Grease €Caseline → Diesel/Jet Fuels 4 →

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at <u>www.alsglobal.com</u>.

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ALS Sample ID: L2376472-19 Client Sample ID: D1-02M 7000 6500 6000-5500-5000-4500-Response - MillVolts 4000-3500-3000 2500 2000 1500-1000-500-0 20 3.0 4.0 5.0 6.0 7.0 8.0 9.0 Time - Minutes ←F2 → 4 F3 F4 ---• n C I D r C18 nC34 n C 50 17410 28710 481.10 57510 346°F 549°F 898 °F 1067% €Caseline → Motor Oils/ Lube Oils/ Grease 4 Diesel/Jet Fuels →

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

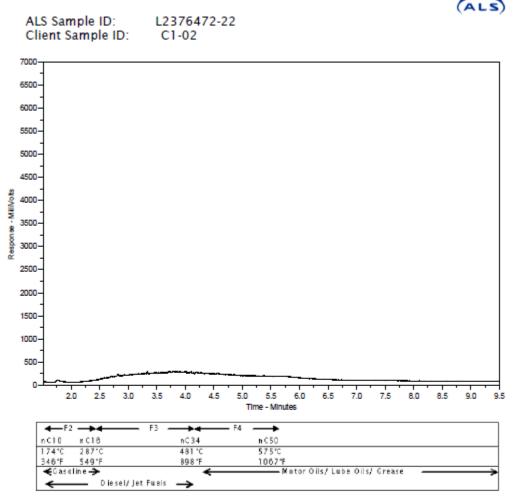
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at <u>www.alsglobal.com</u>.

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The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

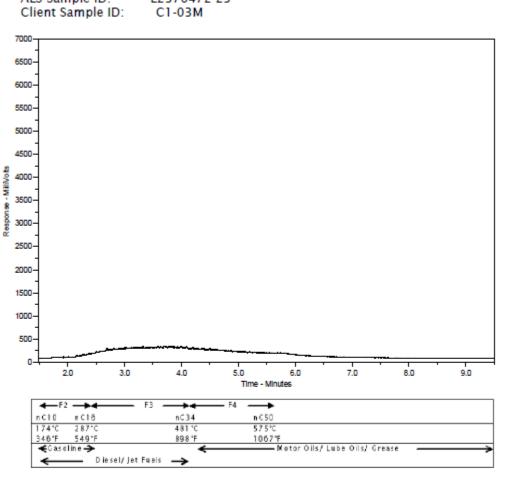
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

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The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

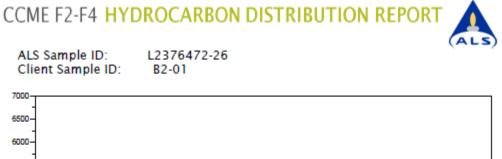
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

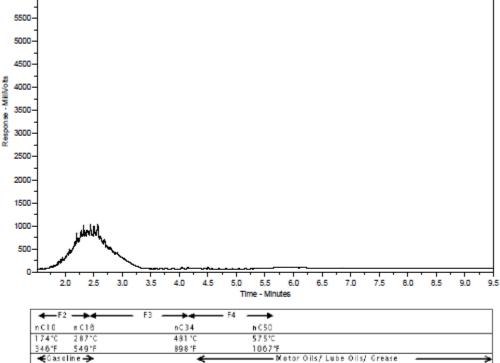
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Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

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The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at <u>www.alsglobal.com</u>.

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Diesel/Jet Fuels

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ALS Sample ID: L2376472-27 Client Sample ID: B2-03M 7000 65**00**-6000-5500-5000-4500 Response - MiliVolts 4000-3500-3000 2500 2000 1500-1000-500 0 2.0 25 3.0 5.5 7.0 7.5 3.5 4.0 4.5 5.0 6.0 6.5 8.0 8.5 9.0 9.5 Time - Minutes F3 F4 ٠ n C I D r C18 nC34 n 050 28710 57.510 17410 481.10 346 °F 549°F 898 °F 10677 Motor Oils/ Lube Oils/ Grease €Caseline →

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

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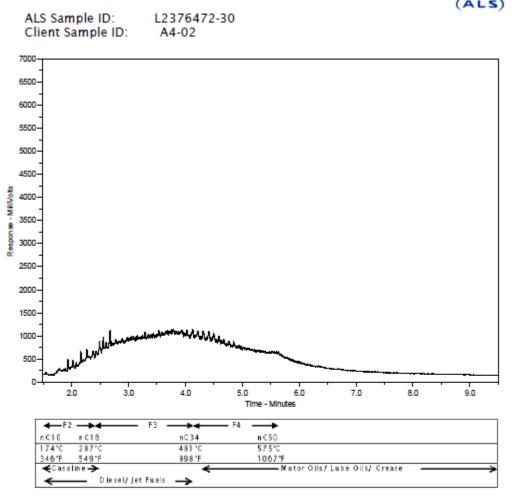
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The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at <u>www.alsglobal.com</u>.

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ALS Sample ID: L2376472-31 Client Sample ID: A8-04 7000-65**00**-6000-5500-5000-4500-Response - MIINots 4000-3500-3000-2500-2000 1500 1000-500 0-7.0 9.0 20 3.0 4.0 5.0 6.0 80 Time - Minutes F4 + F3 -nC34 n C I O r C18 $n \in 50$ 17410 28710 481 10 575°C 346'F 549°F 10677 898 °F €Caseline → Motor Oils/ Lube Oils/ Grease Diesel/Jet Fuels 4 \rightarrow

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

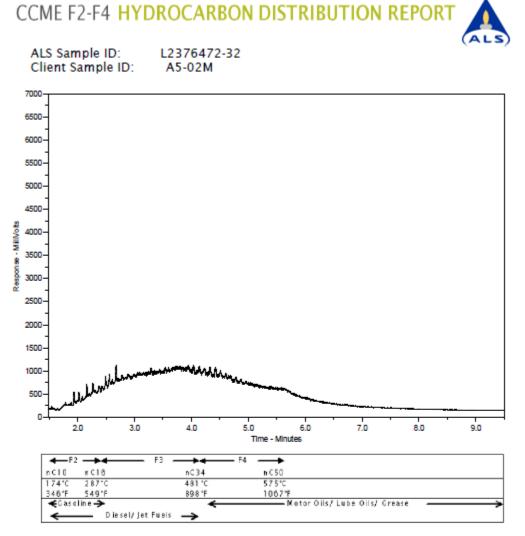
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at <u>www.alsglobal.com</u>.

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The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

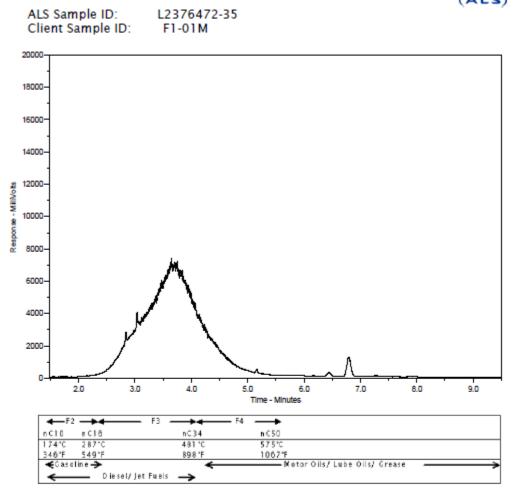
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

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The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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29 CI-03MA	3/10/	10100	Jioc.						
Drinking Water (DW) Samples ¹ (client use) Special Instruc	tions / Specify Criteria to add on report b jelectronic COC onl		own list below	Frozen		SIF Observations	Yes	n No	
Are samples taken from a Regulated DW System?				Ice Packs		Custody seal intact	Yes 🖸	No	H
YES NO				Cooling In		Constant and math		- 40	L
Are samples for human consumption/ use?					INITIAL COOLER TEMPERA	CTURES *C	FINAL COOLER	TEMPERATURES	3.6
YES NO									
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1. If any water semplas are taken from a Regulated Drinking Water (DW) System, plasse submit using an Authorized DW DDG form.

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ENVI	RONMENTAL														
Δ		Chain of Custody (C Request F	OC) / Analytical						COC Num						
ALS	Environmental						19444			Page	3.	15	2 4		
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Report To	Context and company name below will appear on a	ve final report	Report Forman		<u> </u>			dw-	Contact you	r AM to con	nfirm all E	6P TATs (surcharges	mey apply)	
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1. If any water samples are laiver from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

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Appendix C – Groundwater Report

December 18, 2019 MWM Environmental: Monitoring Wells

SW 35-08-21 W1 (Licence #3181)

RM of Glenwood

Monitoring Well Sampling:

Annual monitoring well sampling was completed by the Operation's Manager for each well located around the landfill on SW 35-08-21 W1 as required in licence number #3181. This sampling is required to be done during the last half of summer.

Sampling Procedure:

Wells are sampled using a bailer. Each well contains its' own dedicated bailer which is tied up and stored within each monitoring well. Each bailer was replaced with a brand new one at the time of well purging. Before the sample is drawn, each well is purged in order to remove potential stagnant ground water. The wells are then given time to recharge. Some wells may recharge immediately, and others may take up to 1 or 2 days (some take weeks). Prior to collecting a sample, the bailer is rinsed with distilled water, and then samples are taken as per instructions. The well is capped, and security cover put back on. The samples are stored in a cooler, refrigerated and submitted to ALS laboratories as soon as possible (received within 72 hours). Water levels and well depths (measured from top of well casing down) are measured in each well prior to purging.

Date of purging: September 25th, 2019

Date of sampling: November 21st, 22nd, 27th, 2019

Date samples received at the lab: Nov 26th, 27th 2019

Status and condition of monitoring wells:

Well #	Well Location	Well Depth (In.)	Well Condition	Observed Water Quality	Purge Water Depth (In.)
GN1A	Southeast	376	Good	Clear	274
GN1B	Southeast	740	Good	Clear	309
MW2	Southeast	269	Good	Clear	171
MW3A	Northeast	643	Good	Clear	475
MW3B	Northeast	305	Good	Clear	233
MW4A	Northwest	615	Bent/Broken	N/A	N/A
MW4B	Northwest	302	Good	Clear	192
MW5A	Southwest	637	Good	Clear	532
MW5B	Southwest	330	Good	Clear	247



Observed trend line issues:

- Please have a look at the trend lines for a selection of the data. Quick observation would indicate normal annual fluctuation.
- Note elevated Ammonia, pH, and TKN in GN1A
- Note elevated phosphorous in MW3A

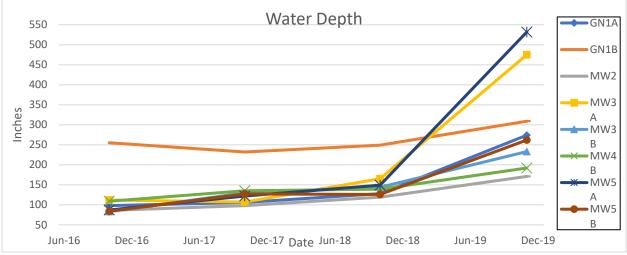
Conclusions and Comments:

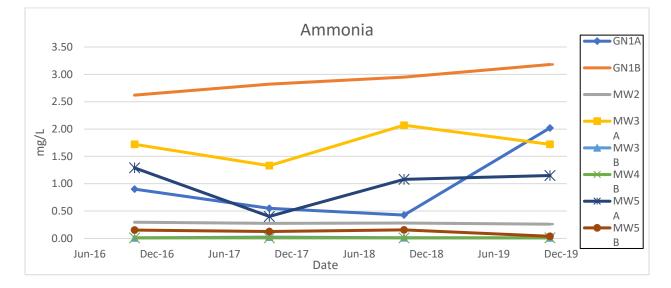
- Due to the significant depth of a few of the wells, they may have only been purged to within a few feet of the bottom.
- There is the possibility that some of the wells may not have achieved an 80% recharge although this should not represent a significant difference in the lab analysis.
- Sample Parameter Qualifier Keys Noted:
 - Samples 1, 2, 4 & 5 exceeded ALS recommended hold time prior to sample receipt with regards to testing for pH, Nitrate and Nitrite by IC, as well as Biochemical Oxygen Demand.

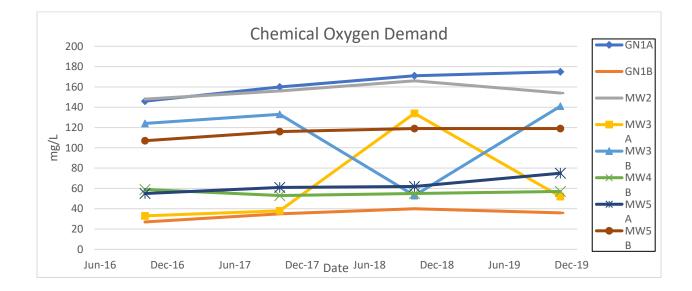
Attachments:

- Site plan with monitoring well locations and 2019 water depths.
- Annual data with trend lines displayed on graphs for a selection of parameters.
- 2019 lab analysis for each of the wells
- Municipal Waste Management Ltd. 2016 Licence



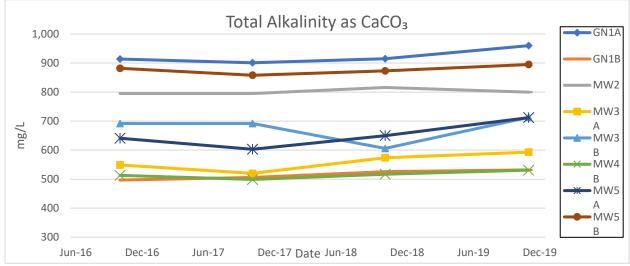


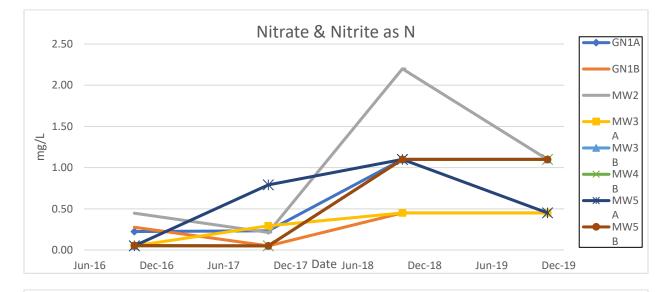


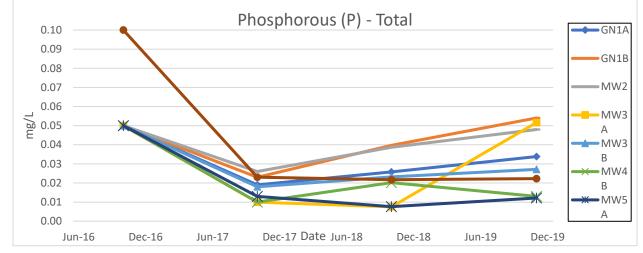


Page 84 of 168

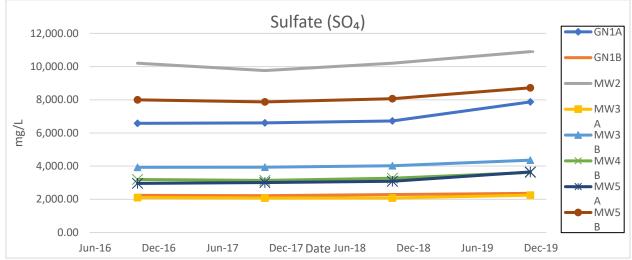


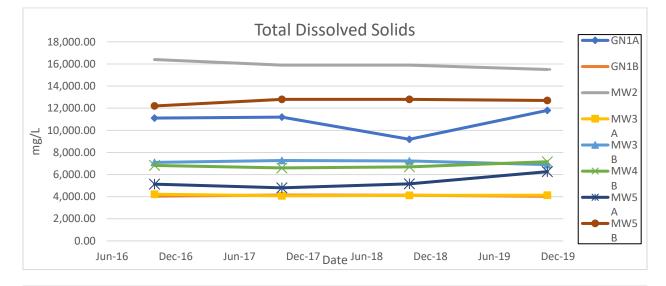


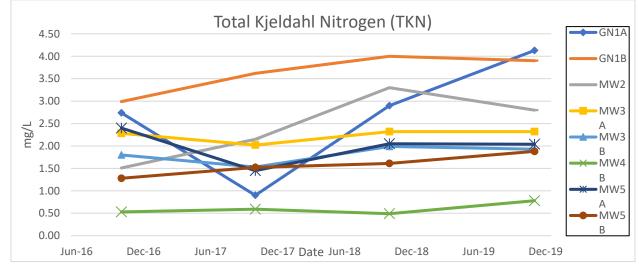






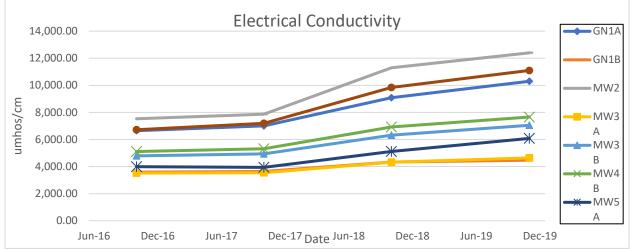


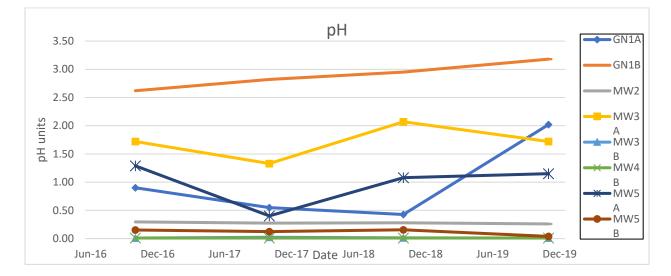




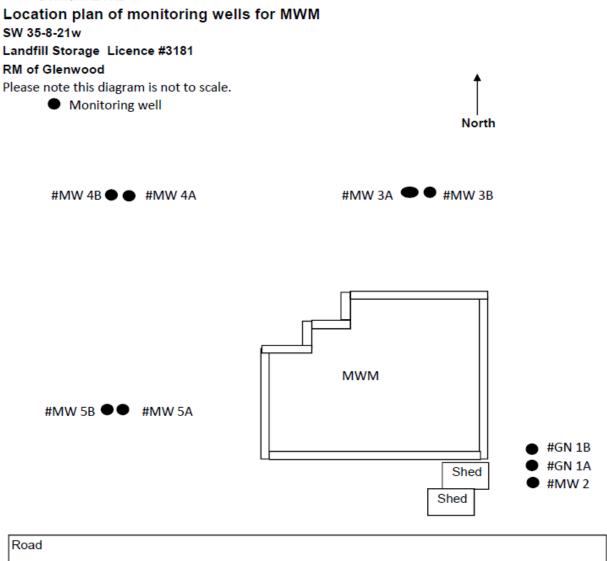
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Well #	Well	Well	Water Depth @	Water Depth @ time	Water	Comments
	Depth (In)	Height (In)	time of purge (In)	of sampling (In)	Table (In)	
GN1A	376	24	274	214	250	
GN1B	740	24	309	246	285	
MW2	269	20	171	153	151	
MW3A	643	29	475	498	446	
MW3B	305	26	233	247	207	
MW4A	615	n/a	n/a	n/a	n/a	Bent/Broken
MW4B	302	22	192	244	170	
MW5A	637	29	532	539	503	
MW5B	330	29	247	262	218	
	330			262	218	

Date of purging: September 25th, 2019

Date of sampling: November 21st, 22nd, 27th, 2019





MWM Environmental ATTN: BRANDI BERTHOLET Box 459 Souris MB ROK 2CO Date Received: 28-NOV-19 Report Date: 11-DEC-19 14:47 (MT) Version: FINAL

Client Phone: 204-483-3986

Certificate of Analysis

Lab Work Order #: L2388973 Project P.O. #: NOT SUBMITTED Job Reference: C of C Numbers: Legal Site Desc:

Hua Wo

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L2388973 CONTD.... PAGE 2 of 9 Version: FINAL

ALS ENVIRONMENTAL ANALYTICAL REPORT

ample Detalls/Parameters	Result	Qualifier	D.L.	Units	Extracted	Analyzed	Batch
2388973-1 MW4B							
ampled By: CLIENT on 27-NOV-19 @ 10:45					[
latrix: WATER							
litrate + Nitrite							
Nitrate in Water by IC							
Nitrate (as N)	<1.0	DLM	1.0	mg/L		28-NOV-19	R4929090
Nitrate+Nitrite							
Nitrate and Nitrite as N	<1.1		1.1	mg/L		30-NOV-19	
Nitrite In Water by IC							
Nitrite (as N)	<0.50	DLM	0.50	mg/L		28-NOV-19	R4929090
BTEX							
BTX plus F1 by GCMS							
Benzene Toluene	<0.00050		0.00050	mg/L		04-DEC-19	R4933846
Ethyl benzene	<0.0010		0.0010	mg/L mg/L		04-DEC-19 04-DEC-19	R4933846 R4933846
o-Xviene	<0.00050		0.00050	mg/L		04-DEC-19 04-DEC-19	R4933846
m+p-Xvlenes	<0.00050		0.00050	mg/L		04-DEC-19	R4933846
F1 (C6-C10)	<0.10		0.10	mg/L		04-DEC-19	R4933846
Surrogate: 4-Bromofluorobenzene (SS)	95.0		70-130	%		04-DEC-19	R4933846
CCME Total Hydrocarbons							
F1-BTEX	<0.10		0.10	mg/L		06-DEC-19	
Sum of Xylene isomer Concentrations				-			
Xylenes (Ťotal)	<0.00064		0.00064	mg/L		06-DEC-19	
Miscellaneous Parameters							
Ammonia, Total (as N)	<0.010		0.010	mg/L		03-DEC-19	R4934147
Blochemical Oxygen Demand	<2.0		2.0	mg/L		28-NOV-19	R4932715
Chemical Oxygen Demand	57		20	mg/L		29-NOV-19	R4929501
Chloride (CI)	990		25	mg/L		28-NOV-19	R4929090
Dissolved Organic Carbon	17.6		0.50	mg/L		02-DEC-19	R4931146
Phosphorus (P)-Total	0.0130		0.0030	mg/L		29-NOV-19	R4928488
Sulfate (SO4)	3620		15	mg/L		28-NOV-19	R4929090
Total Dissolved Solids	7160		20	mg/L		02-DEC-19	R4935531
Total Kjeldahl Nitrogen	0.78		0.20	mg/L	29-NOV-19	02-DEC-19	R4930338
Total Metals In Water by CRC ICPMS							
Aluminum (Al)-Total	0.0382		0.0030	mg/L	04-DEC-19	04-DEC-19	R4936273
Antimony (Sb)-Total	0.00030		0.00010	mg/L	04-DEC-19	04-DEC-19	R4936273
Arsenic (As)-Total	0.00091		0.00010	mg/L	04-DEC-19	04-DEC-19	R4936273
Barlum (Ba)-Total	0.00819		0.00010	mg/L	04-DEC-19	04-DEC-19	R4936273
Beryllium (Be)-Total	<0.00010		0.00010	mg/L	04-DEC-19	04-DEC-19	R4936273
Bismuth (BI)-Total	<0.000050		0.000050	mg/L	04-DEC-19 04-DEC-19	04-DEC-19 04-DEC-19	R4936273
Boron (B)-Total Cadmium (Cd)-Total	0.105		0.010	mg/L	04-DEC-19 04-DEC-19	04-DEC-19	R4936273 R4936273
Calcium (Co)-Total	591		0.50	mg/L mg/L	04-DEC-19 04-DEC-19	04-DEC-19 04-DEC-19	R4936273 R4936273
Cesium (Cs)-Total	<0.000010		0.000010	mg/L	04-DEC-19	04-DEC-19	R4936273 R4936273
Chromium (Cr)-Total	0.00039		0.00010	mg/L	04-DEC-19 04-DEC-19	04-DEC-19	R4936273
Cobalt (Co)-Total	0.00071		0.00010	mg/L	04-DEC-19	04-DEC-19	R4936273
Copper (Cu)-Total	0.0109		0.00050	mg/L	04-DEC-19	04-DEC-19	R4936273
Iron (Fe)-Total	0.069		0.010	ma/L	04-DEC-19	04-DEC-19	R4936273
Lead (Pb)-Total	0.00217		0.000050	mg/L	04-DEC-19	04-DEC-19	R4936273
Lithium (LI)-Total	2.75		0.010	mg/L	04-DEC-19	04-DEC-19	R4936273
Magnesium (Mg)-Totai	634		0.050	mg/L	04-DEC-19	04-DEC-19	R4936273
Manganese (Mn)-Total	0.272		0.00010	mg/L	04-DEC-19	04-DEC-19	R4936273
Molybdenum (Mo)-Total	0.00241		0.000050	mg/L	04-DEC-19	04-DEC-19	R4936273
Nickel (NI)-Total	0.0355		0.00050	mg/L	04-DEC-19	04-DEC-19	R4936273
Potassium (K)-Total	26.0	1	0.050	ma/L	04-DEC-19	04-DEC-19	R4936273



L2388973 CONTD.... PAGE 3 of 9 Version: FINAL

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2388973-1 MW4B							
Sampled By: CLIENT on 27-NOV-19 @ 10:45							
Matrix: WATER							
Total Metals In Water by CRC ICPMS							
Phosphorus (P)-Total	<0.030		0.030	ma/L	04-DEC-19	04-DEC-19	R4936273
Rubidium (Rb)-Total	0.00171		0.00020	mg/L	04-DEC-19	04-DEC-19	R4936273
Selenium (Se)-Total	0.000699		0.000050	mg/L	04-DEC-19	04-DEC-19	R4936273
Silicon (SI)-Total	14.8		0.10	mg/L	04-DEC-19	04-DEC-19	R4936273
Silver (Ag)-Total	0.000028		0.000010	mg/L	04-DEC-19	04-DEC-19	R4936273
Sodium (Na)-Total	916		0.50	mg/L	04-DEC-19	04-DEC-19	R4936273
Strontium (Sr)-Total	5.52		0.0020	mg/L	04-DEC-19	04-DEC-19	R4936273
Sulfur (S)-Total	1250		5.0	mg/L	04-DEC-19	04-DEC-19	R4936273
Tellurium (Te)-Total	0.00047		0.00020	mg/L	04-DEC-19	04-DEC-19	R4936273
Thaillum (TI)-Total	0.000119		0.000010	mg/L	04-DEC-19	04-DEC-19	R4936273
Thorium (Th)-Total	<0.00010		0.00010	mg/L	04-DEC-19	04-DEC-19	R4936273
Tin (Sn)-Total	0.00061		0.00010	mg/L	04-DEC-19	04-DEC-19	R4936273
Titanium (Ti)-Total	0.00208		0.00030	mg/L	04-DEC-19	04-DEC-19	R4936273
Tungsten (W)-Total	<0.00010		0.00010	mg/L	04-DEC-19	04-DEC-19	R4936273
Uranium (U)-Total	0.134		0.000010	mg/L	04-DEC-19	04-DEC-19	R4936273
Vanadium (V)-Total	0.00117		0.00050	mg/L	04-DEC-19	04-DEC-19	R4936273
Zinc (Zn)-Total	0.0105		0.0030	mg/L	04-DEC-19	04-DEC-19	R4936273
Zirconium (Zr)-Total	0.00035		0.00020	mg/L	04-DEC-19	04-DEC-19	R4936273
Dissolved Metals in Water by CRC ICPMS							
Dissolved Metals Flitration Location	FIELD					03-DEC-19	R4933007
Aluminum (AI)-Dissolved	<0.0010		0.0010	mg/L	03-DEC-19	03-DEC-19	R4933220
Antimony (Sb)-Dissolved	0.00024		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Arsenic (As)-Dissolved	0.00089		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Barlum (Ba)-Dissolved	0.00791		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Beryllium (Be)-Dissolved	<0.00010		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Bismuth (BI)-Dissolved	<0.000050		0.000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Boron (B)-Dissolved	0.089		0.010	mg/L	03-DEC-19	03-DEC-19	R4933220
Cadmlum (Cd)-Dissolved	0.000882		0.0000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Calcium (Ca)-Dissolved	544		0.050	mg/L	03-DEC-19	03-DEC-19	R4933220
Cesium (Cs)-Dissolved	<0.000010		0.000010	mg/L	03-DEC-19	03-DEC-19	R4933220
Chromium (Cr)-Dissolved	0.00018		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Cobalt (Co)-Dissolved	<0.00010		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Copper (Cu)-Dissolved	0.00924		0.00020	mg/L	03-DEC-19	03-DEC-19	R4933220
Iron (Fe)-Dissolved	<0.010		0.010	mg/L	03-DEC-19	03-DEC-19	R4933220
Lead (Pb)-Dissolved	0.000873		0.000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Lithium (LI)-Dissolved	2.47		0.010	mg/L	03-DEC-19	06-DEC-19	R4939729
Magnesium (Mg)-Dissolved	541		0.050	mg/L	03-DEC-19	06-DEC-19	R4939729
Manganese (Mn)-Dissolved	0.161		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Molybdenum (Mo)-Dissolved	0.00236		0.000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Nickel (NI)-Dissolved	0.0312		0.00050	mg/L	03-DEC-19	03-DEC-19	R4933220
Phosphorus (P)-Dissolved	<0.030		0.030	mg/L	03-DEC-19	03-DEC-19	R4933220
Potassium (K)-Dissolved	28.6		0.050	mg/L	03-DEC-19	03-DEC-19	R4933220
Rubidium (Rb)-Dissolved	0.00183		0.00020	mg/L	03-DEC-19	03-DEC-19	R4933220
Selenium (Se)-Dissolved	0.000862		0.000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Silicon (SI)-Dissolved	11.2		0.050	mg/L	03-DEC-19	03-DEC-19	R4933220
Silver (Ag)-Dissolved	0.000019		0.000010	mg/L	03-DEC-19	03-DEC-19	R4933220
Sodium (Na)-Dissolved	853		0.50	mg/L	03-DEC-19	06-DEC-19	R4939729
Strontium (Sr)-Dissolved	5.01		0.0010	mg/L	03-DEC-19	06-DEC-19	R4939729
Sulfur (S)-Dissolved	1150		5.0	mg/L	03-DEC-19	06-DEC-19	R4939729
Tellurium (Te)-Dissolved	0.00039		0.00020	mg/L	03-DEC-19	03-DEC-19	R4933220
Thaillum (Ti)-Dissolved	0.000118		0.000010	mg/L	03-DEC-19	03-DEC-19	R4933220

* Refer to Referenced Information for Qualifiers (if any) and Methodology.



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Sample Details/Parameters	Result	Qualifier	D.L.	Units	Extracted	Analyzed	Batch
L2388973-1 MW4B							
Sampled By: CLIENT on 27-NOV-19 @ 10:45							
Matrix: WATER							
Dissolved Metals in Water by CRC ICPMS							
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Tin (Sn)-Dissolved	0.00031		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Titanium (TI)-Dissolved	<0.00030		0.00030	mg/L	03-DEC-19	03-DEC-19	R4933220
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Uranium (U)-Dissolved	0.118		0.000010	mg/L	03-DEC-19	03-DEC-19	R4933220
Vanadium (V)-Dissolved	0.00081		0.00050	mg/L	03-DEC-19	03-DEC-19	R4933220
Zinc (Zn)-Dissolved	0.0087		0.0010	mg/L	03-DEC-19	03-DEC-19	R4933220
Zirconium (Zr)-Dissolved	0.00027		0.00020	mg/L	03-DEC-19	03-DEC-19	R4933220
Mercury Dissolved Dissolved Mercury Filtration Location	FIELD					06-DEC-19	R4940614
Mercury (Hg)-Dissolved	<0.000050		0.0000050	ma/L	10-DEC-19	10-DEC-19	R4940614 R4940666
pH, Conductivity and Total Alkalinity	<0.0000000		0.0000050	ingre .	10-020-15	10-020-13	14940000
Alkalinity, Bicarbonate							
Bicarbonate (HCO3)	648		1.2	mg/L		29-NOV-19	
Alkalinity, Carbonate				-			
Carbonate (CO3)	<0.60		0.60	mg/L		29-NOV-19	
Alkalinity, Hydroxide							
Hydroxide (OH)	<0.34		0.34	mg/L		29-NOV-19	
Alkalinity, Total (as CaCO3)							
Alkalinity, Total (as CaCO3)	531		1.0	mg/L		28-NOV-19	R4928689
Conductivity Conductivity	7660		1.0	umhos/cm		28-NOV-19	R4928689
DH	/000		1.0	umnos/cm		20-140-19	R4920009
pH pH	7.50		0.10	pH units		28-NOV-19	R4928689
2388973-2 MW5B							
Sampled By: CLIENT on 27-NOV-19 @ 10:45							
Matrix: WATER							
Nitrate + Nitrite							
Nitrate in Water by IC							
Nitrate (as N)	<1.0	DLM	1.0	mg/L		28-NOV-19	R4929090
Nitrate+Nitrite				-			
Nitrate and Nitrite as N	<1.1		1.1	mg/L		30-NOV-19	
Nitrite In Water by IC							
Nitrite (as N)	<0.50	DLM	0.50	mg/L		28-NOV-19	R4929090
BTEX							
BTX plus F1 by GCMS Benzene	<0.00050		0.00050	ma/L		04-DEC-19	R4933846
Toluene	<0.00050		0.00050	mg/L mg/L		04-DEC-19 04-DEC-19	R4933846 R4933846
Ethyl benzene	<0.0010		0.00050	mg/L		04-DEC-19 04-DEC-19	R4933846
o-Xylene	<0.00050		0.00050	mg/L		04-DEC-19	R4933846
m+p-Xylenes	<0.00040		0.00040	mg/L		04-DEC-19	R4933846
F1 (C6-C10)	<0.10		0.10	mg/L		04-DEC-19	R4933846
Surrogate: 4-Bromofluorobenzene (SS)	83.0		70-130	%		04-DEC-19	R4933846
CCME Total Hydrocarbons							
F1-BTEX	<0.10		0.10	mg/L		06-DEC-19	
Sum of Xylene isomer Concentrations							
Xylenes (Total)	<0.00064		0.00064	mg/L		06-DEC-19	
Miscellaneous Parameters							
Ammonia, Total (as N)	0.039		0.010	mg/L		05-DEC-19	R4936589
Biochemical Oxygen Demand	<2.0		2.0	mg/L		28-NOV-19	R4932715
Chemical Oxygen Demand	119	1	20	mg/L		29-NOV-19	R4929501



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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2388973-2 MW5B					J		
Sampled By: CLIENT on 27-NOV-19 @ 10:45							
Matrix: WATER							
Chloride (CI)	36		25	mg/L		28-NOV-19	R4929090
Dissolved Organic Carbon	35.8		0.50	mg/L		02-DEC-19	R4931146
Phosphorus (P)-Total	0.0223		0.0030	mg/L		29-NOV-19	R4928488
Sulfate (SO4)	8720		15	mg/L		28-NOV-19	R4929090
Total Dissolved Solids	12700		80	mg/L		02-DEC-19	R4935531
Total Kjeldahl Nitrogen	1.88		0.20	mg/L	29-NOV-19	02-DEC-19	R4930338
Total Metals In Water by CRC ICPMS							
Aluminum (Al)-Total	0.0544		0.0030	mg/L	04-DEC-19	04-DEC-19	R4936273
Antimony (Sb)-Total	0.00075		0.00010	mg/L	04-DEC-19	04-DEC-19	R4936273
Arsenic (As)-Total	0.00171		0.00010	mg/L	04-DEC-19	04-DEC-19	R4936273
Barlum (Ba)-Total	0.00876		0.00010	mg/L	04-DEC-19	04-DEC-19	R4936273
Beryllium (Be)-Total	<0.00010		0.00010	mg/L	04-DEC-19	04-DEC-19	R4936273
Bismuth (BI)-Total	<0.000050		0.000050	mg/L	04-DEC-19	04-DEC-19	R4936273
Boron (B)-Total	0.147		0.010	mg/L	04-DEC-19	04-DEC-19	R4936273
Cadmium (Cd)-Total	0.000650		0.0000050	mg/L	04-DEC-19	04-DEC-19	R4936273
Calcium (Ca)-Total	418		0.050	mg/L	04-DEC-19	04-DEC-19	R4936273
Cesium (Cs)-Total	0.000010		0.000010	mg/L	04-DEC-19	04-DEC-19	R4936273
Chromlum (Cr)-Total	0.00038		0.00010	mg/L	04-DEC-19	04-DEC-19	R4936273
Cobalt (Co)-Total	0.00293		0.00010	mg/L	04-DEC-19	04-DEC-19	R4936273
Copper (Cu)-Total	0.0105		0.00050	mg/L	04-DEC-19	04-DEC-19	R4936273
Iron (Fe)-Total	0.055		0.010	mg/L	04-DEC-19	04-DEC-19	R4936273
Lead (Pb)-Total	0.00387		0.000050	mg/L	04-DEC-19	04-DEC-19	R4936273
Lithium (Li)-Total	4.44		0.010	mg/L	04-DEC-19	04-DEC-19	R4936273
Magnesium (Mg)-Total	1730		0.050	mg/L	04-DEC-19	04-DEC-19	R4936273
Manganese (Mn)-Total	4.56		0.0010	mg/L	04-DEC-19	04-DEC-19	R4936273
Molybdenum (Mo)-Total	0.00386		0.000050	mg/L	04-DEC-19	04-DEC-19	R4936273
Nickel (NI)-Total	0.0736		0.00050	mg/L	04-DEC-19	04-DEC-19	R4936273
Potassium (K)-Total	33.9	1	0.050	mg/L	04-DEC-19	04-DEC-19	R4936273
Phosphorus (P)-Total	<0.030		0.030	mg/L	04-DEC-19	04-DEC-19	R4936273
Rubidium (Rb)-Total	0.00151		0.00020	mg/L	04-DEC-19	04-DEC-19	R4936273
Selenium (Se)-Total	0.00324		0.000050	mg/L	04-DEC-19	04-DEC-19	R4936273
Silicon (SI)-Total	15.5		0.10	mg/L	04-DEC-19	04-DEC-19	R4936273
Silver (Ag)-Total	0.000044		0.000010	mg/L	04-DEC-19	04-DEC-19	R4936273
Sodium (Na)-Total	1430		0.50	mg/L	04-DEC-19	04-DEC-19	R4936273
Strontium (Sr)-Total	8.66		0.0020	mg/L	04-DEC-19	04-DEC-19	R4936273
Sulfur (S) Total	3170		5.0	mg/L	04-DEC-19	04-DEC-19	R4936273
Tellurium (Te)-Total	0.00054		0.00020	mg/L	04-DEC-19	04-DEC-19	R4936273
Thailium (TI)-Totai	0.000095		0.000010	mg/L	04-DEC-19	04-DEC-19	R4936273
Thorium (Th)-Total	0.00011		0.00010	mg/L	04-DEC-19	04-DEC-19	R4936273
Tin (Sn)-Total	0.00032		0.00010	mg/L	04-DEC-19	04-DEC-19	R4936273
Titanium (TI)-Total	0.00218		0.00030	mg/L	04-DEC-19	04-DEC-19	R4936273
Tungsten (W)-Total	<0.00010		0.00010	mg/L	04-DEC-19	04-DEC-19	R4936273
Uranium (U)-Total	0.235		0.000010	mg/L	04-DEC-19	04-DEC-19	R4936273
Vanadium (V)-Total	0.00159		0.00050	mg/L	04-DEC-19	04-DEC-19	R4936273
Zinc (Zn)-Total	0.0235		0.0030	mg/L	04-DEC-19	04-DEC-19	R4936273
Zirconium (Zr)-Total	0.00175		0.00020	mg/L	04-DEC-19	04-DEC-19	R4936273
Dissolved Metals in Water by CRC ICPMS							
Dissolved Metals Filtration Location	FIELD					03-DEC-19	R4933007
Aluminum (AI)-Dissolved	0.0018		0.0010	mg/L	03-DEC-19	03-DEC-19	R4933220
	0.00066		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Antimony (Sb)-Dissolved	0.00000						
Antimony (Sb)-Dissolved Arsenic (As)-Dissolved	0.00192		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220

* Refer to Referenced Information for Qualifiers (if any) and Methodology.



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Sample Detalls/Parameters	Result	Qualifier	D.L.	Units	Extracted	Analyzed	Batch
L2388973-2 MW5B							
Sampled By: CLIENT on 27-NOV-19 @ 10:45							
Matrix: WATER							
Dissolved Metals in Water by CRC ICPMS							
Beryllum (Be)-Dissolved	<0.00010		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Bismuth (BI)-Dissolved	<0.000050		0.000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Boron (B)-Dissolved	0.138		0.010	mg/L	03-DEC-19	03-DEC-19	R4933220
Cadmium (Cd)-Dissolved	0.000611		0.0000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Calcium (Ca)-Dissolved	431		0.050	mg/L	03-DEC-19	03-DEC-19	R4933220
Ceslum (Cs)-Dissolved	<0.000010		0.000010	ma/L	03-DEC-19	03-DEC-19	R4933220
Chromium (Cr)-Dissolved	0.00018		0.00010	ma/L	03-DEC-19	03-DEC-19	R4933220
Cobalt (Co)-Dissolved	0.00263		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Copper (Cu)-Dissolved	0.00931		0.00020	ma/L	03-DEC-19	03-DEC-19	R4933220
Iron (Fe)-Dissolved	<0.010		0.010	ma/L	03-DEC-19	03-DEC-19	R4933220
Lead (Pb)-Dissolved	0.00199		0.000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Lithium (LI)-Dissolved	3.88		0.010	mg/L	03-DEC-19	06-DEC-19	R4939729
Magnesium (Mg)-Dissolved	1440		0.050	mg/L	03-DEC-19	06-DEC-19	R4939729
Manganese (Mn)-Dissolved	3.71		0.0010	mg/L	03-DEC-19	06-DEC-19	R4939729
Molybdenum (Mo)-Dissolved	0.00371		0.000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Nickel (NI)-Dissolved	0.0689		0.00050	mg/L	03-DEC-19	03-DEC-19	R4933220
Phosphorus (P)-Dissolved	<0.030		0.030	mg/L	03-DEC-19	03-DEC-19	R4933220
Potassium (K)-Dissolved	38.5		0.050	mg/L	03-DEC-19	03-DEC-19	R4933220
Rubidium (Rb)-Dissolved	0.00159		0.00020	mg/L	03-DEC-19	03-DEC-19	R4933220
Selenium (Se)-Dissolved	0.00425		0.000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Silicon (SI)-Dissolved	11.5		0.050	mg/L	03-DEC-19	03-DEC-19	R4933220
Silver (Ag)-Dissolved	0.000039		0.000010	ma/L	03-DEC-19	03-DEC-19	R4933220
Sodium (Na)-Dissolved	1300		0.50	ma/L	03-DEC-19	06-DEC-19	R4939729
Strontium (Sr)-Dissolved	7.30		0.0010	mg/L	03-DEC-19	06-DEC-19	R4939729
Sulfur (S)-Dissolved	2900		5.0	mg/L	03-DEC-19	06-DEC-19	R4939729
Tellurium (Te)-Dissolved	0.00045		0.00020	ma/L	03-DEC-19	03-DEC-19	R4933220
Thailum (TI)-Dissolved	0.000097		0.000010	mg/L	03-DEC-19	03-DEC-19	R4933220
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Tin (Sn)-Dissolved	0.00019		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Titanium (TI)-Dissolved	0.00045		0.00030	mg/L	03-DEC-19	03-DEC-19	R4933220
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Uranium (U)-Dissolved	0.205		0.000010	mg/L	03-DEC-19	03-DEC-19	R4933220
Vanadium (V)-Dissolved	0.00127		0.00050	mg/L	03-DEC-19	03-DEC-19	R4933220
Zinc (Zn)-Dissolved	0.0218		0.0010	mg/L	03-DEC-19	03-DEC-19	R4933220
Zirconium (Zr)-Dissolved	0.00171		0.00020	ma/L	03-DEC-19	03-DEC-19	R4933220
Mercury Dissolved	0.00111		0.00020		0002010	0002015	
Dissolved Mercury Filtration Location	FIELD					06-DEC-19	R4940614
Mercury (Hg)-Dissolved	<0.0000050		0.0000050	mg/L	10-DEC-19	10-DEC-19	R4940666
pH, Conductivity and Total Alkalinity	-0.0000000		0.0000000		10 020 10		
Alkalinity, Bicarbonate							
Bicarbonate (HCO3)	1090		1.2	mg/L		29-NOV-19	
Alkalinity, Carbonate							
Carbonate (CO3)	<0.60		0.60	mg/L		29-NOV-19	
Alkalinity, Hydroxide							
Hydroxide (OH)	<0.34		0.34	mg/L		29-NOV-19	
Alkalinity, Total (as CaCO3)							
Alkalinity, Total (as CaCO3)	895		1.0	mg/L		28-NOV-19	R4928689
Conductivity							
Conductivity	11100		1.0	umhos/cm		28-NOV-19	R4928689
DH							
pH	7.88		0.10	pH units		28-NOV-19	R4928689
•		-					



Reference Information

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Sample Parameter Qualifier Key: Qualifier Description DIM Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity). MS-B Matrix Spike recovery could not be accurately calculated due to high analyte background in sample. Test Method References: Method Reference** ALS Test Code Matrix Test Description ALK-CO3CO3-CALC-WP Water Alkalinity, Carbonate CALCULATION The Alkalinity of water is a measure of its acid neutralizing capacity Alkalinity is imparted by bicarbonate, carbonate and hydroxide components of water. The fraction of alkalinity contributed by carbonate is calculated and reported as mg CO3 2-/L. ALK-HCO3HCO3-CALC- Water WP Alkalinity, Bicarbonate CALCULATION The Alkalinity of water is a measure of its acid neutralizing capacity. Alkalinity is imparted by bicarbonate, carbonate and hydroxide components of water. The fraction of alkalinity contributed by bicarbonate is calculated and reported as mg HCO3-/L ALK-OHOH-CALC-WP Water Alkalinity, Hydroxide CALCULATION The Alkalinity of water is a measure of its acid neutralizing capacity. Alkalinity is imparted by bicarbonate, carbonate and hydroxide components of water. The fraction of alkalinity contributed by hydroxide is calculated and reported as mg OH-/L. ALK-TITR-WP Water Alkalinity, Total (as CaCO3) APHA 2320B The Alkalinity of water is a measure of its acid neutralizing capacity. Alkalinity is imparted by bicarbonate, carbonate and hydroxide components of water. Total alkalinity is determined by titration with a strong standard mineral acid to the successive HCO3- and H2CO3 endpoints indicated electrometrically. BOD-WP Water Blochemical Oxygen Demand (BOD) APHA 5210 B Samples are diuted and seeded and then incubated in airtight bottles at 2010 for 5 days. Dissolved oxygen is measured initially and after incubation, and results are computed from the difference between Initial and final DO. BTEXS+F1-HSMS-WP Water BTX plus F1 by GCMS EPA 8260C / EPA 5021A The water sample, with added reagents, is heated in a sealed vial to equilibrium. The headspace from the vial is transfered into a gas chromatograph. Target compound concentrations are measured using mass spectrometry detection. C-DOC-HTC-WP Water Dissolved Organic Carbon by Combustion APHA 5310 B-WP Filtered (0.45 um) sample is acidified and purged to remove inorganic carbon, then injected into a heated reaction chamber where organic carbon is oxidized to CO2 which is then transported in the carrier gas stream and measured via a non-dispersive infrared analyzer. CL-IC-N-WP Water Chloride In Water by IC EPA 300.1 (mod) Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection. COD-WP Water Chemical Oxygen Demand APHA 5220 D This analysis is carried out using procedures adapted from APHA Method 5220 "Chemical Oxygen Demand (COD)". Chemical oxygen demand is determined using the closed reflux colorimetric method. EC-SCREEN-WP Water Conductivity Screen (Internal Use Only) APHA 2510 Qualitative analysis of conductivity where required during preparation of other test eg. IC, TDS, TSS, etc. EC-WP Water Conductivity APHA 2510B Conductivity of an aqueous solution refers to its ability to carry an electric current. Conductance of a solution is measured between two spatially fixed and chemically inert electrodes. CCME Total Hydrocarbons F1-F4-CALC-WP Water CCME CWS-PHC, Pub #1310, Dec 2001-L Analytical methods used for analysis of CCME Petroleum Hydrocarbons have been validated and comply with the Reference Method for the CWS PHC. In cases where results for both F4 and F4G are reported, the greater of the two results must be used in any application of the CWS PHC guidelines and the gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons. In samples where BTEX and F1 were analyzed , F1-BTEX represents a value where the sum of Benzene, Toluene, Ethylbenzene and total Xylenes has been subtracted from F1. In samples where PAHs, F2 and F3 were analyzed, F2-Naphth represents the result where Naphthalene has been subtracted from F2. F3-PAH

In samples where PAHs, F2 and F3 were analyzed, F2-Naphth represents the result where Naphthalene has been subtracted from F2. F3-PAH represents a result where the sum of Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, and Pyrene has been subtracted from F3.



Reference Information

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Test Method References: Matrix ALS Test Code Test Description Method Reference** Unless otherwise qualified, the following quality control criteria have been met for the F1 hydrocarbon range: 1. All extraction and analysis holding times were met. 2. Instrument performance showing response factors for C6 and C10 within 30% of the response factor for toluene. 3. Linearity of gasoline response within 15% throughout the calibration range. Unless otherwise qualified, the following quality control criteria have been met for the F2-F4 hydrocarbon ranges: All extraction and analysis holding times were met.
 Instrument performance showing C10, C16 and C34 response factors within 10% of their average. 3. Instrument performance showing the C50 response factor within 30% of the average of the C10, C16 and C34 response factors. 4. Linearity of diesel or motor oil response within 15% throughout the calibration range APHA 3030B/EPA 1631E (mod) HG-D-CVAA-WP Water Mercury Dissolved Water samples are filtered (0.45 um), preserved with hydrochloric acid, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS. MET-D-CCMS-WP Water Dissolved Metals in Water by CRC ICPMS APHA 3030B/6020B (mod) Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. MET-T-CCMS-WP Water Total Metals In Water by CRC ICPMS EPA 200.2/6020B (mod.) Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. APHA 4500 NorgD (modified) N-TOTKJ-WP Water Total Kleidahl Nitrogen Aqueous samples are digested in a block digester with sulfuric acid and copper sulfate as a catalyst. Total Kjeidahi Nitrogen is then analyzed using a discrete analyzer with colorimetric detection. APHA 4500 NH3 F NH3-COL-WP Water Ammonia by colour Ammonia in water samples forms indophenoi when reacted with hypochiorite and phenoi. The intensity is amplified by the addition of sodium nitroprusside and measured colourmetrically. NO2+NO3-CALC-WP Water Nitrate+Nitrite CALCULATION NO2-IC-N-WP Water Nitrite In Water by IC EPA 300.1 (mod) Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection. Water NO3-IC-N-WP Nitrate in Water by IC EPA 300.1 (mod) Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection. P-T-COL-WP Water Phosphorus, Total APHA 4500 P PHOSPHORUS-L This analysis is carried out using procedures adapted from APHA METHOD 4500-P "Phosphorus". Total Phosphorus is determined colourmetrically after persulphate digestion of the sample. PH-WP Water pH APHA 4500H The pH of a sample is the determination of the activity of the hydrogen ions by potentiometric measurement using a standard hydrogen electrode and a reference electrode. SO4-IC-N-WP Water Sulfate In Water by IC EPA 300.1 (mod) Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection. TDS-WP Water Total Dissolved Solids (TDS) APHA 2540 SOLIDS C,E A well-mixed sample is filtered through a glass fiber filter paper. The filtrate is then evaportaed to dryness in a pre-weighed vial and dried at 180 – 2C. The increase in vial weight represents the total dissolved solids. XYLENES-SUM-CALC- Water Sum of Xylene Isomer Concentrations CALCULATED RESULT WP Total xylenes represents the sum of o-xylene and m&p-xylene.



Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
** ALS test methods may	/ incorporate m	odifications from specified r	reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location				
WP	ALS ENVIRONMENTAL - WINNIPEG, MANITOBA, CANADA				
Chain of Custody Numbers:					

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample mg/kg wwt - milligrams per kilogram based on wet weight of sample mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight

mg/L - unit of concentration based on volume, parts per million. < - Less than.

D.L. - The reporting limit. N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory. UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION. Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

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(ALS) Environmental

		Workorder:	L2388973	B Re	port Date:	11-DEC-19	Pa	ge 1 of 10
l	MWM Environmentai Box 459 Souris MB R0K 2C0							
Contact: E	BRANDI BERTHOLET							
rest	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
ALK-TITR-WP	Water							
Batch R4 WG3231568-14 Alkalinity, Total			108.3		%		85-115	28-NOV-19
WG3231568-11 Alkalinity, Totai			<1.0		mg/L		1	28-NOV-19
BOD-WP	Water							
Batch R4	4932715							
WG3230318-7 Biochemical Ox			104.5		%		85-115	28-NOV-19
WG3230318-6								
Blochemical O	kygen Demand		<2.0		mg/L		2	28-NOV-19
BTEXS+F1-HSMS-	WP Water							
	4933846							
WG3234980-4 Benzene	DUP	L2388973-1	<0.00050		mell			
Toluene		<0.00050		RPD-NA	mg/L	N/A	30	04-DEC-19
		<0.0010	<0.0010	RPD-NA	mg/L	N/A	30	04-DEC-19
Ethyl benzene		<0.00050	<0.00050	RPD-NA	mg/L	N/A	30	04-DEC-19
o-Xylene		<0.00050	<0.00050	RPD-NA	mg/L	N/A	30	04-DEC-19
m+p-Xylenes		<0.00040	<0.00040	RPD-NA	mg/L	N/A	30	04-DEC-19
F1 (C6-C10)		<0.10	<0.10	RPD-NA	mg/L	N/A	30	04-DEC-19
WG3234980-2 Benzene	LCS		99.3		%		70-130	04-DEC-19
Toluene			99.0		%		70-130	04-DEC-19
Ethyl benzene			97.0		%		70-130	04-DEC-19
o-Xylene			97.0		%		70-130	04-DEC-19
m+p-Xylenes			106.5		%		70-130	04-DEC-19
WG3234980-3 F1 (C6-C10)	LCS		119.0		%		70-130	04-DEC-19
WG3234980-1 Benzene	MB		<0.00050		mg/L		0.0005	04-DEC-19
Toluene			<0.0010		mg/L		0.001	04-DEC-19
Ethyl benzene			<0.00050		mg/L		0.0005	04-DEC-19
o-Xylene			<0.00050		mg/L		0.0005	04-DEC-19
m+p-Xylenes			<0.00040		mg/L		0.0005	04-DEC-19 04-DEC-19
F1 (C6-C10)			<0.00040		mg/L		0.0004	04-DEC-19 04-DEC-19
	romofluorobenzene (SS)		<0.10 89.0		mg/L %		70-130	04-DEC-19 04-DEC-19
-		1.0000070.0	05.0		70		70-130	04-060-19
WG3234980-5 Benzene	MS	L2388973-2	95.0		%		50-150	04-DEC-19





				-	-			
		Workorder:	L2388973	1	Report Date: 11	1-DEC-19	Pag	ge 2 of 10
fest	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BTEXS+F1-HSMS-WP	Water							
Batch R49338	46							
WG3234980-5 MS Toluene		L2388973-2	94.2		%		50-150	04-DEC-19
Ethyl benzene			87.1		%		50-150	04-DEC-19
o-Xylene			91.6		%		50-150	04-DEC-19
m+p-Xylenes			105.9		%		50-150	04-DEC-19
C-DOC-HTC-WP	Water							
Batch R49311	46							
WG3233899-2 LC: Dissolved Organic C			99.0		%		80-120	02-DEC-19
WG3233899-1 MB Dissolved Organic C			<0.50		mg/L		0.5	02-DEC-19
CL-IC-N-WP	Water							
Batch R49290								
WG3230938-6 LC: Chloride (CI)	5		97.2		%		90-110	28-NOV-19
WG3230938-5 MB								
Chloride (CI)			<0.50		mg/L		0.5	28-NOV-19
COD-WP	Water							
Batch R49295	01							
WG3231609-6 LC: Chemical Oxygen De			103.1		%		85-115	29-NOV-19
WG3231609-5 MB Chemical Oxygen De			<20		mg/L		20	29-NOV-19
EC-WP	Water							
Batch R49286	89							
WG3231568-13 LC								
Conductivity			99.2		%		90-110	28-NOV-19
WG3231568-11 MB Conductivity			<1.0		umhos/cm		1	28-NOV-19
HG-D-CVAA-WP	Water							
Batch R49406	66							
WG3240068-2 LC: Mercury (Hg)-Dissolv			98.0		%		80-120	10-DEC-19
WG3240068-1 MB Mercury (Hg)-Dissolv			<0.000005	0	mg/L		0.000005	10-DEC-19
MET-D-CCMS-WP	Water				_			
and a company								





		Workorder	L238897	3	Report Date: 1	1-DEC-19	Pa	ge 3 of 1
Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-WP	Water							
Batch R493	33220							
WG3234831-2			103.8		%			
Aluminum (Al)-Di			98.4		76 96		80-120	03-DEC-19
Antimony (Sb)-Dk			90.4		76 96		80-120	03-DEC-19
Arsenic (As)-Diss			101.2		-		80-120	03-DEC-19
Barlum (Ba)-Diss					%		80-120	03-DEC-19
Beryllum (Be)-Dk			88.6 86.9		%		80-120	03-DEC-19
Bismuth (BI)-Diss							80-120	03-DEC-19
Boron (B)-Dissolv			85.3		%		80-120	03-DEC-19
Cadmium (Cd)-Di			100.1		%		80-120	03-DEC-19
Calcium (Ca)-Dis			102.2				80-120	03-DEC-19
Ceslum (Cs)-Diss			110.0		%		80-120	03-DEC-19
Chromlum (Cr)-D			98.4		%		80-120	03-DEC-19
Cobalt (Co)-Disso			98.0		%		80-120	03-DEC-19
Copper (Cu)-Diss			96.6		%		80-120	03-DEC-19
Iron (Fe)-Dissolve			85.2		%		80-120	03-DEC-19
Lead (Pb)-Dissolv			86.9		%		80-120	03-DEC-19
Manganese (Mn)-			102.1		%		80-120	03-DEC-19
Molybdenum (Mo			97.5		%		80-120	03-DEC-19
Nickel (NI)-Dissol			94.2		%		80-120	03-DEC-19
Phosphorus (P)-D			106.1		%		80-120	03-DEC-19
Potassium (K)-Di			98.1		%		80-120	03-DEC-19
Rubidium (Rb)-Di			106.2		%		80-120	03-DEC-19
Selenium (Se)-Di			97.5		%		80-120	03-DEC-19
Silicon (SI)-Dissol			87.2		%		80-120	03-DEC-19
Sliver (Ag)-Dissol			96.3		%		80-120	03-DEC-19
Tellurium (Te)-Dia			97.8		%		80-120	03-DEC-19
Thailium (TI)-Diss			88.2		%		80-120	03-DEC-19
Thorium (Th)-Dis			85.9		%		80-120	03-DEC-19
Tin (Sn)-Dissolve			99.5		%		80-120	03-DEC-19
Titanium (TI)-Dise	solved		96.0		%		80-120	03-DEC-19
Tungsten (W)-Dis	solved		101.4		%		80-120	03-DEC-19
Uranium (U)-Diss	olved		97.7		%		80-120	03-DEC-19
Vanadium (V)-Dis	solved		99.5		%		80-120	03-DEC-19
Zinc (Zn)-Dissolve	ed		98.2		%		80-120	03-DEC-19
Zirconium (Zr)-Dk	ssolved		96.1		%		80-120	03-DEC-19





		Workorder	: L238897	3	Report Date: 1	1-DEC-19	Pa	ge 4 of 1
fest	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-WP	Water							
Batch R493	3220							
	MB							
Aluminum (Al)-Dis			<0.0010		mg/L		0.001	03-DEC-19
Antimony (Sb)-Dis			<0.00010		mg/L		0.0001	03-DEC-19
Arsenic (As)-Disso			<0.00010		mg/L		0.0001	03-DEC-19
Barlum (Ba)-Disso			<0.00010		mg/L		0.0001	03-DEC-19
Beryllum (Be)-Dis			<0.00010		mg/L		0.0001	03-DEC-19
Bismuth (BI)-Disso			<0.00005	0	mg/L		0.00005	03-DEC-19
Boron (B)-Dissolve			<0.010		mg/L		0.01	03-DEC-19
Cadmium (Cd)-Dis			<0.00000	50	mg/L		0.000005	03-DEC-19
Calcium (Ca)-Diss			<0.050		mg/L		0.05	03-DEC-19
Cesium (Cs)-Diss			<0.00001		mg/L		0.00001	03-DEC-19
Chromlum (Cr)-Di	ssolved		<0.00010		mg/L		0.0001	03-DEC-19
Cobalt (Co)-Disso	lved		<0.00010		mg/L		0.0001	03-DEC-19
Copper (Cu)-Disso	olved		<0.00020		mg/L		0.0002	03-DEC-19
Iron (Fe)-Dissolve	d		<0.010		mg/L		0.01	03-DEC-19
Lead (Pb)-Dissolv	ed		<0.00005	0	mg/L		0.00005	03-DEC-19
Manganese (Mn)-	Dissolved		<0.00010		mg/L		0.0001	03-DEC-19
Molybdenum (Mo)	-Dissolved		<0.00005	0	mg/L		0.00005	03-DEC-19
Nickel (NI)-Dissolv	ved		<0.00050		mg/L		0.0005	03-DEC-19
Phosphorus (P)-D	issolved		<0.030		mg/L		0.03	03-DEC-19
Potassium (K)-Dis	solved		<0.050		mg/L		0.05	03-DEC-19
Rubidium (Rb)-Dis	solved		<0.00020)	mg/L		0.0002	03-DEC-19
Selenium (Se)-Dis	solved		<0.00005	0	mg/L		0.00005	03-DEC-19
Silicon (Si)-Dissol	ved		<0.050		mg/L		0.05	03-DEC-19
Sliver (Ag)-Dissolv	ved		<0.00001	0	mg/L		0.00001	03-DEC-19
Tellurium (Te)-Dis	solved		<0.00020)	mg/L		0.0002	03-DEC-19
Thaillum (TI)-Diss	olved		<0.00001	0	mg/L		0.00001	03-DEC-19
Thorlum (Th)-Diss	olved		<0.00010)	mg/L		0.0001	03-DEC-19
Tin (Sn)-Dissolved	1		<0.00010)	mg/L		0.0001	03-DEC-19
Titanium (TI)-Diss	olved		<0.00030)	mg/L		0.0003	03-DEC-19
Tungsten (W)-Dis	solved		<0.00010)	mg/L		0.0001	03-DEC-19
Uranium (U)-Disso	olved		<0.00001	0	mg/L		0.00001	03-DEC-19
Vanadium (V)-Dis	solved		<0.00050)	mg/L		0.0005	03-DEC-19
Zinc (Zn)-Dissolve	d		<0.0010		mg/L		0.001	03-DEC-19
Zirconium (Zr)-Dis	solved		<0.00020		mg/L		0.0002	03-DEC-19





		Workorder	: L238897	3	Report Date: 1	1-DEC-19	Pa	ige 5 of 1
est	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
ET-T-CCMS-WP	Water							
Batch R4936273								
WG3234910-2 LCS			102.3		%			
Aluminum (Al)-Total							80-120	04-DEC-19
Antimony (Sb)-Total			106.8 101.3		%		80-120	04-DEC-19
Arsenic (As)-Total			101.5		%		80-120	04-DEC-19
Barlum (Ba)-Total							80-120	04-DEC-19
Beryllum (Be)-Total			103.1 105.2		%		80-120	04-DEC-19
Bismuth (BI)-Total							80-120	04-DEC-19
Boron (B)-Total			101.7		%		80-120	04-DEC-19
Cadmium (Cd)-Total			101.3		%		80-120	04-DEC-19
Calcium (Ca)-Total			101.5		%		80-120	04-DEC-19
Ceslum (Cs)-Total			101.2		%		80-120	04-DEC-19
Chromium (Cr)-Total			102.1		%		80-120	04-DEC-19
Cobalt (Co)-Total			101.2		%		80-120	04-DEC-19
Copper (Cu)-Total			103.1		%		80-120	04-DEC-19
Iron (Fe)-Total			87.6		%		80-120	04-DEC-19
Lead (Pb)-Total			102.7		%		80-120	04-DEC-19
Lithium (LI)-Total			103.0		%		80-120	04-DEC-19
Magnesium (Mg)-Totai			118.5		%		80-120	04-DEC-19
Manganese (Mn)-Total			102.1		%		80-120	04-DEC-19
Molybdenum (Mo)-Total			102.3		%		80-120	04-DEC-19
Nickel (NI)-Total			101.6		%		80-120	04-DEC-19
Potassium (K)-Total			92.1		%		80-120	04-DEC-19
Phosphorus (P)-Total			103.8		%		80-120	04-DEC-19
Rubidium (Rb)-Total			98.2		%		80-120	04-DEC-19
Selenium (Se)-Total			100.9		%		80-120	04-DEC-19
Silicon (Si)-Total			102.6		%		80-120	04-DEC-19
Sliver (Ag)-Total			101.8		%		80-120	04-DEC-19
Sodium (Na)-Total			103.4		%		80-120	04-DEC-19
Strontium (Sr)-Total			103.0		%		80-120	04-DEC-19
Sulfur (S)-Total			97.9		%		80-120	04-DEC-19
Tellurium (Te)-Total			108.9		%		80-120	04-DEC-19
Thailium (TI)-Totai			103.1		%		80-120	04-DEC-19
Thorlum (Th)-Total			96.5		%		80-120	04-DEC-19
Tin (Sn)-Total			100.4		%		80-120	04-DEC-19
Titanium (TI)-Total			100.1		%		80-120	04-DEC-19





		Workorder	: L238897	3	Report Date: 1	1-DEC-19	Pag	ge 6 of 10
rest	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	Water							
Batch R4936	273							
WG3234910-2 LC Tungsten (W)-Total			102.8		%		80-120	04-DEC-19
Uranium (U)-Total			106.2		%		80-120	04-DEC-19
Vanadium (V)-Total	1		102.5		%		80-120	04-DEC-19
Zinc (Zn)-Total			99.7		%		80-120	04-DEC-19
Zirconium (Zr)-Tota			93.5		%		80-120	04-DEC-19
WG3234910-1 M	в							
Aluminum (AI)-Tota	al de la companya de		<0.0030		mg/L		0.003	04-DEC-19
Antimony (Sb)-Tota	al de la companya de		<0.00010)	mg/L		0.0001	04-DEC-19
Arsenic (As)-Total			<0.00010		mg/L		0.0001	04-DEC-19
Barium (Ba)-Total			<0.00010)	mg/L		0.0001	04-DEC-19
Beryllum (Be)-Tota	il i		<0.00010		mg/L		0.0001	04-DEC-19
Bismuth (BI)-Total			<0.00005	0	mg/L		0.00005	04-DEC-19
Boron (B)-Total			<0.010		mg/L		0.01	04-DEC-19
Cadmlum (Cd)-Tota	al		<0.00000	50	mg/L		0.000005	04-DEC-19
Calcium (Ca)-Total			<0.050		mg/L		0.05	04-DEC-19
Ceslum (Cs)-Total			<0.00001	0	mg/L		0.00001	04-DEC-19
Chromlum (Cr)-Tot	al		<0.00010		mg/L		0.0001	04-DEC-19
Cobalt (Co)-Total			<0.00010)	mg/L		0.0001	04-DEC-19
Copper (Cu)-Total			<0.00050)	mg/L		0.0005	04-DEC-19
Iron (Fe)-Total			<0.010		mg/L		0.01	04-DEC-19
Lead (Pb)-Total			<0.00005	0	mg/L		0.00005	04-DEC-19
Lithium (LI)-Total			<0.0010		mg/L		0.001	04-DEC-19
Magneslum (Mg)-T	otal		<0.0050		mg/L		0.005	04-DEC-19
Manganese (Mn)-T	otal		<0.00010)	mg/L		0.0001	04-DEC-19
Molybdenum (Mo)-1	Total		<0.00005	0	mg/L		0.00005	04-DEC-19
Nickel (NI)-Total			<0.00050		mg/L		0.0005	04-DEC-19
Potassium (K)-Tota	al de la companya de		<0.050		mg/L		0.05	04-DEC-19
Phosphorus (P)-To	tal		<0.030		mg/L		0.03	04-DEC-19
Rubidium (Rb)-Tota	al		<0.00020		mg/L		0.0002	04-DEC-19
Selenium (Se)-Tota	al		<0.00005	0	mg/L		0.00005	04-DEC-19
Silicon (Si)-Total			<0.10		mg/L		0.1	04-DEC-19
Sliver (Ag)-Total			<0.00001	0	mg/L		0.00001	04-DEC-19
Sodium (Na)-Total			<0.050		mg/L		0.05	04-DEC-19
Strontium (Sr)-Tota	l l		<0.00020		mg/L		0.0002	04-DEC-19





rest			Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
							01110		2	~~~~~~
MET-T-CCMS-			Water							
Batch WG3234910		36273 MB								
Sulfur (S)-1					<0.50		mg/L		0.5	04-DEC-19
Tellurium (Те)-То	tal			<0.00020		mg/L		0.0002	04-DEC-19
Thailium (T	1)-Tota	al I			<0.000010)	mg/L		0.00001	04-DEC-19
Thorium (T	h)-Tot	al			<0.00010		mg/L		0.0001	04-DEC-19
Tin (Sn)-To	tal				<0.00010		mg/L		0.0001	04-DEC-19
Titanium (T	I)-Tota	al			<0.00030		mg/L		0.0003	04-DEC-19
Tungsten (W)-To	al			<0.00010		mg/L		0.0001	04-DEC-19
Uranium (U	I)-Tota	1			<0.000010)	mg/L		0.00001	04-DEC-19
Vanadium	(V)-To	tal			<0.00050		mg/L		0.0005	04-DEC-19
Zinc (Zn)-T	otal				<0.0030		mg/L		0.003	04-DEC-19
Zirconium (Zr)-To	tal			<0.00020		mg/L		0.0002	04-DEC-19
N-TOTKJ-WP			Water							
Batch	R49	30338								
WG3231433 Total Kjeld					100.7		%		75-125	02-DEC-19
WG323143 Total Kjeld					<0.20		mg/L		0.2	02-DEC-19
NH3-COL-WP			Water							
Batch	R49	34147								
WG323515 Ammonia,					104.9		%		85-115	03-DEC-19
WG323515 Ammonia,					<0.010		mg/L		0.01	03-DEC-19
Batch	R49	36589								
WG3236965 Ammonia,	9-2	LCS			100.9		%		85-115	05-DEC-19
WG3236963					100.5		14		03-113	03-060-19
Ammonia,					<0.010		mg/L		0.01	05-DEC-19
NO2-IC-N-WP			Water							
Batch	R49	29090								
WG323093 Nitrite (as N		LCS			98.6		%		90-110	28-NOV-19
WG323093 Nitrite (as N		мв			⊲0.010		mg/L		0.01	28-NOV-19
NO3-IC-N-WP			Water							





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		Workorder: L2388973	Report Date: 11-DEC-19	Page 8 of 10
est	Matrix	Reference Result Qualifier	Units RPD	Limit Analyzed
NO3-IC-N-WP	Water			
Batch R4929090				
WG3230938-6 LCS Nitrate (as N)		98.7	%	90-110 28-NOV-19
WG3230938-5 MB Nitrate (as N)		<0.020	mg/L	0.02 28-NOV-19
P-T-COL-WP	Water			
Batch R4928488				
WG3231340-6 LCS				
Phosphorus (P)-Total		98.9	%	80-120 29-NOV-19
WG3231340-5 MB Phosphorus (P)-Total		<0.0030	mg/L	0.003 29-NOV-19
PH-WP	Water			
Batch R4928689				
WG3231568-12 LCS pH		7.38	pH units	7.3-7.5 28-NOV-19
SO4-IC-N-WP	Water			
Batch R4929090				
WG3230938-6 LCS Sulfate (SO4)		100.9	%	90-110 28-NOV-19
			-	20110 20110 13
WG3230938-5 MB Sulfate (SO4)		≪0.30	mg/L	0.3 28-NOV-19
DS-WP	Water			
Batch R4935531				
WG3233346-2 LCS Total Dissolved Solids		98.7	%	85-115 02-DEC-19
		20.7	<i>/</i> =	03-113 02-020-19
WG3233346-1 MB Total Dissolved Solids		<4.0	mg/L	4 02-DEC-19



	Quality	Control Report	
	Workorder: L2388973	Report Date: 11-DEC-19	Page 9 of 10
egend:			
Limit	ALS Control Limit (Data Quality Objectives)		
DUP	Duplicate		
RPD	Relative Percent Difference		
N/A	Not Available		
LCS	Laboratory Control Sample		
SRM	Standard Reference Material		
MS	Matrix Spike		
MSD	Matrix Spike Duplicate		
ADE	Average Desorption Efficiency		
MB	Method Blank		
IRM	Internal Reference Material		
CRM	Certified Reference Material		
CCV	Continuing Calibration Verification		
CVS	Calibration Verification Standard		
LCSD	Laboratory Control Sample Duplicate		

Sample Parameter Qualifier Definitions:

Qualifier	Description
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Page **106** of 168



ALS Product Descrip	tion ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Physical Tests							
pН							
	1 2	27-NOV-19 10:45 27-NOV-19 10:45	28-NOV-19 12:00 28-NOV-19 12:00	0.25 0.25	25 25	hours hours	EHTR-FM EHTR-FM
egend & Qualifier D	efinitions:						
EHTR: Exceed EHTL: Exceed EHT: Exceed	ed ALS recommend ed ALS recommend	led hold time prior to san led hold time prior to san led hold time prior to ana led hold time prior to ana ne (see units).	nple receipt. Ilysis. Sample was rec				piry.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.



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MWM Environmental ATTN: BRANDI BERTHOLET Box 459 Souris MB ROK 2CO Date Received: 26-NOV-19 Report Date: 10-DEC-19 14:32 (MT) Version: FINAL

Client Phone: 204-483-3986

Certificate of Analysis

Lab Work Order #: L2387437 Project P.O. #: NOT SUBMITTED Job Reference: C of C Numbers: Legal Site Desc:

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Hua Wo Chemistry Laboratory Manager [This report shall not be reproduced except in full without the written authority of the Laboratory.]

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L2387437 CONTD.... PAGE 2 of 15 Version: FINAL

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier	D.L.	Units	Extracted	Analyzed	Batch
L2387437-1 GN1A							
Sampled By: CLIENT on 21-NOV-19 @ 13:40							
Matrix: Water							
Nitrate + Nitrite							
Nitrate in Water by IC Nitrate (as N)		DLM					
Nitrate+Nitrite	<1.0	DCM	1.0	mg/L		27-NOV-19	R4926807
Nitrate+Nitrite Nitrate and Nitrite as N	<1.1		1.1	ma/L		29-NOV-19	
Nitrite in Water by IC				- mgru		25110115	
Nitrite (as N)	<0.50	DLM	0.50	mg/L		27-NOV-19	R4926807
BTEX plus F1-F4				-			
BTX plus F1 by GCMS							
Benzene	<0.00050		0.00050	mg/L		27-NOV-19	R4929936
Toluene	<0.0010		0.0010	mg/L		27-NOV-19	R4929936
Ethyl benzene	<0.00050		0.00050	mg/L		27-NOV-19	R4929936
o-Xylene	<0.00050		0.00050	mg/L		27-NOV-19	R4929936
m+p-Xylenes	<0.00040		0.00040	mg/L		27-NOV-19	R4929936
F1 (C6-C10)	<0.10		0.10	mg/L		27-NOV-19	R4929936
Surrogate: 4-Bromofluorobenzene (SS)	84.0		70-130	%		27-NOV-19	R4929936
CCME PHC F2-F4 In Water F2 (C10-C16)	<0.10		0.10	mg/L	28-NOV-19	30-NOV-19	R4929054
F3 (C16-C34)	<0.10 <0.25		0.10	mg/L	28-NOV-19	30-NOV-19	R4929054 R4929054
F4 (C34-C50)	<0.25		0.25	mg/L	28-NOV-19	30-NOV-19	R4929054 R4929054
Surrogate: 2-Bromobenzotrifluoride	99.2		60-140	%	28-NOV-19	30-NOV-19	R4929054 R4929054
CCME Total Hydrocarbons	35.2		00-140	~	201404-15	30-140 4-15	14525034
F1-BTEX	<0.10		0.10	ma/L		04-DEC-19	
Total Hydrocarbons (C6-C50)	<0.38		0.38	mg/L		04-DEC-19	
Sum of Xylene Isomer Concentrations							
Xylenes (Total)	<0.00064		0.00064	mg/L		04-DEC-19	
Miscellaneous Parameters							
Ammonia, Total (as N)	2.02		0.10	mg/L		03-DEC-19	R4934147
Blochemical Oxygen Demand	<2.0		2.0	mg/L		27-NOV-19	R4930316
Chemical Oxygen Demand	175		20	mg/L		26-NOV-19	R4925988
Chloride (CI)	158		25	mg/L		27-NOV-19	R4926807
Dissolved Organic Carbon	60.4		0.50	mg/L		26-NOV-19	R4926439
Phosphorus (P)-Total	0.0338		0.0030	mg/L		28-NOV-19	R4927765
Sulfate (SO4)	7870		15	mg/L		27-NOV-19	R4926807
Total Dissolved Solids	11800	HTD	80	mg/L		28-NOV-19	R4929933
Total Kjeldahl Nitrogen	4.13		0.20	mg/L	27-NOV-19	28-NOV-19	R4927893
Total Metals In Water by CRC ICPMS				-			
Aluminum (Al)-Total	0.0411		0.0030	mg/L	03-DEC-19	03-DEC-19	R4933220
Antimony (Sb)-Total	0.00040		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Arsenic (As)-Total	0.00274		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Barlum (Ba)-Total	0.00717		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Beryillum (Be)-Total	<0.00010		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Bismuth (BI)-Total	<0.000050		0.000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Boron (B)-Total	0.273		0.010	mg/L	03-DEC-19	03-DEC-19	R4933220
Cadmium (Cd)-Total Calcium (Ca)-Total	0.0000297		0.0000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Calcium (Ca)-Total Cesium (Cs)-Total	532 0.000027		0.050	mg/L mg/L	03-DEC-19 03-DEC-19	03-DEC-19 03-DEC-19	R4933220 R4933220
Cesium (Cs)-i otal Chromium (Cr)-Total	0.000027		0.00010	-	03-DEC-19 03-DEC-19	03-DEC-19 03-DEC-19	R4933220 R4933220
Cobalt (Co)-Total	0.00117		0.00010	mg/L mg/L	03-DEC-19 03-DEC-19	03-DEC-19 03-DEC-19	R4933220 R4933220
Copper (Cu)-Total	0.00176		0.00050	mg/L	03-DEC-19	03-DEC-19	R4933220
Iron (Fe)-Total	0.329		0.00050	mg/L	03-DEC-19 03-DEC-19	03-DEC-19	R4933220 R4933220
Lead (Pb)-Total	0.00205		0.000050	mg/L	03-DEC-19	03-DEC-19	R4933220
	0.002.00		0.000000				

* Refer to Referenced Information for Qualifiers (if any) and Methodology.



L2387437 CONTD.... PAGE 3 of 15 Version: FINAL

ALS ENVIRONMENTAL ANALYTICAL REPORT

ample Detalls/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
2387437-1 GN1A							
ampled By: CLIENT on 21-NOV-19 @ 13:40							
atrix: Water							
Total Metals In Water by CRC ICPMS							
Lithium (LI)-Total	2.10		0.010	mg/L	03-DEC-19	03-DEC-19	R4933220
Magnesium (Mg)-Total	1420		0.050	mg/L	03-DEC-19	03-DEC-19	R4933220
Manganese (Mn)-Total	5.93		0.0010	mg/L	03-DEC-19	03-DEC-19	R4933220
Molybdenum (Mo)-Total	0.00407		0.000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Nickel (NI)-Total	0.0497		0.00050	mg/L	03-DEC-19	03-DEC-19	R4933220
Potassium (K)-Total	32.8		0.050	mg/L	03-DEC-19	03-DEC-19	R4933220
Phosphorus (P)-Total	0.048		0.030	mg/L	03-DEC-19	03-DEC-19	R4933220
Rubidium (Rb)-Total	0.00396		0.00020	mg/L	03-DEC-19	03-DEC-19	R4933220
Selenium (Se)-Total	0.00126		0.000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Silicon (SI)-Total	11.7		0.10	mg/L	03-DEC-19	03-DEC-19	R4933220
Silver (Ag)-Total	0.000046		0.000010	mg/L	03-DEC-19	03-DEC-19	R4933220
Sodium (Na)-Total	1110		0.50	mg/L	03-DEC-19	03-DEC-19	R4933220
Strontium (Sr)-Total	8.29		0.0020	mg/L	03-DEC-19	03-DEC-19	R4933220
Sulfur (S)-Total	2310		5.0	mg/L	03-DEC-19	03-DEC-19	R4933220
Tellurlum (Te)-Total	0.00114		0.00020	mg/L	03-DEC-19	03-DEC-19	R4933220
Thailium (TI)-Totai	0.000043		0.000010	mg/L	03-DEC-19	03-DEC-19	R4933220
Thorium (Th)-Total	<0.00010		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Tin (Sn)-Total	0.00287		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Titanium (TI)-Totai	0.00191		0.00030	mg/L	03-DEC-19	03-DEC-19	R4933220
Tungsten (W)-Total	<0.00010		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Uranium (U)-Total	0.275		0.000010	mg/L	03-DEC-19	03-DEC-19	R4933220
Vanadium (V)-Total	0.00072		0.00050	mg/L	03-DEC-19	03-DEC-19	R4933220
Zinc (Zn)-Total	0.0187		0.0030	mg/L	03-DEC-19	03-DEC-19	R4933220
Zirconium (Zr)-Total	0.00338		0.00020	mg/L	03-DEC-19	03-DEC-19	R4933220
Dissolved Metals In Water by CRC ICPMS							
Dissolved Metals Filtration Location	FIELD					02-DEC-19	R4930087
Aluminum (AI)-Dissolved	0.0019	1 1	0.0010	mg/L	02-DEC-19	02-DEC-19	R4930341
Antimony (Sb)-Dissolved	0.00014		0.00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Arsenic (As)-Dissolved	0.00235		0.00010	mg/L	02-DEC-19 02-DEC-19	02-DEC-19	R4930341
Barlum (Ba)-Dissolved Bervillum (Be)-Dissolved	0.00636		0.00010	mg/L		02-DEC-19	R4930341
	<0.00010		0.00010	mg/L	02-DEC-19 02-DEC-19	02-DEC-19 02-DEC-19	R4930341 R4930341
Bismuth (BI)-Dissolved Boron (B)-Dissolved				mg/L	02-DEC-19 02-DEC-19	02-DEC-19 02-DEC-19	
	0.283		0.010	mg/L	02-DEC-19	02-DEC-19	R4930341 R4930341
Cadmium (Cd)-Dissolved Calcium (Ca)-Dissolved	551			mg/L	02-DEC-19 02-DEC-19	02-DEC-19 02-DEC-19	
Cesium (Cs)-Dissolved	0.000015		0.050	mg/L mg/L	02-DEC-19 02-DEC-19	02-DEC-19 02-DEC-19	R4930341 R4930341
Cesium (Cs)-Dissolved Chromium (Cr)-Dissolved	0.00015		0.00010	mg/L	02-DEC-19 02-DEC-19	02-DEC-19 02-DEC-19	R4930341 R4930341
Cobalt (Co)-Dissolved	0.00074		0.00010	mg/L	02-DEC-19	02-DEC-19	R4930341 R4930341
Copper (Cu)-Dissolved	0.00106		0.00020	mg/L	02-DEC-19	02-DEC-19	R4930341
Iron (Fe)-Dissolved	0.148		0.00020	mg/L	02-DEC-19	02-DEC-19	R4930341
Lead (Pb)-Dissolved	0.000125		0.000050	mg/L	02-DEC-19	02-DEC-19	R4930341
Lithium (LI)-Dissolved	2.29		0.010	ma/L	02-DEC-19	02-DEC-19	R4930341
Magnesium (Mg)-Dissolved	1580		0.050	mg/L	02-DEC-19	02-DEC-19	R4930341
Manganese (Mn)-Dissolved	6.70		0.0010	mg/L	02-DEC-19	02-DEC-19	R4930341
Molybdenum (Mo)-Dissolved	0.00385		0.000050	ma/L	02-DEC-19	02-DEC-19	R4930341
Nickel (NI)-Dissolved	0.0518		0.00050	mg/L	02-DEC-19	02-DEC-19	R4930341
Phosphorus (P)-Dissolved	<0.030		0.030	mg/L	02-DEC-19	02-DEC-19	R4930341
Potassium (K)-Dissolved	29.4		0.050	mg/L	02-DEC-19	02-DEC-19	R4930341
Rubidium (Rb)-Dissolved	0.00358		0.00020	mg/L	02-DEC-19	02-DEC-19	R4930341
Selenium (Se)-Dissolved	0.00102		0.000050	mg/L	02-DEC-19	02-DEC-19	R4930341
Silicon (SI)-Dissolved	15.1	1	0.050	mg/L	02-DEC-19	02-DEC-19	R4930341

* Refer to Referenced Information for Qualifiers (if any) and Methodology.



L2387437 CONTD.... PAGE 4 of 15 Version: FINAL

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Detalls/Parameters	Result	Qualifier	D.L.	Units	Extracted	Analyzed	Batch
_2387437-1 GN1A							
ampled By: CLIENT on 21-NOV-19 @ 13:40							
Aatrix: Water							
Dissolved Metals in Water by CRC ICPMS							
Silver (Aq)-Dissolved	0.000049		0.000010	mg/L	02-DEC-19	02-DEC-19	R4930341
Sodium (Na)-Dissolved	1230		0.50	mg/L	02-DEC-19	02-DEC-19	R4930341
Strontium (Sr)-Dissolved	8.40		0.0010	mg/L	02-DEC-19	02-DEC-19	R4930341
Sulfur (S)-Dissolved	2740		5.0	mg/L	02-DEC-19	02-DEC-19	R4930341
Tellurium (Te)-Dissolved	0.00029		0.00020	mg/L	02-DEC-19	02-DEC-19	R4930341
Thaillum (TI)-Dissolved	0.000037		0.000010	mg/L	02-DEC-19	02-DEC-19	R4930341
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Tin (Sn)-Dissolved	0.00172		0.00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Titanium (TI)-Dissolved	0.00039		0.00030	mg/L	02-DEC-19	02-DEC-19	R4930341
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Uranium (U)-Dissolved	0.278		0.000010	mg/L	02-DEC-19	02-DEC-19	R4930341
Vanadium (V)-Dissolved	<0.00050		0.00050	mg/L	02-DEC-19	02-DEC-19	R4930341
Zinc (Zn)-Dissolved	0.0136		0.0010	mg/L	02-DEC-19	02-DEC-19	R4930341
Zirconium (Zr)-Dissolved	0.00309		0.00020	mg/L	02-DEC-19	02-DEC-19	R4930341
Mercury Dissolved							
Dissolved Mercury Filtration Location	FIELD					02-DEC-19	R4934767
Mercury (Hg)-Dissolved	<0.0000050		0.0000050	mg/L	04-DEC-19	04-DEC-19	R4935634
H, Conductivity and Total Alkalinity							
Alkalinity, Bicarbonate Bicarbonate (HCO3)	1170		1.2	mg/L		28-NOV-19	
Alkalinity, Carbonate				-			
Carbonate (CO3)	<0.60		0.60	mg/L		28-NOV-19	
Alkalinity, Hydroxide							
Hydroxide (OH)	<0.34		0.34	mg/L		28-NOV-19	
Alkalinity, Total (as CaCO3)							
Alkalinity, Total (as CaCO3)	960		1.0	mg/L		27-NOV-19	R4927641
Conductivity							
Conductivity	10300		1.0	umhos/cm		27-NOV-19	R4927641
pH	7.05			al l'unite			
рн	7.46		0.10	pH units		27-NOV-19	R4927641
2387437-2 GN1B							
ampled By: CLIENT on 22-NOV-19 @ 10:50							
Matrix: Water							
Nitrate + Nitrite							
Nitrate In Water by IC							
Nitrate (as N)	<0.40	DLM	0.40	mg/L		27-NOV-19	R4926807
Nitrate+Nitrite	-0.45		0.45	mail		20 1014 40	
Nitrate and Nitrite as N	<0.45		0.45	mg/L		29-NOV-19	
Nitrite In Water by IC Nitrite (as N)	<0.20	DLM	0.20	mg/L		27-NOV-19	R4926807
BTEX plus F1-F4	~U.2U	DEM	0.20	ingre		27-160/0-19	14920007
BTX plus F1-F4 BTX plus F1 by GCMS							
Benzene	<0.00050		0.00050	mg/L		27-NOV-19	R4929936
Toluene	<0.0010		0.0010	mg/L		27-NOV-19	R4929936
Ethyl benzene	<0.00050		0.00050	mg/L		27-NOV-19	R4929936
o-Xylene	<0.00050		0.00050	mg/L		27-NOV-19	
m+p-Xylenes	<0.00040		0.00040	mg/L		27-NOV-19	
F1 (C6-C10)	<0.10		0.10	mg/L		27-NOV-19	R4929936
Surrogate: 4-Bromofluorobenzene (SS)	86.0		70-130	%		27-NOV-19	
CCME PHC F2-F4 In Water				~		2	
F2 (C10-C16)	<0.10		0.10	mg/L	28-NOV-19	30-NOV-19	R4929054
F3 (C16-C34)	<0.25		0.25	mg/L		30-NOV-19	
	<u.25< td=""><td></td><td>0.25</td><td>I IIG/L</td><td>20-NOV-19</td><td>JU-140 V-19</td><td>11/14/3/2/30/2/</td></u.25<>		0.25	I IIG/L	20-NOV-19	JU-140 V-19	11/14/3/2/30/2/



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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier	D.L.	Units	Extracted	Analyzed	Batch
2387437-2 GN1B							
ampled By: CLIENT on 22-NOV-19 @ 10:50							
latrix: Water							
CCME PHC F2-F4 In Water							
F4 (C34-C50)	<0.25		0.25	ma/L	28-NOV-19	30-NOV-19	R4929054
Surrogate: 2-Bromobenzotrifluoride	<0.25 96.4		60-140	%	28-NOV-19	30-NOV-19	R4929054 R4929054
CCME Total Hydrocarbons	90.4		00-140	76	20-1004-19	30-140-19	R4929004
F1-BTEX	<0.10		0.10	mg/L		04-DEC-19	
Total Hydrocarbons (C6-C50)	<0.38		0.38	mg/L		04-DEC-19	
Sum of Xviene Isomer Concentrations	\$0.50		0.30	myrc		04-020-13	
Xvienes (Total)	<0.00064		0.00064	mg/L		04-DEC-19	
Miscellaneous Parameters							
Ammonia, Total (as N)	3.18		0.10	ma/L		03-DEC-19	R4934147
Biochemical Oxygen Demand	<2.0		20	mg/L		27-NOV-19	R4930316
				-			
Chemical Oxygen Demand	36		20	mg/L		26-NOV-19	R4925988
Chloride (CI)	136		10	mg/L		27-NOV-19	R4926807
Dissolved Organic Carbon	10.8		0.50	mg/L		26-NOV-19	R4926439
Phosphorus (P)-Total	0.0540		0.0030	mg/L		28-NOV-19	R4927765
Sulfate (SO4)	2360		6.0	mg/L		27-NOV-19	R4926807
Total Dissolved Solids	4030		20	mg/L		27-NOV-19	R4927784
Total Kjeldahl Nitrogen	3.90		0.20	mg/L	27-NOV-19	28-NOV-19	R4927893
Total Metals In Water by CRC ICPMS				-			
Aluminum (Al)-Total	0.0108		0.0030	mg/L	03-DEC-19	03-DEC-19	R4933220
Antimony (Sb)-Total	0.00035		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Arsenic (As)-Total	0.0354		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Barlum (Ba)-Total	0.00859		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Beryllium (Be)-Total	<0.00010		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Bismuth (BI)-Total	<0.000050		0.000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Boron (B)-Total	1.62		0.10	mg/L	03-DEC-19	03-DEC-19	R4933220
Cadmium (Cd)-Total	0.0000162		0.0000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Calcium (Ca)-Total	484		0.050	mg/L	03-DEC-19	03-DEC-19	R4933220
Cesium (Cs)-Total	0.000025		0.000010	mg/L	03-DEC-19	03-DEC-19	R4933220
Chromlum (Cr)-Total	0.00042		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Cobait (Co)-Total	0.00219		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Copper (Cu)-Total	0.00132		0.00050	mg/L	03-DEC-19	03-DEC-19	R4933220
Iron (Fe)-Total	5.76		0.010	mg/L	03-DEC-19	03-DEC-19	R4933220
Lead (Pb)-Total	0.00454		0.000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Lithium (LI)-Total	0.764		0.010	mg/L	03-DEC-19	03-DEC-19	R4933220
Magnesium (Mg)-Total	175		0.0050	mg/L	03-DEC-19	03-DEC-19	R4933220
Manganese (Mn)-Total	0.778		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Molybdenum (Mo)-Total	0.0118		0.000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Nickel (NI)-Total	0.00688		0.00050	mg/L	03-DEC-19	03-DEC-19	R4933220
Potassium (K)-Total	27.6		0.050	mg/L	03-DEC-19	03-DEC-19	R4933220
Phosphorus (P)-Total	0.056		0.030	mg/L	03-DEC-19	03-DEC-19	R4933220
Rubidium (Rb)-Total	0.00773		0.00020	mg/L	03-DEC-19	03-DEC-19	R4933220
Selenium (Se)-Total	0.000127		0.000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Silicon (SI)-Total	9.7		1.0	mg/L	03-DEC-19	06-DEC-19	R4939729
Silver (Ag)-Total	0.000016		0.000010	mg/L	03-DEC-19	03-DEC-19	R4933220
Sodium (Na)-Total	556		0.50	mg/L	03-DEC-19	03-DEC-19	R4933220
Strontium (Sr)-Total	3.92		0.0020	mg/L	03-DEC-19	03-DEC-19	R4933220
Sulfur (S)-Total	693		5.0	mg/L	03-DEC-19	03-DEC-19	R4933220
Tellurium (Te)-Total	0.00046		0.00020	mg/L	03-DEC-19	03-DEC-19	R4933220
Thaillum (TI)-Total	<0.000010		0.000010	mg/L	03-DEC-19	03-DEC-19	R4933220
Thorium (Th)-Total	<0.00010		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Tin (Sn)-Total	0.00317	I	0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220



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ALS ENVIRONMENTAL ANALYTICAL REPORT

ample Details/Parameters	Result	Qualifier D).L.	Units	Extracted	Analyzed	Batch
2387437-2 GN1B							
ampled By: CLIENT on 22-NOV-19 @ 10:50							
Aatrix: Water							
Total Metals In Water by CRC ICPMS							
Titanium (TI)-Total	0.00066		00030	mg/L	03-DEC-19	03-DEC-19	R4933220
Tungsten (W)-Total	<0.00010		00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Uranium (U)-Total	0.0227	1 1 1	00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Vanadium (V)-Total	<0.00050		00050	mg/L	03-DEC-19	03-DEC-19	R4933220
Zinc (Zn)-Total	0.0148		0030	mg/L	03-DEC-19	03-DEC-19	R4933220
Zirconium (Zr)-Total	0.00041		00020	mg/L	03-DEC-19	03-DEC-19	R4933220
Dissolved Metals in Water by CRC ICPMS	0.00041		0020	ingre	00-020-13	00-000-15	14500220
Dissolved Metals Filtration Location	FIELD					02-DEC-19	R4930087
Aluminum (Al)-Dissolved	0.0011		0010	mg/L	02-DEC-19	02-DEC-19	R4930341
Antimony (Sb)-Dissolved	0.00023		00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Arsenic (As)-Dissolved	0.0306		00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Barlum (Ba)-Dissolved	0.00816		00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Beryllum (Be)-Dissolved	<0.00010		00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Bismuth (BI)-Dissolved	<0.000050		00050	mg/L	02-DEC-19	02-DEC-19	R4930341
Boron (B)-Dissolved	1.58		0.10	mg/L	02-DEC-19	02-DEC-19	R4930341
Cadmium (Cd)-Dissolved	0.0000182		000050	mg/L	02-DEC-19	02-DEC-19	R4930341
Calcium (Ca)-Dissolved	532		.050	mg/L	02-DEC-19	02-DEC-19	R4930341
Cesium (Cs)-Dissolved	0.000018	1 1 -	00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Chromium (Cr)-Dissolved	0.00028		00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Cobalt (Co)-Dissolved	0.00226		00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Copper (Cu)-Dissolved	0.00107		00020	mg/L	02-DEC-19	02-DEC-19	R4930341
Iron (Fe)-Dissolved	5.53		.010	mg/L	02-DEC-19	02-DEC-19	R4930341
Lead (Pb)-Dissolved	0.00109		00050	mg/L	02-DEC-19	02-DEC-19	R4930341
Lithium (LI)-Dissolved	0.803		.010	mg/L	02-DEC-19	02-DEC-19	R4930341
Magnesium (Mg)-Dissolved	204		0050	mg/L	02-DEC-19	02-DEC-19	R4930341
Manganese (Mn)-Dissolved	0.844		00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Molybdenum (Mo)-Dissolved	0.0116		00050	mg/L	02-DEC-19	02-DEC-19	R4930341
Nickel (NI)-Dissolved	0.00728		00050	mg/L	02-DEC-19	02-DEC-19	R4930341
Phosphorus (P)-Dissolved	0.034		030	mg/L	02-DEC-19	02-DEC-19	R4930341
Potassium (K)-Dissolved	27.6		.050	mg/L	02-DEC-19	02-DEC-19	R4930341
Rubidium (Rb)-Dissolved	0.00778		00020	mg/L	02-DEC-19	02-DEC-19	R4930341
Selenium (Se)-Dissolved	0.000083		00050	mg/L	02-DEC-19	02-DEC-19	R4930341
Silicon (SI)-Dissolved	9.09		0.50	mg/L	02-DEC-19	06-DEC-19	R4939729
Silver (Ag)-Dissolved	0.000022		00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Sodium (Na)-Dissolved	648		0.50	mg/L	02-DEC-19	02-DEC-19	R4930341
Strontium (Sr)-Dissolved	3.93		0010	mg/L	02-DEC-19	02-DEC-19	R4930341
Sulfur (S)-Dissolved	832		5.0	mg/L	02-DEC-19	02-DEC-19	R4930341
Tellurlum (Te)-Dissolved	<0.00020		00020	mg/L	02-DEC-19	02-DEC-19	R4930341
Thailium (Ti)-Dissolved	<0.00020		00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Thorium (Th)-Dissolved	<0.00010		00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Tin (Sn)-Dissolved	0.00228		00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Titanium (TI)-Dissolved	<0.00030		00030	mg/L	02-DEC-19	02-DEC-19	R4930341
Tungsten (W)-Dissolved	<0.00010		00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Uranium (U)-Dissolved	0.0195		00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Vanadium (V)-Dissolved	<0.00050		00050	mg/L	02-DEC-19	02-DEC-19	R4930341
Zinc (Zn)-Dissolved	0.0142		0010	mg/L		02-DEC-19	
Zirconium (Zr)-Dissolved	0.00035		00020	mg/L	02-DEC-19	02-DEC-19	
Mercury Dissolved	0.00000			ingre	Lange Contra	02-020-19	14500041
Dissolved Mercury Filtration Location	FIELD				1	02-DEC-19	R4934767
Mercury (Hg)-Dissolved	<0.000050	0.00	000050	mail	04-DEC-19	02-DEC-19 04-DEC-19	
pH, Conductivity and Total Alkalinity	~0.0000000	0.00		mg/L	U U U U U U U U U U U U U U U U U U U	04-020-19	14500004
Alkalinity, Bicarbonate					1		
Arkannity, Dicarbonate	-						



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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Detalls/Parameters	Result	Qualifier	D.L.	Units	Extracted	Analyzed	Batch
L2387437-2 GN1B							
Sampled By: CLIENT on 22-NOV-19 @ 10:50							
Matrix: Water							
Alkalinity, Bicarbonate							
Bicarbonate (HCO3)	649		1.2	mg/L		28-NOV-19	
Alkalinity, Carbonate				-			
Carbonate (CO3)	<0.60		0.60	mg/L		28-NOV-19	
Alkalinity, Hydroxide							
Hydroxide (OH)	<0.34		0.34	mg/L		28-NOV-19	
Alkalinity, Total (as CaCO3)						27-NOV-19	
Alkalinity, Total (as CaCO3)	532		1.0	mg/L		27-NOV-19	R4927641
Conductivity Conductivity	4470		1.0	umhos/cm		27-NOV-19	R4927641
pH				annooronn		2. 1007 15	
pH	7.56		0.10	pH units		27-NOV-19	R4927641
2387437-4 MW3A				-			
Sampled By: CLIENT on 22-NOV-19 @ 13:25							
Matrix: Water							
Nitrate + Nitrite							
Nitrate In Water by IC							
Nitrate (as N)	<0.40	DLM	0.40	mg/L		27-NOV-19	R4926807
Nitrate+Nitrite							
Nitrate and Nitrite as N	<0.45		0.45	mg/L		29-NOV-19	
Nitrite In Water by IC		DLM					R4926807
Nitrite (as N)	<0.20	DLM	0.20	mg/L		27-NOV-19	R4926807
BTEX plus F1-F4 BTX plus F1 by GCMS							
Benzene	<0.00050		0.00050	mg/L		27-NOV-19	R4929936
Toluene	<0.0010		0.0010	mg/L		27-NOV-19	R4929936
Ethyl benzene	<0.00050		0.00050	mg/L		27-NOV-19	R4929936
o-Xylene	<0.00050		0.00050	mg/L		27-NOV-19	R4929936
m+p-Xylenes	<0.00040		0.00040	mg/L		27-NOV-19	R4929936
F1 (C6-C10)	<0.10		0.10	mg/L		27-NOV-19	R4929936
Surrogate: 4-Bromofluorobenzene (SS)	86.0		70-130	%		27-NOV-19	R4929936
CCME PHC F2-F4 In Water							
F2 (C10-C16)	⊲0.10		0.10	mg/L	28-NOV-19	30-NOV-19	R4929054
F3 (C16-C34) F4 (C34-C50)	<0.25 <0.25		0.25	mg/L mg/L	28-NOV-19 28-NOV-19	30-NOV-19 30-NOV-19	R4929054 R4929054
Surrogate: 2-Bromobenzotrifiuoride	<0.25 98.4		0.25 60-140	- mg/L %	28-NOV-19 28-NOV-19	30-NOV-19 30-NOV-19	R4929054 R4929054
CCME Total Hydrocarbons	90.4		00-140	~	201101-15	301101-15	14929004
F1-BTEX	<0.10		0.10	mg/L		04-DEC-19	
Total Hydrocarbons (C6-C50)	<0.38		0.38	mg/L		04-DEC-19	
Sum of Xylene Isomer Concentrations							
Xylenes (Total)	<0.00064		0.00064	mg/L		04-DEC-19	
Miscellaneous Parameters							
Ammonia, Total (as N)	1.72		0.10	mg/L		03-DEC-19	R4934147
Blochemical Oxygen Demand	<2.0		2.0	mg/L		27-NOV-19	R4930316
Chemical Oxygen Demand	52		20	mg/L		26-NOV-19	
Chloride (CI)	265		10	mg/L		27-NOV-19	1
Dissolved Organic Carbon	11.6		0.50	mg/L		26-NOV-19	1
Phosphorus (P)-Total	0.0516		0.0030	mg/L		28-NOV-19	
Sulfate (SO4)	2250		6.0	mg/L		27-NOV-19	
Total Dissolved Solids	4130		20	mg/L		27-NOV-19	
Total Kjeldahl Nitrogen	2.32		0.20	mg/L	27-NOV-19	28-NOV-19	R4927893
Total Metals in Water by CRC ICPMS							



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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier	D.L.	Units	Extracted	Analyzed	Batch
L2387437-4 MW3A							
Sampled By: CLIENT on 22-NOV-19 @ 13:25							
Matrix: Water							
Total Metals In Water by CRC ICPMS							
Aluminum (Al)-Total	0.0193		0.0030	mg/L	03-DEC-19	03-DEC-19	R4933220
Antimony (Sb)-Total	0.00025		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Arsenic (As)-Total	0.00151		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Barlum (Ba)-Total	0.0103		0.00010	ma/L	03-DEC-19	03-DEC-19	R4933220
Bervillum (Be)-Total	<0.00010		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Bismuth (BI)-Total	<0.000050		0.000050	ma/L	03-DEC-19	03-DEC-19	R4933220
Boron (B)-Total	0.77		0.10	mg/L	03-DEC-19	03-DEC-19	R4933220
Cadmium (Cd)-Total	<0.000050	DLM	0.000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Calcium (Ca)-Total	534		0.050	mg/L	03-DEC-19	03-DEC-19	R4933220
Cesium (Cs)-Total	0.000012		0.000010	mg/L	03-DEC-19	03-DEC-19	R4933220
Chromium (Cr)-Total	0.00046		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Cobalt (Co)-Total	0.00164		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Copper (Cu)-Total	0.00111		0.00050	mg/L	03-DEC-19	03-DEC-19	R4933220
Iron (Fe)-Total	5.22		0.010	mg/L	03-DEC-19	03-DEC-19	R4933220
Lead (Pb)-Total	0.00632		0.000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Lithium (LI)-Total	0.869		0.010	mg/L	03-DEC-19	03-DEC-19	R4933220
Magnesium (Mg)-Total	238		0.0050	mg/L	03-DEC-19	03-DEC-19	R4933220
Manganese (Mn)-Total	4.40		0.0010	mg/L	03-DEC-19	03-DEC-19	R4933220
Molybdenum (Mo)-Total	0.000639		0.000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Nickel (NI)-Total	0.00376		0.00050	mg/L	03-DEC-19	03-DEC-19	R4933220
Potassium (K)-Total	24.7		0.050	mg/L	03-DEC-19	03-DEC-19	R4933220
Phosphorus (P)-Total	0.063		0.030	mg/L	03-DEC-19	03-DEC-19	R4933220
Rubidium (Rb)-Total	0.00645		0.00020	mg/L	03-DEC-19	03-DEC-19	R4933220
Selenium (Se)-Total	0.000185		0.000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Silicon (SI)-Total	13.0		1.0	mg/L	03-DEC-19	06-DEC-19	R4939729
Silver (Ag)-Total	0.000014		0.000010	mg/L	03-DEC-19	03-DEC-19	R4933220
Sodium (Na)-Total	467		0.050	mg/L	03-DEC-19	03-DEC-19	R4933220
Strontium (Sr)-Total	3.57		0.0020	mg/L	03-DEC-19	03-DEC-19	R4933220
Sulfur (S)-Total	653		5.0	mg/L	03-DEC-19	03-DEC-19	R4933220
Tellurium (Te)-Total	0.00045		0.00020	mg/L	03-DEC-19	03-DEC-19	R4933220
Thailium (TI)-Totai	<0.000010		0.000010	mg/L	03-DEC-19	03-DEC-19	R4933220
Thorlum (Th)-Total	<0.00010		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Tin (Sn)-Total	0.00063		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Titanium (TI)-Total	0.00151		0.00030	mg/L	03-DEC-19	03-DEC-19	R4933220
Tungsten (W)-Total	<0.00010		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Uranium (U)-Total	0.0312		0.000010	mg/L	03-DEC-19	03-DEC-19	R4933220
Vanadium (V)-Total	0.00060		0.00050	mg/L	03-DEC-19	03-DEC-19	R4933220
Zinc (Zn)-Total	0.0034		0.0030	mg/L	03-DEC-19	03-DEC-19	R4933220
Zirconium (Zr)-Total	0.00062		0.00020	mg/L	03-DEC-19	03-DEC-19	R4933220
Dissolved Metals In Water by CRC ICPMS Dissolved Metals Filtration Location	FIELD					02-DEC-19	R4930087
Aluminum (Al)-Dissolved	0.0014		0.0010	mg/L	02-DEC-19	02-DEC-19	R4930341
Antimony (Sb)-Dissolved	0.00014		0.00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Arsenic (As)-Dissolved	0.00137		0.00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Barlum (Ba)-Dissolved	0.0100		0.00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Beryllium (Be)-Dissolved	<0.00010		0.00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Bismuth (BI)-Dissolved	<0.000050		0.000050	mg/L	02-DEC-19	02-DEC-19	R4930341
Boron (B)-Dissolved	0.73		0.10	mg/L	02-DEC-19	02-DEC-19	R4930341
Cadmium (Cd)-Dissolved	0.0000184		0.0000050	mg/L	02-DEC-19	02-DEC-19	R4930341
Calcium (Ca)-Dissolved	580		0.50	mg/L	02-DEC-19	02-DEC-19	R4930341
Cesium (Cs)-Dissolved	<0.000010		0.000010	mg/L	02-DEC-19	02-DEC-19	R4930341
	~0.000010	1	3.000010	ingre	02-020-19	32-020-19	114300041

' Refer to Referenced Information for Qualifiers (if any) and Methodology.



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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier	• D.L.	Units	Extracted	Analyzed	Batch
2387437-4 MW3A							
Sampled By: CLIENT on 22-NOV-19 @ 13:25							
Matrix: Water							
Dissolved Metals in Water by CRC ICPMS							
Chromium (Cr)-Dissolved	0.00032		0.00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Cobalt (Co)-Dissolved	0.00179		0.00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Copper (Cu)-Dissolved	0.00035		0.00020	mg/L	02-DEC-19	02-DEC-19	R4930341
Iron (Fe)-Dissolved	5.29		0.00020	mg/L	02-DEC-19	02-DEC-19	R4930341
Lead (Pb)-Dissolved	0.000966		0.000050	mg/L	02-DEC-19	02-DEC-19	R4930341
Lithium (Li)-Dissolved	0.953		0.010	mg/L	02-DEC-19	02-DEC-19	R4930341
Magnesium (Mg)-Dissolved	283		0.0050	mg/L	02-DEC-19	02-DEC-19	R4930341
Manganese (Mn)-Dissolved	5.10		0.0010	mg/L	02-DEC-19	02-DEC-19	R4930341
Molybdenum (Mo)-Dissolved	0.000666		0.000050	mg/L	02-DEC-19	02-DEC-19	R4930341
Nickel (NI)-Dissolved	0.00391		0.00050	mg/L	02-DEC-19	02-DEC-19	R4930341
Phosphorus (P)-Dissolved	0.047		0.00050	mg/L	02-DEC-19	02-DEC-19	R4930341
Potassium (K)-Dissolved	25.1		0.050	mg/L	02-DEC-19	02-DEC-19	R4930341
Rubidium (Rb)-Dissolved	0.00660		0.00020		02-DEC-19	02-DEC-19	R4930341 R4930341
Selenium (Se)-Dissolved	0.000165		0.000050	mg/L mg/L	02-DEC-19 02-DEC-19	02-DEC-19 02-DEC-19	R4930341
Silicon (SI)-Dissolved	12.2		0.000050		02-DEC-19 02-DEC-19	02-DEC-19 06-DEC-19	R4930341 R4939729
	0.000027		0.50	mg/L mg/l	02-DEC-19 02-DEC-19	05-DEC-19 02-DEC-19	R4939729 R4930341
Silver (Ag)-Dissolved Sodium (Na)-Dissolved	538		0.050	mg/L	02-DEC-19 02-DEC-19	02-DEC-19 02-DEC-19	R4930341 R4930341
Strontium (Sr)-Dissolved	3.65		0.0010	mg/L	02-DEC-19 02-DEC-19	02-DEC-19 02-DEC-19	R4930341 R4930341
Sulfur (S)-Dissolved				mg/L			R4930341
	810		5.0	mg/L	02-DEC-19	02-DEC-19	
Tellurium (Te)-Dissolved	<0.00020		0.00020	mg/L	02-DEC-19 02-DEC-19	02-DEC-19 02-DEC-19	R4930341
Thailium (TI)-Dissolved	<0.000010		0.000010	mg/L			R4930341 R4930341
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	02-DEC-19 02-DEC-19	02-DEC-19	
Tin (Sn)-Dissolved	0.00023		0.00010	mg/L		02-DEC-19	R4930341 R4930341
Titanium (TI)-Dissolved	0.00037		0.00030	mg/L	02-DEC-19	02-DEC-19	
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Uranium (U)-Dissolved	0.0267		0.000010	mg/L	02-DEC-19	02-DEC-19	R4930341
Vanadium (V)-Dissolved	<0.00050	1	0.00050	mg/L	02-DEC-19	02-DEC-19	R4930341
Zinc (Zn)-Dissolved	0.0035		0.0010	mg/L	02-DEC-19	02-DEC-19	R4930341
Zirconium (Zr)-Dissolved	0.00052		0.00020	mg/L	02-DEC-19	02-DEC-19	R4930341
Mercury Dissolved							
Dissolved Mercury Filtration Location	FIELD					02-DEC-19	R4934767
Mercury (Hg)-Dissolved	<0.0000050		0.0000050	mg/L	04-DEC-19	04-DEC-19	R4935634
pH, Conductivity and Total Alkalinity							
Alkalinity, Bicarbonate							
Bicarbonate (HCO3)	724		1.2	mg/L		28-NOV-19	
Alkalinity, Carbonate	-0.00		0.00	met		28 1014 40	
Carbonate (CO3)	<0.60		0.60	mg/L		28-NOV-19	
Alkalinity, Hydroxide				met		28 1014 40	
Hydroxide (OH)	<0.34		0.34	mg/L		28-NOV-19	
Alkalinity, Total (as CaCO3)	503					07.0004.00	B40076 ***
Alkalinity, Total (as CaCO3)	593		1.0	mg/L		27-NOV-19	R4927641
Conductivity				umberier		27-NOV-19	-
Conductivity	4640		1.0	umhos/cm		27-NOV-19	R4927641
pH pH			0.40	ald contin		07 10014 45	BARREN
F.1	7.37		0.10	pH units		27-NOV-19	R4927641
2387437-5 MW3B							
ampled By: CLIENT on 22-NOV-19 @ 12:12							
Matrix: Water							
Nitrate + Nitrite							
Nitrate In Water by IC							
Nitrate In Water by IC Nitrate (as N)	<1.0	DLM	1.0	mg/L		27-NOV-19	R4926807



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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier	D.L.	Units	Extracted	Analyzed	Batch
L2387437-5 MW3B							
Sampled By: CLIENT on 22-NOV-19 @ 12:12							
Matrix: Water							
Nitrate+Nitrite							
Nitrate and Nitrite as N	<1.1		1.1	ma/L		29-NOV-19	
Nitrite in Water by IC							
Nitrite (as N)	<0.50	DLM	0.50	mg/L		27-NOV-19	R4926807
BTEX plus F1-F4				-			
BTX plus F1 by GCMS							
Benzene	<0.00050		0.00050	mg/L		27-NOV-19	R4929936
Toluene	<0.0010		0.0010	mg/L		27-NOV-19	R4929936
Ethyl benzene	<0.00050		0.00050	mg/L		27-NOV-19	R4929936
o-Xylene	<0.00050 <0.00040		0.00050	mg/L		27-NOV-19 27-NOV-19	R4929936 R4929936
m+p-Xylenes F1 (C6-C10)	<0.00040		0.00040	mg/L		27-NOV-19 27-NOV-19	R4929936 R4929936
Surrogate: 4-Bromofluorobenzene (SS)	<0.10 81.0		70-130	mg/L %		27-NOV-19 27-NOV-19	R4929936 R4929936
CCME PHC F2-F4 In Water	01.0		/0-130	76		27-1004-19	14929930
F2 (C10-C16)	<0.10		0.10	mg/L	28-NOV-19	30-NOV-19	R4929054
F3 (C16-C34)	<0.25		0.25	mg/L	28-NOV-19	30-NOV-19	R4929054
F4 (C34-C50)	<0.25		0.25	mg/L	28-NOV-19	30-NOV-19	R4929054
Surrogate: 2-Bromobenzotrifluoride	92.6		60-140	%	28-NOV-19	30-NOV-19	R4929054
CCME Total Hydrocarbons							
F1-BTEX	<0.10		0.10	mg/L		04-DEC-19	
Total Hydrocarbons (C6-C50)	<0.38		0.38	mg/L		04-DEC-19	
Sum of Xylene Isomer Concentrations							
Xylenes (Total)	<0.00064		0.00064	mg/L		04-DEC-19	
Miscellaneous Parameters							
Ammonia, Total (as N)	<0.010		0.010	mg/L		03-DEC-19	R4934147
Blochemical Oxygen Demand	<2.0		2.0	mg/L		27-NOV-19	R4930316
Chemical Oxygen Demand	141		20	mg/L		26-NOV-19	R4925988
Chloride (CI)	290		25	mg/L		27-NOV-19	R4926807
Dissolved Organic Carbon	48.9		0.50	mg/L		26-NOV-19	R4926439
Phosphorus (P)-Total	0.0271		0.0030	mg/L		28-NOV-19	R4927765
Sulfate (SO4)	4360		15	mg/L		27-NOV-19	R4926807
Total Dissolved Solids	6900		20	mg/L		27-NOV-19	R4927784
Total Kjeldahi Nitrogen	1.93		0.20	mg/L	27-NOV-19	28-NOV-19	R4927893
Total Metals in Water by CRC ICPMS							
Aluminum (Al)-Total	0.286		0.0030	mg/L	04-DEC-19	04-DEC-19	R4936273
Antimony (Sb)-Total	0.00042		0.00010	mg/L	04-DEC-19	04-DEC-19	R4936273
Arsenic (As)-Total Barlum (Ba)-Total	0.00142		0.00010	mg/L	04-DEC-19	04-DEC-19	R4936273
Banum (Ba)-Total Bervillum (Be)-Total	0.0119		0.00010	mg/L mg/L	04-DEC-19 04-DEC-19	04-DEC-19 04-DEC-19	R4936273 R4936273
Bismuth (BI)-Total	<0.00010		0.000050	mg/L	04-DEC-19 04-DEC-19	04-DEC-19 04-DEC-19	R4936273
Boron (B)-Total	<0.000050	DLM	0.000050	mg/L	04-DEC-19 04-DEC-19	04-DEC-19	R4936273 R4936273
Cadmium (Cd)-Total	0.000203	C.C.M	0.0000050	mg/L	04-DEC-19 04-DEC-19	04-DEC-19 04-DEC-19	R4936273
Calcium (Ca)-Total	494		0.050	mg/L	04-DEC-19	04-DEC-19	R4936273
Cesium (Cs)-Total	0.000036		0.000010	mg/L	04-DEC-19	04-DEC-19	R4936273
Chromium (Cr)-Total	0.00051		0.00010	mg/L	04-DEC-19	04-DEC-19	R4936273
Cobalt (Co)-Total	0.00022		0.00010	mg/L	04-DEC-19	04-DEC-19	R4936273
Copper (Cu)-Total	0.0117		0.00050	mg/L	04-DEC-19	04-DEC-19	R4936273
Iron (Fe)-Total	0.238		0.010	mg/L	04-DEC-19	04-DEC-19	R4936273
Lead (Pb)-Total	0.00590		0.000050	mg/L	04-DEC-19	04-DEC-19	R4936273
Lithium (LI)-Total	3.28		0.010	mg/L	04-DEC-19	04-DEC-19	R4936273
Magnesium (Mg)-Total	798		0.050	mg/L	04-DEC-19	04-DEC-19	R4936273
Manganese (Mn)-Total	0.148		0.00010	mg/L	04-DEC-19	04-DEC-19	R4936273

* Refer to Referenced Information for Qualifiers (if any) and Methodology.



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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2387437-5 MW3B							
Sampled By: CLIENT on 22-NOV-19 @ 12:12							
Matrix: Water							
Total Metals In Water by CRC ICPMS							
Molybdenum (Mo)-Total	0.00119		0.000050	ma/L	04-DEC-19	04-DEC-19	R4936273
Nickel (NI)-Total	0.0214		0.00050	mg/L	04-DEC-19	04-DEC-19	R4936273
Potassium (K)-Total	22.5		0.050	mg/L	04-DEC-19	04-DEC-19	R4936273
Phosphorus (P)-Total	<0.030		0.030	mg/L	04-DEC-19	04-DEC-19	R4936273
Rubidium (Rb)-Total	0.00172		0.00020	mg/L	04-DEC-19	04-DEC-19	R4936273
Selenium (Se)-Total	0.00239		0.000050	mg/L	04-DEC-19	04-DEC-19	R4936273
Silicon (Si)-Total	16.1		0.10	mg/L	04-DEC-19	04-DEC-19	R4936273
Silver (Ag)-Total	0.000048		0.000010	mg/L	04-DEC-19	04-DEC-19	R4936273
Sodium (Na)-Total	706		0.50	mg/L	04-DEC-19	04-DEC-19	R4936273
Strontium (Sr)-Total	5.41		0.0020	mg/L	04-DEC-19 04-DEC-19	04-DEC-19	R4936273
	1440		5.0	-	04-DEC-19	04-DEC-19	R4936273
Sulfur (S)-Total Tellurlum (Te)-Total	0.00030		0.00020	mg/L mg/L	04-DEC-19 04-DEC-19	04-DEC-19 04-DEC-19	R4936273 R4936273
			0.00020	-	04-DEC-19 04-DEC-19	04-DEC-19 04-DEC-19	R4936273 R4936273
Thailium (Ti)-Totai Thorium (Th)-Totai	0.000039			mg/L mg/L	04-DEC-19 04-DEC-19	04-DEC-19 04-DEC-19	
Tin (Sn)-Total	0.00044		0.00010	-	04-DEC-19 04-DEC-19	04-DEC-19 04-DEC-19	R4936273 R4936273
			0.00030	mg/L			R4936273 R4936273
Titanium (TI)-Total Tungsten (W)-Total	0.00689		0.00030	mg/L	04-DEC-19 04-DEC-19	04-DEC-19 04-DEC-19	R4936273 R4936273
2 · · ·	<0.00010 0.165		0.00010	mg/L	04-DEC-19 04-DEC-19	04-DEC-19 04-DEC-19	R4936273 R4936273
Uranium (U)-Total				mg/L			
Vanadium (V)-Total	0.00073		0.00050	mg/L	04-DEC-19 04-DEC-19	04-DEC-19 04-DEC-19	R4936273 R4936273
Zinc (Zn)-Total Zirconium (Zr)-Total	0.0078			mg/L mg/L	04-DEC-19 04-DEC-19	04-DEC-19 04-DEC-19	
	0.00099		0.00020	mgrL	04-DEC-19	04-DEC-19	R4936273
Dissolved Metals In Water by CRC ICPMS Dissolved Metals Flitration Location	FIELD					02-DEC-19	R4930087
Aluminum (Al)-Dissolved				mg/L	02-DEC-19	02-DEC-19 02-DEC-19	R4930067 R4930341
Antimony (Sb)-Dissolved	<0.0010 0.00020		0.0010	-	02-DEC-19	02-DEC-19	R4930341 R4930341
Arsenic (As)-Dissolved			0.00010	mg/L mg/L	02-DEC-19 02-DEC-19	02-DEC-19 02-DEC-19	R4930341 R4930341
Barlum (Ba)-Dissolved	0.00135		0.00010		02-DEC-19 02-DEC-19	02-DEC-19	R4930341 R4930341
Bervillum (Be)-Dissolved	<0.00846	1 1	0.00010	mg/L	02-DEC-19 02-DEC-19	02-DEC-19 02-DEC-19	R4930341 R4930341
Bismuth (BI)-Dissolved	<0.00010		0.000050	mg/L	02-DEC-19 02-DEC-19	02-DEC-19 02-DEC-19	R4930341 R4930341
	<0.000050 0.131		0.000050	mg/L	02-DEC-19 02-DEC-19	02-DEC-19 02-DEC-19	R4930341 R4930341
Boron (B)-Dissolved Cadmium (Cd)-Dissolved				mg/L			
Calcium (Ca)-Dissolved	0.000206		0.0000050	mg/L	02-DEC-19 02-DEC-19	02-DEC-19 02-DEC-19	R4930341 R4930341
				mg/L			
Ceslum (Cs)-Dissolved	<0.000010 0.00029		0.000010	mg/L	02-DEC-19 02-DEC-19	02-DEC-19 02-DEC-19	R4930341 R4930341
Chromium (Cr)-Dissolved				mg/L	02-DEC-19 02-DEC-19	02-DEC-19 02-DEC-19	
Cobalt (Co)-Dissolved	0.00010		0.00010	mg/L		02-DEC-19 02-DEC-19	R4930341
Copper (Cu)-Dissolved	0.0114			mg/L	02-DEC-19		R4930341
Iron (Fe)-Dissolved	<0.010		0.010	mg/L	02-DEC-19	02-DEC-19	R4930341
Lead (Pb)-Dissolved	0.00173		0.000050	mg/L	02-DEC-19	02-DEC-19	R4930341
Lithium (Li)-Dissolved	2.62		0.010	mg/L	02-DEC-19	02-DEC-19	R4930341
Magnesium (Mg)-Dissolved	792		0.050	mg/L	02-DEC-19	02-DEC-19	R4930341
Manganese (Mn)-Dissolved	0.0815		0.00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Molybdenum (Mo)-Dissolved	0.00128		0.000050	mg/L	02-DEC-19	02-DEC-19	R4930341
Nickel (NI)-Dissolved	0.0222		0.00050	mg/L	02-DEC-19	02-DEC-19	R4930341
Phosphorus (P)-Dissolved	<0.030		0.030	mg/L	02-DEC-19	02-DEC-19	R4930341
Potassium (K)-Dissolved	25.7		0.050	mg/L	02-DEC-19	02-DEC-19	R4930341
Rubidium (Rb)-Dissolved	0.00132		0.00020	mg/L	02-DEC-19	02-DEC-19	R4930341
Selenium (Se)-Dissolved	0.00309		0.000050	mg/L	02-DEC-19	02-DEC-19	R4930341
Silicon (SI)-Dissolved	19.6		0.050	mg/L	02-DEC-19	02-DEC-19	R4930341
Silver (Ag)-Dissolved	0.000032		0.000010	mg/L	02-DEC-19	02-DEC-19	R4930341
Confluent (Max) Discoluted	713	1	0.50	mg/L	02-DEC-19	02-DEC-19	R4930341
Sodium (Na)-Dissolved Strontium (Sr)-Dissolved	5.63		0.0010	mg/L	02-DEC-19	02-DEC-19	R4930341

* Refer to Referenced Information for Qualifiers (If any) and Methodology.



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ALS ENVIRONMENTAL ANALYTICAL REPORT

ample Detalls/Parameters	Result	Qualifier	D.L.	Units	Extracted	Analyzed	Batch
2387437-5 MW3B							
Sampled By: CLIENT on 22-NOV-19 @ 12:12							
Matrix: Water							
Dissolved Metals in Water by CRC ICPMS							
Sulfur (S)-Dissolved	1510		5.0	mg/L	02-DEC-19	02-DEC-19	R4930341
Tellurium (Te)-Dissolved	<0.00020		0.00020	mg/L	02-DEC-19	02-DEC-19	R4930341
Thaillum (TI)-Dissolved	0.000031		0.000010	mg/L	02-DEC-19	02-DEC-19	R4930341
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Tin (Sn)-Dissolved	0.00017		0.00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Titanium (TI)-Dissolved	<0.00030		0.00030	mg/L	02-DEC-19		
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	02-DEC-19		
Uranium (U)-Dissolved	0.166		0.000010	mg/L	02-DEC-19		
Vanadium (V)-Dissolved	<0.00050		0.00050	mg/L	02-DEC-19		
Zinc (Zn)-Dissolved	0.0061		0.0010	mg/L	02-DEC-19	02-DEC-19	
Zirconium (Zr)-Dissolved	0.00060		0.00020	mg/L	02-DEC-19	02-DEC-19	R4930341
Mercury Dissolved							
Dissolved Mercury Filtration Location	FIELD					02-DEC-19	R4934767
Mercury (Hg)-Dissolved	<0.000050		0.0000050	mg/L	04-DEC-19	04-DEC-19	R4935634
pH, Conductivity and Total Alkalinity							
Alkalinity, Bicarbonate Bicarbonate (HCO3)	869		1.2	mg/L		28-NOV-19	
	009		1.2	ing/L		20100119	
Alkalinity, Carbonate Carbonate (CO3)	<0.60		0.60	mg/L		28-NOV-19	
Alkalinity, Hydroxide	~0.00		0.00	ing/L		20100119	
Hydroxide (OH)	<0.34		0.34	mg/L		28-NOV-19	
Alkalinity, Total (as CaCO3)	~0.04		0.04			20110115	
Alkalinity, Total (as CaCO3)	713		1.0	mg/L		27-NOV-19	R4927641
Conductivity							
Conductivity	7050		1.0	umhos/cm		27-NOV-19	R4927641
pH							
pH	7.52		0.10	pH units		27-NOV-19	R4927641
Refer to Referenced Information for Qualifiers (if any) a	and blackback in the						



Reference Information

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Qualifier	Description		
DLM	Detection Limit Adju	sted due to sample matrix effects (e.g. chemica	(interference, colour, turbidity).
нтр		for re-analysis or dilution, but initial testing was	
MS-B	Matrix Spike recover	y could not be accurately calculated due to high	n analyte background in sample.
est Method R	eferences:		
ALS Test Code		Test Description	Method Reference**
	CALC-WP Water	Alkalinity, Carbonate	CALCULATION
		its acid neutralizing capacity.Alkalinity is impar carbonate is calculated and reported as mg C	ted by bicarbonate, carbonate and hydroxide components of water. D3 2-/L.
ALK-HCO3HCO WP	3-CALC- Water	Alkalinity, Bicarbonate	CALCULATION
		Its acid neutralizing capacity.Alkalinity is impar bicarbonate is calculated and reported as mg	ted by bicarbonate, carbonate and hydroxide components of water. HCO3-/L
ALK-OHOH-CAL	LC-WP Water	Alkalinity, Hydroxide	CALCULATION
		Its acid neutralizing capacity.Alkalinity is impar hydroxide is calculated and reported as mg O	ted by bicarbonate, carbonate and hydroxide components of water. H-/L.
ALK-TITR-WP	Water	Alkalinity, Total (as CaCO3)	APHA 2320B
	alinity is determined by		rted by bicarbonate, carbonate and hydroxide components of the successive HCO3- and H2CO3 endpoints indicated
BOD-WP	Water	Blochemical Oxygen Demand (BOD)	APHA 5210 B
		hen incubated in airtight bottles at 2000 for 5 da erence between initial and final DO.	ays. Dissolved oxygen is measured initially and after incubation,
BTEXS+F1-HSM	MS-WP Water	BTX plus F1 by GCMS	EPA 8260C / EPA 5021A
		s, is heated in a sealed vial to equilibrium. The neasured using mass spectrometry detection.	headspace from the vial is transfered into a gas chromatograph.
C-DOC-HTC-W	P Water	Dissolved Organic Carbon by Combustion	APHA 5310 B-WP
		and purged to remove inorganic carbon, then in ted in the carrier gas stream and measured via	jected into a heated reaction chamber where organic carbon is a non-dispersive infrared analyzer.
CL-IC-N-WP	Water	Chioride In Water by IC	EPA 300.1 (mod)
norganic anions	s are analyzed by lon (Chromatography with conductivity and/or UV de	tection.
COD-WP	Water	Chemical Oxygen Demand	APHA 5220 D
	carried out using proce og the closed reflux col		nical Oxygen Demand (COD)". Chemical oxygen demand is
EC-SCREEN-W	P Water	Conductivity Screen (Internal Use Only)	APHA 2510
Qualitative analy	ysis of conductivity wh	ere required during preparation of other test eg.	IC, TDS, TSS, etc
EC-WP	Water	Conductivity	APHA 2510B
	an aqueous solution re Inert electrodes.	fers to its ability to carry an electric current. Co	nductance of a solution is measured between two spatially fixed
F1-F4-CALC-W	P Water	CCME Total Hydrocarbons	CCME CWS-PHC, Pub #1310, Dec 2001-L
			alidated and comply with the Reference Method for the CWS PHC.
			s must be used in any application of the CWS PHC guidelines and
In cases where the gravimetric f	heavy hydrocarbons ca re BTEX and F1 were a		the sum of Benzene, Toluene, Ethylbenzene and total Xylenes has



Reference Information

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LS Test Code	Matrix	Test Description	Method Reference**
uoranthene, Indeno(1,2,	,3-cd)pyrene	, Phenanthrene, and Pyrene has been subtracte	d from F3.
niess otherwise qualified	1, the following	ng quality control criteria have been met for the F	1 hydrocarbon range:
All extraction and analy			records a factor for folloona
		sponse factors for C6 and C10 within 30% of the n 15% throughout the calibration range.	response racion for toruene.
less otherwise qualified	1. the followi	ng quality control criteria have been met for the F	2-F4 hydrocarbon ranges:
All extraction and analy	sis holding t	Imes were met.	
		10, C16 and C34 response factors within 10% of e C50 response factor within 30% of the average	
Linearity of diesel or mo	otor oll respo	onse within 15% throughout the calibration range	
-F4-FID-WP	Water	CCME PHC F2-F4 In Water	EPA 3511
		determined by liquid-liquid micro-scale solvent ex with flame ionization detection (GC-FID) analysis	draction using a reciprocal shaker extraction apparatus prior to 5.
-D-CVAA-WP	Water	Mercury Dissolved	APHA 3030B/EPA 1631E (mod)
ater samples are filtered th stannous chloride, an			a cold-oxidation using bromine monochioride prior to reduction
ET-D-CCMS-WP	Water	Dissolved Metals in Water by CRC ICPMS	APHA 3030B/6020B (mod)
ater samples are filterer	d (0.45 um),	preserved with nitric acid, and analyzed by CRC	ICPMS.
ethod Limitation /re: Sul	fur): Sulfide	and volatile sulfur species may not be recovered	by this method
	-		
T-T-CCMS-WP	Water	Total Metals In Water by CRC ICPMS	EPA 200.2/6020B (mod.)
		Total Metals in Water by CRC ICPMS and hydrochloric acids, and analyzed by CRC I	
ater samples are digest	ted with nitric	and hydrochloric acids, and analyzed by CRC I	CPMS.
ater samples are digest	ted with nitric		CPMS.
ater samples are digest ethod Limitation (re: Sul	ted with nitric	and hydrochloric acids, and analyzed by CRC I	CPMS.
ater samples are digest ethod Limitation (re: Sul TOTKJ-WP	ted with nitric ifur): Suifide Water	and hydrochioric acids, and analyzed by CRC I and volatile sulfur species may not be recovered Total Kjeldahi Nitrogen	CPMS.
ater samples are digest ethod Limitation (re: Sul TOTKJ-WP queous samples are dig	ted with nitric ifur): Suifide Water ested in a bi	and hydrochloric acids, and analyzed by CRC I and volatile sulfur species may not be recovered Total Kjeldahi Nitrogen ock digester with sulfuric acid and copper sulfate	CPMS. I by this method. APHA 4500 NorgD (modified)
ater samples are digest ethod Limitation (re: Sul TOTKJ-WP queous samples are dig screte analyzer with colo	ted with nitric ifur): Suifide Water ested in a bi	and hydrochloric acids, and analyzed by CRC I and volatile sulfur species may not be recovered Total Kjeldahi Nitrogen ock digester with sulfuric acid and copper sulfate	CPMS. I by this method. APHA 4500 NorgD (modified)
ater samples are digest ethod Limitation (re: Sui TOTKJ-WP queous samples are dig screte analyzer with colo 13-COL-WP nmonia in water sample	ted with nitric (fur): Suifide Water ested in a bi orimetric det Water es forms indo	and hydrochioric acids, and analyzed by CRC I and volatile sulfur species may not be recovered Total Kjeldahi Nitrogen ock digester with sulfuric acid and copper sulfate ection. Ammonia by colour ophenoi when reacted with hypochiorite and pher	CPMS. I by this method. APHA 4500 NorgD (modified) as a catalyst. Total Kjeldahi Nitrogen is then analyzed using a
ater samples are digest ethod Limitation (re: Sul TOTKJ-WP jueous samples are dig icrete analyzer with colo i3-COL-WP nmonia in water sample roprusside and measur	ted with nitric (fur): Suifide Water ested in a bi orimetric det Water es forms indo	and hydrochioric acids, and analyzed by CRC I and volatile sulfur species may not be recovered Total Kjeldahi Nitrogen ock digester with sulfuric acid and copper sulfate ection. Ammonia by colour ophenoi when reacted with hypochiorite and pher	CPMS. I by this method. APHA 4500 NorgD (modified) eas a catalyst. Total Kjeldahi Nitrogen Is then analyzed using a APHA 4500 NH3 F
ater samples are digest ethod Limitation (re: Sul TOTKJ-WP gueous samples are dig iscrete analyzer with colo i3-COL-WP nmonia in water sample roprusside and measur D2+NO3-CALC-WP	ted with nitric (fur): Suifide Water ested in a bi orimetric det Water es forms inde red colourme	and hydrochioric acids, and analyzed by CRC I and volatile sulfur species may not be recovered Total Kjeldahi Nitrogen ock digester with sulfuric acid and copper sulfate ection. Ammonia by colour ophenol when reacted with hypochiorite and pher trically.	CPMS. I by this method. APHA 4500 NorgD (modified) e as a catalyst. Total Kjeldahi Nitrogen is then analyzed using a APHA 4500 NH3 F nol. The intensity is amplified by the addition of sodium
ater samples are digest ethod Limitation (re: Sul TOTKJ-WP gueous samples are dig iscrete analyzer with colo (3-COL-WP mmonia in water sample roprusside and measur 02+NO3-CALC-WP 02-IC-N-WP	ted with nitric (fur): Suifide Water ested in a bi orimetric det Water water water Water Water Water	and hydrochioric acids, and analyzed by CRC I and volatile sulfur species may not be recovered Total Kjeldahi Nitrogen ock digester with sulfuric acid and copper sulfate ection. Ammonia by colour ophenol when reacted with hypochiorite and pher trically. Nitrate+Nitrite	CPMS. I by this method. APHA 4500 NorgD (modified) e as a catalyst. Total Kjeldahi Nitrogen is then analyzed using a APHA 4500 NH3 F nol. The intensity is amplified by the addition of sodium CALCULATION EPA 300.1 (mod)
ater samples are digest ethod Limitation (re: Suf TOTKJ-WP queous samples are dig screte analyzer with colo 43-COL-WP mmonia in water sample mmonia in water sample populside and measur 02+NO3-CALC-WP 02-IC-N-WP organic anions are analy	ted with nitric (fur): Suifide Water ested in a bi orimetric det Water water water Water Water Water	and hydrochioric acids, and analyzed by CRC I and volatile sulfur species may not be recovered Total Kjeldahi Nitrogen ock digester with sulfuric acid and copper sulfate ection. Ammonia by colour ophenoi when reacted with hypochiorite and pher trically. Nitrate+Nitrite Nitrite in Water by IC	CPMS. I by this method. APHA 4500 NorgD (modified) e as a catalyst. Total Kjeldahi Nitrogen is then analyzed using a APHA 4500 NH3 F nol. The intensity is amplified by the addition of sodium CALCULATION EPA 300.1 (mod)
ater samples are digest ethod Limitation (re: Sui TOTKJ-WP queous samples are dig screte analyzer with colo 13-COL-WP mmonia in water sample troprusside and measur 02+NO3-CALC-WP 02-IC-N-WP organic anions are analy 03-IC-N-WP	ted with nitric ifur): Suifide Water ested in a bi orimetric det Water Water Water Water Water yzed by Ion (Water	and hydrochioric acids, and analyzed by CRC I and volatile sulfur species may not be recovered Totai Kjeldahi Nitrogen ock digester with sulfuric acid and copper sulfate ection. Armonia by colour ophenoi when reacted with hypochiorite and pher frically. Nitrate+Nitrite Nitrate in Water by IC Chromatography with conductivity and/or UV det	CPMS. I by this method. APHA 4500 NorgD (modified) as a catalyst. Total Kjeldahi Nitrogen is then analyzed using a APHA 4500 NH3 F nol. The intensity is amplified by the addition of sodium CALCULATION EPA 300.1 (mod) ection. EPA 300.1 (mod)
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ater samples are digest ethod Limitation (re: Sui TOTKJ-WP queous samples are dig screte analyzer with colo 13-COL-WP mmonia in water sample troprusside and measur D2+NO3-CALC-WP D2-IC-N-WP organic anions are analy D3-IC-N-WP organic anions are analy T-COL-WP his analysis is carried ou ter persulphate digestion 1-WP	water ested in a bi orimetric det Water water water water water water water water water water water water using proc n of the sam water	and hydrochioric acids, and analyzed by CRC I and volatile sulfur species may not be recovered Total Kjeldahi Nitrogen ock digester with sulfuric acid and copper sulfate ection. Ammonia by colour sphenoi when reacted with hypochiorite and pher trically. Nitrate+Nitrite Nitrite in Water by IC Chromatography with conductivity and/or UV det Nitrate in Water by IC Chromatography with conductivity and/or UV det Phosphorus, Total edures adapted from APHA METHOD 4500-P "F ple. pH	CPMS. I by this method. APHA 4500 NorgD (modified) as a catalyst. Total Kjeldahi Nitrogen is then analyzed using a APHA 4500 NH3 F nol. The intensity is amplified by the addition of sodium CALCULATION EPA 300.1 (mod) ection. EPA 300.1 (mod) ection. APHA 4500 P PHOSPHORUS-L Phosphorus". Total Phosphorus is determined colourmetrically
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ater samples are digest ethod Limitation (re: Sui TOTKJ-WP queous samples are dig screte analyzer with colo 13-COL-WP mmonia in water sample troprusside and measur D2+NO3-CALC-WP D2-IC-N-WP organic anions are analy D3-IC-N-WP nis analysis is carried ou ter persuiphate digestion 1-WP ne pH of a sample is the ference electrode. D4-IC-N-WP	ted with nitric ifur): Suifide Water ested in a bi orimetric det Water Water Water Water Water yzed by Ion (Water using proc n of the sam Water e determinational Water	and hydrochioric acids, and analyzed by CRC I and volatile sulfur species may not be recovered Total Kjeldahi Nitrogen ock digester with sulfuric acid and copper sulfate ection. Ammonia by colour ophenol when reacted with hypochiorite and pher trically. Nitrate+Nitrite Nitrite in Water by IC Chromatography with conductivity and/or UV det Nitrate in Water by IC Chromatography with conductivity and/or UV det Phosphorus, Total edures adapted from APHA METHOD 4500-P "F pie. pH on of the activity of the hydrogen ions by potentic Sulfate in Water by IC	CPMS. I by this method. APHA 4500 NorgD (modified) as a catalyst. Total Kjeldahi Nitrogen is then analyzed using a APHA 4500 NH3 F nol. The intensity is amplified by the addition of sodium CALCULATION EPA 300.1 (mod) ection. APHA 4500 P PHOSPHORUS-L Phosphorus". Total Phosphorus is determined colourmetrically APHA 4500H ometric measurement using a standard hydrogen electrode and a EPA 300.1 (mod)



Reference Information

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Test Code Matrix	Test Description	Method Reference**
NES-SUM-CALC- Water	Sum of Xylene Isomer Concentrations	CALCULATED RESULT
xylenes represents the sum of o	+xylene and m&p-xylene.	
test methods may incorporate r	nodifications from specified reference metho	ods to improve performance.
ast two letters of the above test (code(s) indicate the laboratory that performe	d analytical analysis for that test. Refer to the list below:
ratory Definition Code Lab	oratory Location	
ALS	ENVIRONMENTAL - WINNIPEG, MANITO	BA, CANADA
n of Custody Numbers:		
able tests, surrogates are added ves for surrogates are listed the - milligrams per kilogram based wwt - milligrams per kilogram based of concentration based on st than. The reporting limit. Result not available. Refer to qui esuits reported relate only to the otherwise state, ALL SAMPLES V	to samples prior to analysis as a check on r re. on dry weight of sample ised on wet weight of sample ised on lipid-adjusted weight	at do not normally occur in environmental samples. For ecovery. In reports that display the D.L. column, laboratory o change, pending final QC review.





		Workorder			Report Date: 1(-020-18	1.4	ige 1 of 14
Box	/M Environmental (459 Iris MB R0K 2C0							
	ANDI BERTHOLET							
rest	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
ALK-TITR-WP	Water							
Batch R492	7641							
WG3230521-4 L	.C.S							
Alkalinity, Total (as	s CaCO3)		104.1		%		85-115	27-NOV-19
WG3230521-9 L Alkalinity, Total (as			104.6		%		85-115	27-NOV-19
WG3230521-1 N Alkalinity, Total (as			<1.0		mg/L		1	27-NOV-19
WG3230521-6 M	1B							
Alkalinity, Total (as	s CaCO3)		<1.0		mg/L		1	27-NOV-19
BOD-WP	Water							
Batch R493	0316							
WG3228792-2	.CS							
Blochemical Oxyg	en Demand		99.4		%		85-115	27-NOV-19
WG3228792-1								
Blochemical Oxyg	en Demand		<2.0		mg/L		2	27-NOV-19
BTEXS+F1-HSMS-WF	9 Water							
Batch R492	9936							
WG3229963-2 L	.CS							
Benzene			87.7		%		70-130	27-NOV-19
Toluene			92.4		%		70-130	27-NOV-19
Ethyl benzene			87.7		%		70-130	27-NOV-19
o-Xylene			90.9		%		70-130	27-NOV-19
m+p-Xylenes			101.4		%		70-130	27-NOV-19
WG3229963-3 L	.CS		96.0		%			
F1 (C6-C10)			90.0		76		70-130	27-NOV-19
WG3229963-1 M Benzene	AB		<0.00050		mg/L		0.0005	27-NOV-19
Toluene			<0.0010		mg/L		0.001	27-NOV-19
Ethyl benzene			<0.00050		mg/L		0.0005	27-NOV-19
o-Xylene			<0.00050		mg/L		0.0005	
m+p-Xylenes			<0.00030		mg/L		0.0003	27-NOV-19 27-NOV-19
F1 (C6-C10)			<0.10		mg/L		0.0004	27-NOV-19 27-NOV-19
	ofluorobenzene (SS)		92.0		%		70-130	27-NOV-19 27-NOV-19
-							101100	27-1004-19
C-DOC-HTC-WP	Water							
Batch R492 WG3229389-6 L								
Dissolved Organic			100.7		%		80-120	26-NOV-19
WG3229389-5 M								





rest C-DOC-HTC-WP		Workorder: L2387437		Report Date: 10-DEC-19		Page 2 of 14		
C-DOC-HTC-WP	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
	Water							
Batch R4	926439							
WG3229389-5 Dissolved Organ			<0.50		mg/L		0.5	26-NOV-19
CL-IC-N-WP	Water							
	926807							
WG3228643-6 Chloride (CI)	LCS		101.2		%		90-110	27-NOV-19
WG3228643-5 Chloride (CI)	мв		<0.50		mg/L		0.5	27-NOV-19
COD-WP	Water							
Batch R4	925988							
WG3229254-7		L2387437-2						
Chemical Oxyge WG3229254-2	en Demand	36	36		mg/L	0.3	20	26-NOV-19
Chemical Oxyge	en Demand		101.7		%		85-115	26-NOV-19
WG3229254-6 Chemical Oxyge	en Demand		101.5		%		85-115	26-NOV-19
WG3229254-1 Chemical Oxyge			<20		mg/L		20	26-NOV-19
WG3229254-5 Chemical Oxyge			<20		mg/L		20	26-NOV-19
WG3229254-8 Chemical Oxyge		L2387437-2	102.0		%		75-125	26-NOV-19
EC-WP	Water							
Batch R4	927641							
WG3230521-3	LCS							
Conductivity WG3230521-8	LCS		98.4		%		90-110	27-NOV-19
Conductivity			98.5		%		90-110	27-NOV-19
WG3230521-1 Conductivity			<1.0		umhos/cm		1	27-NOV-19
WG3230521-6 Conductivity	MB		<1.0		umhos/cm		1	27-NOV-19
	Water							
F2-F4-FID-WP								
	929054							





	Workorder	1 2207423	,	Report Date: 1	0.050.40		
				-			je 3 of 1
rest Matri	Ix Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F2-F4-FID-WP Wate	er						
Batch R4929054							
WG3230328-2 LCS F3 (C16-C34)		96.5		%		70-130	29-NOV-19
F4 (C34-C50)		99.3		%		70-130	29-NOV-19
WG3230328-1 MB F2 (C10-C16)		<0.10		mg/L		0.1	29-NOV-19
F3 (C16-C34)		<0.25		mg/L		0.25	29-NOV-19
F4 (C34-C50)		<0.25		mg/L		0.25	29-NOV-19
Surrogate: 2-Bromobenzotrifluo	oride	98.7		%		60-140	29-NOV-19
HG-D-CVAA-WP Wate	er						
Batch R4935634							
WG3235354-2 LCS Mercury (Hg)-Dissolved		103.0		%		80-120	04-DEC-19
WG3235354-1 MB Mercury (Hg)-Dissolved		<0.000005	50	mg/L		0.000005	04-DEC-19
MET-D-CCMS-WP Wate	er						
Batch R4930341							
WG3233319-2 LCS							
Aluminum (AI)-Dissolved		97.4		%		80-120	02-DEC-19
Antimony (Sb)-Dissolved		102.5		%		80-120	02-DEC-19
Arsenic (As)-Dissolved		106.4		%		80-120	02-DEC-19
Barlum (Ba)-Dissolved		105.4		%		80-120	02-DEC-19
Beryllum (Be)-Dissolved		106.0		%		80-120	02-DEC-19
Bismuth (BI)-Dissolved		103.4		%		80-120	02-DEC-19
Boron (B)-Dissolved		90.1		%		80-120	02-DEC-19
Cadmlum (Cd)-Dissolved		106.4		%		80-120	02-DEC-19
Calcium (Ca)-Dissolved		103.9		%		80-120	02-DEC-19
Cesium (Cs)-Dissolved		101.6		%		80-120	02-DEC-19
Chromium (Cr)-Dissolved		105.8		%		80-120	02-DEC-19
Cobalt (Co)-Dissolved		105.2		%		80-120	02-DEC-19
Copper (Cu)-Dissolved		106.2		%		80-120	02-DEC-19
Iron (Fe)-Dissolved		92.0		%		80-120	02-DEC-19
Lead (Pb)-Dissolved		104.6		%		80-120	02-DEC-19
Lithium (LI)-Dissolved		101.2		%		80-120	02-DEC-19
Magnesium (Mg)-Dissolved		117.6		%		80-120	02-DEC-19
Manganese (Mn)-Dissolved		105.8		%		80-120	02-DEC-19
Molybdenum (Mo)-Dissolved		104.2		%		80-120	02-DEC-19



Test

Batch

MET-D-CCMS-WP

R4930341

Workorder: L2387437 Report Date: 10-DEC-19 Page 4 of 14 Matrix Reference Result Qualifier Units RPD Limit Water 103.1 %

Quality Control Report

Datch	R4330341				
WG3233319 Nickel (NI)-D		103.1	%	80-120	02-DEC-19
Phosphorus	(P)-Dissolved	104.6	%	80-120	02-DEC-19
Potassium (K)-Dissolved	95.7	%	80-120	02-DEC-19
Rubidium (R	Rb)-Dissolved	106.5	%	80-120	02-DEC-19
Selenium (S	e)-Dissolved	104.9	%	80-120	02-DEC-19
Silicon (Si)-I	Dissolved	81.1	%	80-120	02-DEC-19
Silver (Ag)-D	Dissolved	103.1	%	80-120	02-DEC-19
Sodium (Na))-Dissolved	101.7	%	80-120	02-DEC-19
Strontium (S	Sr)-Dissolved	101.0	%	80-120	02-DEC-19
Sulfur (S)-D	issolved	80.1	%	80-120	02-DEC-19
Tellurium (T	e)-Dissolved	104.0	%	80-120	02-DEC-19
Thailium (Ti)-Dissolved	104.6	%	80-120	02-DEC-19
Thorium (Th	h)-Dissolved	95.4	%	80-120	02-DEC-19
Tin (Sn)-Dis	solved	102.4	%	80-120	02-DEC-19
Titanium (Ti	I)-Dissolved	101.0	%	80-120	02-DEC-19
Tungsten (V	V)-Dissolved	103.9	%	80-120	02-DEC-19
Uranium (U))-Dissolved	107.3	%	80-120	02-DEC-19
Vanadium (V	V)-Dissolved	105.7	%	80-120	02-DEC-19
Zinc (Zn)-Di	issolved	105.8	%	80-120	02-DEC-19
Zirconium (2	Zr)-Dissolved	98.5	%	80-120	02-DEC-19
WG3233319					
	AI)-Dissolved	<0.0010	mg/L	0.001	02-DEC-19
	(b)-Dissolved	<0.00010	mg/L	0.0001	02-DEC-19
Arsenic (As)		<0.00010	mg/L	0.0001	02-DEC-19
Barlum (Ba)		<0.00010	mg/L	0.0001	02-DEC-19
	e)-Dissolved	<0.00010	mg/L	0.0001	02-DEC-19
Bismuth (BI)		<0.000050	mg/L	0.00005	02-DEC-19
Boron (B)-D		<0.010	mg/L	0.01	02-DEC-19
	Cd)-Dissolved	<0.0000050	mg/L	0.000005	02-DEC-19
Calcium (Ca		<0.050	mg/L	0.05	02-DEC-19
Ceslum (Cs	/	<0.000010	mg/L	0.00001	02-DEC-19
	Cr)-Dissolved	<0.00010	mg/L	0.0001	02-DEC-19
Cobalt (Co)-		<0.00010	mg/L	0.0001	02-DEC-19
Copper (Cu))-Dissolved	<0.00020	mg/L	0.0002	02-DEC-19

Analyzed





MET-D-CCMS-WP Water Batch R4330341 WG3233319-1 MB Iron (Fe)-Dissolved -0.010 mg/L 0.01 02-DEC-19 Lead (Pb)-Dissolved -0.00050 mg/L 0.0005 02-DEC-19 Lead (Pb)-Dissolved -0.0010 mg/L 0.001 02-DEC-19 Magnaselum (Mg)-Dissolved -0.0050 mg/L 0.005 02-DEC-19 Magnase (Mn)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Molybdenum (Mo)-Dissolved -0.00050 mg/L 0.0005 02-DEC-19 Nickel (Ni)-Dissolved -0.00050 mg/L 0.0005 02-DEC-19 Nickel (Ni)-Dissolved -0.00050 mg/L 0.0005 02-DEC-19 Nickel (Ni)-Dissolved -0.00050 mg/L 0.0005 02-DEC-19 Potassium (K)-Dissolved -0.030 mg/L 0.0005 02-DEC-19 Bitorn (K)-Dissolved -0.00050 mg/L 0.0005 02-DEC-19 Silver (Ag)-Dissolved -0.00050 mg/L 0.0000	rest Ma	atrix Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
Babh R430341 WG323315-1 MB Iron (Fe)-Dissolved -0.010 mg/L 0.0005 02-DEC-19 Lead (Pb)-Dissolved -0.00050 mg/L 0.001 02-DEC-19 Magnesium (Mg)-Dissolved -0.00010 mg/L 0.001 02-DEC-19 Magnesium (Mg)-Dissolved -0.00010 mg/L 0.0005 02-DEC-19 Molybdenum (Mo)-Dissolved -0.00050 mg/L 0.0005 02-DEC-19 Nickel (Ni)-Dissolved -0.00050 mg/L 0.0005 02-DEC-19 Nickel (Ni)-Dissolved -0.00050 mg/L 0.0005 02-DEC-19 Nickel (Ni)-Dissolved -0.050 mg/L 0.0005 02-DEC-19 Potassium (K-)Dissolved -0.050 mg/L 0.0002 02-DEC-19 Silton (Si)-Dissolved -0.050 mg/L 0.0005 02-DEC-19 Silton (Si)-Dissolved -0.050 mg/L 0.0001 02-DEC-19 Silton (Si)-Dissolved -0.050 mg/L 0.0001 02-DEC-19 Sodium (Na)-			nooun		01110	1410	2	Analyzou
WG3233319-1 MB iron (Fe)-Dissolved -0.010 mg/L 0.01 02-DEC-19 Laad (Fe)-Dissolved -0.00050 mg/L 0.0010 02-DEC-19 Manganesium (Mg)-Dissolved -0.00010 mg/L 0.005 02-DEC-19 Manganese (Mn)-Dissolved -0.00010 mg/L 0.0005 02-DEC-19 Manganese (Mn)-Dissolved -0.00050 mg/L 0.00050 02-DEC-19 Nickel (Ni)-Dissolved -0.00050 mg/L 0.0005 02-DEC-19 Nickel (Ni)-Dissolved -0.00050 mg/L 0.0005 02-DEC-19 Nickel (Ni)-Dissolved -0.0020 mg/L 0.0005 02-DEC-19 Potaselum (K)-Dissolved -0.0020 mg/L 0.0005 02-DEC-19 Storo (SI)-Dissolved -0.0020 mg/L 0.0000 02-DEC-19 Storo (SI)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Storo (SI)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Storo (SI)-Dissolved -0.00010 mg/L <td></td> <td>ater</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>		ater						
ton (Fe)-Discolved -0.010 mg/L 0.01 02-DEC-19 Lead (Pb)-Discolved -0.00050 mg/L 0.0001 02-DEC-19 Magnestim (Mg)-Discolved -0.0010 mg/L 0.001 02-DEC-19 Mangamese (Mn)-Discolved -0.0010 mg/L 0.0001 02-DEC-19 Molyberum (Mo)-Discolved -0.00050 mg/L 0.0005 02-DEC-19 Nickel (Ni)-Discolved -0.00050 mg/L 0.0005 02-DEC-19 Phosphons (P)-Discolved -0.00050 mg/L 0.0005 02-DEC-19 Phosphons (P)-Discolved -0.00050 mg/L 0.0005 02-DEC-19 Phosphons (P)-Discolved -0.00050 mg/L 0.0000 02-DEC-19 Stiton (S)-Discolved -0.00050 mg/L 0.0000 02-DEC-19 Stiton (S)-Discolved -0.00050 mg/L 0.0000 02-DEC-19 Stiton (S)-Discolved -0.00010 mg/L 0.0001 02-DEC-19 Stiton (S)-Discolved -0.00010 mg/L 0.0001 02-DEC-19								
Lithum (Li)-Dissolved +0.0010 mg/L 0.001 02-DEC-19 Magneseium (Mg)-Dissolved +0.0050 mg/L 0.005 02-DEC-19 Magneseium (Mg)-Dissolved +0.00050 mg/L 0.0005 02-DEC-19 Molydenum (Mg)-Dissolved +0.00050 mg/L 0.0005 02-DEC-19 Nickel (M)-Dissolved +0.00050 mg/L 0.0005 02-DEC-19 Phosphorus (P)-Dissolved +0.030 mg/L 0.03 02-DEC-19 Rubidum (Rp)-Dissolved +0.050 mg/L 0.0002 02-DEC-19 Rubidum (Rp)-Dissolved +0.00020 mg/L 0.0002 02-DEC-19 Silcon (SI)-Dissolved +0.00010 mg/L 0.0002 02-DEC-19 Silcon (SI)-Dissolved +0.00010 mg/L 0.0001 02-DEC-19 Sodum (Na)-Dissolved +0.00010 mg/L 0.0011 02-DEC-19 Sodum (Na)-Dissolved +0.00010 mg/L 0.001 02-DEC-19 Sodum (Na)-Dissolved +0.00010 mg/L 0.001 02-DEC-19			<0.010		mg/L		0.01	02-DEC-19
Magnesium (Mg)-Dissolved 0.005 0.2-DEC-19 Manganese (Mn)-Dissolved <0.00010	Lead (Pb)-Dissolved		<0.000050)	mg/L		0.00005	02-DEC-19
Marganese (Mr)-Dissolved -0.00010 mg/L 0.0001 0.2-DEC-19 Molybdenum (Mo)-Dissolved -0.00050 mg/L 0.0005 02-DEC-19 Nickel (Mi)-Dissolved -0.00050 mg/L 0.005 02-DEC-19 Phosphorus (P)-Dissolved -0.050 mg/L 0.005 02-DEC-19 Phosphorus (P)-Dissolved -0.050 mg/L 0.05 02-DEC-19 Rubidium (Rb)-Dissolved -0.050 mg/L 0.0002 02-DEC-19 Sileon (Si)-Dissolved -0.050 mg/L 0.0002 02-DEC-19 Sileon (Si)-Dissolved -0.050 mg/L 0.0001 02-DEC-19 Sileon (Si)-Dissolved -0.050 mg/L 0.0001 02-DEC-19 Silver (Ag)-Dissolved -0.050 mg/L 0.0001 02-DEC-19 Sitrontium (Sr)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Sitrontium (Sr)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Sitrontium (Sr)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19	Lithium (LI)-Dissolved		<0.0010		mg/L		0.001	02-DEC-19
Molybdenum (Mo)-Dissolved -0.000050 mg/L 0.00005 02-DEC-19 Nickel (NI)-Dissolved -0.030 mg/L 0.033 02-DEC-19 Phosphorus (P)-Dissolved -0.030 mg/L 0.033 02-DEC-19 Pubasium (K)-Dissolved -0.050 mg/L 0.002 02-DEC-19 Rubidium (Rb)-Dissolved -0.00020 mg/L 0.0002 02-DEC-19 Silcon (Si)-Dissolved -0.000050 mg/L 0.00005 02-DEC-19 Silcon (Si)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Silcon (Si)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Solum (Na)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Solum (N)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19	Magnesium (Mg)-Dissolved		<0.0050		mg/L		0.005	02-DEC-19
Nickel (Ni)-Dissolved -0.00050 mg/L 0.0005 02-DEC-19 Phosphorus (P)-Dissolved -0.050 mg/L 0.05 02-DEC-19 Rubidium (Rb)-Dissolved -0.050 mg/L 0.0002 02-DEC-19 Rubidium (Rb)-Dissolved -0.00020 mg/L 0.0002 02-DEC-19 Selenium (Se)-Dissolved -0.00000 mg/L 0.0002 02-DEC-19 Siltor (Ag)-Dissolved -0.050 mg/L 0.00005 02-DEC-19 Siltor (Ag)-Dissolved -0.050 mg/L 0.0001 02-DEC-19 Sodium (Na)-Dissolved -0.050 mg/L 0.0001 02-DEC-19 Sodium (Na)-Dissolved -0.050 mg/L 0.0001 02-DEC-19 Stronthum (Sr)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Stronthum (Sr)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Thailum (Ti)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Thordum (Ti)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19	Manganese (Mn)-Dissolved		<0.00010		mg/L		0.0001	02-DEC-19
Phosphorus (P)-Dissolved -0.030 mg/L 0.03 0.2-DEC-19 Potassium (K)-Dissolved -0.0020 mg/L 0.0002 02-DEC-19 Rubidium (Ro)-Dissolved -0.000050 mg/L 0.00005 02-DEC-19 Selenium (Se)-Dissolved -0.000050 mg/L 0.00005 02-DEC-19 Silicor (Si)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Solum (Si)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Solum (Na)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Solum (Na)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Sutur (S)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Sutur (S)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Thalium (Ti)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Thorium (Ti)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Thorium (Ti)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 <td>Molybdenum (Mo)-Dissolved</td> <td>1</td> <td><0.000050</td> <td>1</td> <td>mg/L</td> <td></td> <td>0.00005</td> <td>02-DEC-19</td>	Molybdenum (Mo)-Dissolved	1	<0.000050	1	mg/L		0.00005	02-DEC-19
Potassium (K)-Dissolved -0.000 mg/L 0.00 0.000 0.0002 0.0001	Nickel (NI)-Dissolved		<0.00050		mg/L		0.0005	02-DEC-19
Rubidium (Rb)-Dissolved -0.0020 mg/L 0.0021 0.2-DEC-19 Selenium (Se)-Dissolved -0.000050 mg/L 0.00005 02-DEC-19 Silicon (Si)-Dissolved -0.00010 mg/L 0.00011 02-DEC-19 Silicon (Si)-Dissolved -0.00010 mg/L 0.00011 02-DEC-19 Soldum (Na)-Dissolved -0.00010 mg/L 0.00011 02-DEC-19 Soldum (Na)-Dissolved -0.00010 mg/L 0.00011 02-DEC-19 Sulfur (S)-Dissolved -0.00010 mg/L 0.00011 02-DEC-19 Sulfur (S)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Sulfur (S)-Dissolved -0.00020 mg/L 0.0001 02-DEC-19 Thailum (T)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Thorium (Th)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Tungsten (W)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Tungsten (W)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19	Phosphorus (P)-Dissolved		<0.030		mg/L		0.03	02-DEC-19
Selenium (Se)-Dissolved -0.00050 mg/L 0.0005 0.2 - DEC-19 Silicon (Si)-Dissolved -0.050 mg/L 0.00010 0.2 - DEC-19 Sodium (Na)-Dissolved -0.00010 mg/L 0.0001 0.2 - DEC-19 Sodium (Na)-Dissolved -0.050 mg/L 0.0001 0.2 - DEC-19 Strontium (Sr)-Dissolved -0.00010 mg/L 0.0001 0.2 - DEC-19 Strontium (Sr)-Dissolved -0.00010 mg/L 0.0001 0.2 - DEC-19 Strontium (Sr)-Dissolved -0.00010 mg/L 0.0001 0.2 - DEC-19 Strontium (Tr)-Dissolved -0.00010 mg/L 0.0001 0.2 - DEC-19 Thailum (Ti)-Dissolved -0.00010 mg/L 0.0001 0.2 - DEC-19 Thorium (Th)-Dissolved -0.00010 mg/L 0.0001 0.2 - DEC-19 Thailum (Ti)-Dissolved -0.00010 mg/L 0.0001 0.2 - DEC-19 Thorium (Th)-Dissolved -0.00010 mg/L 0.0001 0.2 - DEC-19 Thailum (Ti)-Dissolved -0.00010 mg/L <td< td=""><td>Potassium (K)-Dissolved</td><td></td><td><0.050</td><td></td><td>mg/L</td><td></td><td>0.05</td><td>02-DEC-19</td></td<>	Potassium (K)-Dissolved		<0.050		mg/L		0.05	02-DEC-19
Silton (S)-Dissolved -0.050 mg/L 0.05 02-DEC-19 Silver (Ag)-Dissolved -0.00010 mg/L 0.00010 2-DEC-19 Sodium (Na)-Dissolved -0.050 mg/L 0.05 02-DEC-19 Storntum (Sr)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Sutru (S)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Sutru (S)-Dissolved -0.00020 mg/L 0.0001 02-DEC-19 Tellurium (Te)-Dissolved -0.00020 mg/L 0.0001 02-DEC-19 Thailium (Ti)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Thortum (Th)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Thailum (Ti)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Transitum (Ti)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Tungsten (W)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Vanadium (V)-Dissolved -0.00010 mg/L 0.0002 02-DEC-19	Rubidium (Rb)-Dissolved		<0.00020		mg/L		0.0002	02-DEC-19
Silver (Ag)-Dissolved -0.00010 mg/L 0.00011 02-DEC-19 Sodium (Na)-Dissolved -0.050 mg/L 0.051 02-DEC-19 Strontum (Sr)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Sutru (S)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Sutru (S)-Dissolved -0.00010 mg/L 0.0002 02-DEC-19 Teilurium (Te)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Thotium (Th)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Thotium (Th)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Thotium (Th)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Thailum (T)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Titanium (T)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Tungsten (W)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Vanadium (V)-Dissolved -0.00020 mg/L 0.0002 02-DEC-19 <td>Selenium (Se)-Dissolved</td> <td></td> <td><0.000050</td> <td>)</td> <td>mg/L</td> <td></td> <td>0.00005</td> <td>02-DEC-19</td>	Selenium (Se)-Dissolved		<0.000050)	mg/L		0.00005	02-DEC-19
Sodium (Na)-Dissolved -0.050 mg/L 0.05 0.2-DEC-19 Strontum (Sr)-Dissolved -0.00010 mg/L 0.0001 0.2-DEC-19 Suffur (S)-Dissolved -0.50 mg/L 0.5 0.2-DEC-19 Tellurium (Te)-Dissolved -0.00010 mg/L 0.0002 0.2-DEC-19 Thallium (Ti)-Dissolved -0.00010 mg/L 0.0001 0.2-DEC-19 Thallium (Ti)-Dissolved -0.00010 mg/L 0.0001 0.2-DEC-19 Thorum (Th)-Dissolved -0.00010 mg/L 0.0001 0.2-DEC-19 Thalium (Ti)-Dissolved -0.00010 mg/L 0.0001 0.2-DEC-19 Thalium (Ti)-Dissolved -0.00010 mg/L 0.0001 0.2-DEC-19 Tungsten (W)-Dissolved -0.00010 mg/L 0.0001 0.2-DEC-19 Vanadlum (V)-Dissolved -0.00010 mg/L 0.0001 0.2-DEC-19 Vanadlum (V)-Dissolved -0.00020 mg/L 0.0002 0.2-DEC-19 MET-T-CCMS-WP Water Batoh R4933220 Weter <t< td=""><td>Silicon (SI)-Dissolved</td><td></td><td><0.050</td><td></td><td>mg/L</td><td></td><td>0.05</td><td>02-DEC-19</td></t<>	Silicon (SI)-Dissolved		<0.050		mg/L		0.05	02-DEC-19
Strontum (Sr)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Suffur (S)-Dissolved -0.0020 mg/L 0.5 02-DEC-19 Tellurium (Te)-Dissolved -0.0020 mg/L 0.0001 02-DEC-19 Thallium (Ti)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Thorium (Th)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Thorium (Th)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Thorium (Th)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Titanium (Ti)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Tungsten (W)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Uranium (U)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Vanadlum (V)-Dissolved -0.00010 mg/L 0.0001 02-DEC-19 Zinconium (Zr)-Dissolved -0.0010 mg/L 0.001 02-DEC-19 VET-T-CCMS-WP Water Batoh R4933220 Wetr 03-DE	Sliver (Ag)-Dissolved		<0.000010	1	mg/L		0.00001	02-DEC-19
Sulfur (S)-Dissolved +0.50 mg/L 0.5 02-DEC-19 Tellurlum (Te)-Dissolved <0.00020	Sodium (Na)-Dissolved		<0.050		mg/L		0.05	02-DEC-19
Tellurium (Te)-Dissolved -0.00020 mg/L 0.0002 02-DEC-19 Thailium (Ti)-Dissolved <0.000010	Strontium (Sr)-Dissolved		<0.00010		mg/L		0.0001	02-DEC-19
Thailium (Ti)-Dissolved -0.000010 mg/L 0.00001 02-DEC-19 Thorium (Th)-Dissolved <0.00010	Sulfur (S)-Dissolved		<0.50		mg/L		0.5	02-DEC-19
Thorlum (Th)-Dissolved <0.00010 mg/L 0.0001 02-DEC-19 Tin (Sh)-Dissolved <0.00010	Tellurium (Te)-Dissolved		<0.00020		mg/L		0.0002	02-DEC-19
Tin (Sn)-Dissolved <0.00010 mg/L 0.0001 02-DEC-19 Titanium (Ti)-Dissolved <0.00030	Thailium (TI)-Dissolved		<0.000010)	mg/L		0.00001	02-DEC-19
Titanium (Ti)-Dissolved <0.00030	Thorium (Th)-Dissolved		<0.00010		mg/L		0.0001	02-DEC-19
Tungsten (W)-Dissolved <0.00010 mg/L 0.0001 02-DEC-19 Uranium (U)-Dissolved <0.00010	Tin (Sn)-Dissolved		<0.00010		mg/L		0.0001	02-DEC-19
Uranium (U)-Dissolved <0.000010 mg/L 0.00001 02-DEC-19 Vanadium (V)-Dissolved <0.00050	Titanium (TI)-Dissolved		<0.00030		mg/L		0.0003	02-DEC-19
Vanadlum (V)-Dissolved 0.00050 mg/L 0.0005 02-DEC-19 Zinc (Zn)-Dissolved <0.0010	Tungsten (W)-Dissolved		<0.00010		mg/L		0.0001	02-DEC-19
Zinc (Zn)-Dissolved <0.0010 mg/L 0.001 02-DEC-19 Zirconium (Zr)-Dissolved <0.00020	Uranium (U)-Dissolved		<0.000010)	mg/L		0.00001	02-DEC-19
Zirconium (Zr)-Dissolved <0.00020 mg/L 0.0002 02-DEC-19 MET-T-CCMS-WP Water 0.0002 02-DEC-19 Batch R4933220 WG3233720-2 LCS </td <td>Vanadium (V)-Dissolved</td> <td></td> <td><0.00050</td> <td></td> <td>mg/L</td> <td></td> <td>0.0005</td> <td>02-DEC-19</td>	Vanadium (V)-Dissolved		<0.00050		mg/L		0.0005	02-DEC-19
Water Water Batch R4933220 WG3233720-2 LCS Aluminum (Al)-Total 101.6 % 80-120 03-DEC-19 Antimony (Sb)-Total 100.8 % 80-120 03-DEC-19 Arsenic (As)-Total 101.1 % 80-120 03-DEC-19 Barlum (Ba)-Total 103.9 % 80-120 03-DEC-19	Zinc (Zn)-Dissolved		<0.0010		mg/L		0.001	02-DEC-19
Batch R4933220 WG3233720-2 LCS Aluminum (Al)-Total 101.6 % 80-120 03-DEC-19 Antimony (Sb)-Total 100.8 % 80-120 03-DEC-19 Arsenic (As)-Total 101.1 % 80-120 03-DEC-19 Barlum (Ba)-Total 103.9 % 80-120 03-DEC-19	Zirconium (Zr)-Dissolved		<0.00020		mg/L		0.0002	02-DEC-19
WG3233720-2 LCS Aluminum (Al)-Total 101.6 % 80-120 03-DEC-19 Antimony (Sb)-Total 100.8 % 80-120 03-DEC-19 Arsenic (As)-Total 101.1 % 80-120 03-DEC-19 Barlum (Ba)-Total 103.9 % 80-120 03-DEC-19	MET-T-CCMS-WP W	ater						
Aluminum (Al)-Total 101.6 % 80-120 03-DEC-19 Antimony (Sb)-Total 100.8 % 80-120 03-DEC-19 Arsenic (As)-Total 101.1 % 80-120 03-DEC-19 Barlum (Ba)-Total 103.9 % 80-120 03-DEC-19	Batch R4933220							
Antimony (Sb)-Total 100.8 % 80-120 03-DEC-19 Arsenic (As)-Total 101.1 % 80-120 03-DEC-19 Barlum (Ba)-Total 103.9 % 80-120 03-DEC-19								
Arsenic (As)-Total 101.1 % 80-120 03-DEC-19 Barlum (Ba)-Total 103.9 % 80-120 03-DEC-19								
Barlum (Ba)-Total 103.9 % 80-120 03-DEC-19								





Quality Control Report Workorder: L2387437 Report Date: 10-DEC-19 Page 6 of 14 Test Matrix Reference Result Qualifier Units RPD Limit Analyzed MET-T-CCMS-WP Water Batch R4933220 WG3233720-2 LCS Bismuth (BI)-Total 101.9 % 80-120 03-DEC-19 97.5 Boron (B)-Total % 80-120 03-DEC-19 Cadmium (Cd)-Total 103.5 % 80-120 03-DEC-19 Calcium (Ca)-Total 104.0 % 80-120 03-DEC-19 Ceslum (Cs)-Total 108.4 % 80-120 03-DEC-19 Chromlum (Cr)-Total 80-120 03-DEC-19 102.0 % Cobalt (Co)-Total 101.1 % 80-120 03-DEC-19 Copper (Cu)-Total 101.1 % 80-120 03-DEC-19 Iron (Fe)-Total 92.5 % 80-120 03-DEC-19 Lead (Pb)-Total 103.1 % 80-120 03-DEC-19 Lithium (LI)-Total 101.6 % 80-120 03-DEC-19 Magnesium (Mg)-Total 114.4 % 80-120 03-DEC-19 % Manganese (Mn)-Total 101.2 80-120 03-DEC-19 Molybdenum (Mo)-Total % 99.3 80-120 03-DEC-19 Nickel (NI)-Total 98.6 % 80-120 03-DEC-19 Potasslum (K)-Total 99.1 % 80-120 03-DEC-19 Phosphorus (P)-Total 101.4 % 80-120 03-DEC-19 Rubidium (Rb)-Total 100.8 % 80-120 03-DEC-19 Selenium (Se)-Total 104.1 % 80-120 03-DEC-19 Silicon (SI)-Total 91.6 % 03-DEC-19 80-120 Silver (Ag)-Total 100.7 % 80-120 03-DEC-19 Sodium (Na)-Total 103.7 % 80-120 03-DEC-19 Strontium (Sr)-Total 108.7 % 80-120 03-DEC-19 Sulfur (S)-Total % 80-120 03-DEC-19 91.4 Tellurium (Te)-Total % 80-120 03-DEC-19 93.9 Thailium (TI)-Total 104.3 % 80-120 03-DEC-19 Thorium (Th)-Total 104.5 % 80-120 03-DEC-19 Tin (Sn)-Total 98.4 % 80-120 03-DEC-19 Titanium (TI)-Total 96.5 % 80-120 03-DEC-19 Tungsten (W)-Total 102.0 % 80-120 03-DEC-19 Uranium (U)-Total 110.2 % 80-120 03-DEC-19 Vanadium (V)-Total 80-120 03-DEC-19 102.4 % 80-120 03-DEC-19 Zinc (Zn)-Total 99.6 % Zirconium (Zr)-Total 98.2 96 80-120 03-DEC-19





Tellurium (Te)-Total

Thailium (TI)-Total

Thorium (Th)-Total

Titanium (TI)-Totai

Tin (Sn)-Total

Workorder: L2387437 Report Date: 10-DEC-19 Page 7 of 14 Test Matrix Reference Result Qualifier Units RPD Limit Analyzed MET-T-CCMS-WP Water Batch R4933220 WG3233720-1 MB Aluminum (Al)-Total <0.0030 mg/L 03-DEC-19 0.003 Antimony (Sb)-Total <0.00010 mg/L 0.0001 03-DEC-19 Arsenic (As)-Total <0.00010 mg/L 0.0001 03-DEC-19 Barlum (Ba)-Total <0.00010 03-DEC-19 mg/L 0.0001 Beryllum (Be)-Total <0.00010 mg/L 0.0001 03-DEC-19 Bismuth (BI)-Total <0.000050 mg/L 0.00005 03-DEC-19 Boron (B)-Total <0.010 mg/L 0.01 03-DEC-19 Cadmlum (Cd)-Total <0.0000050 mg/L 0.000005 03-DEC-19 Calcium (Ca)-Total <0.050 mg/L 0.05 03-DEC-19 Ceslum (Cs)-Total <0.000010 ma/L 0.00001 03-DEC-19 Chromlum (Cr)-Total <0.00010 mg/L 0.0001 03-DEC-19 <0.00010 Cobalt (Co)-Total mg/L 0.0001 03-DEC-19 Copper (Cu)-Total <0.00050 0.0005 mg/L 03-DEC-19 Iron (Fe)-Total <0.010 mg/L 0.01 03-DEC-19 Lead (Pb)-Total <0.000050 mg/L 0.00005 03-DEC-19 Lithium (LI)-Total mg/L <0.0010 0.001 03-DEC-19 Magnesium (Mg)-Totai <0.0050 mg/L 0.005 03-DEC-19 Manganese (Mn)-Total <0.00010 mg/L 0.0001 03-DEC-19 Molybdenum (Mo)-Total <0.000050 mg/L 0.00005 03-DEC-19 Nickel (NI)-Total <0.00050 mg/L 0.0005 03-DEC-19 Potassium (K)-Total <0.050 mg/L 0.05 03-DEC-19 Phosphorus (P)-Total <0.030 mg/L 0.03 03-DEC-19 Rubidium (Rb)-Total <0.00020 mg/L 0.0002 03-DEC-19 Selenium (Se)-Total <0.000050 mg/L 0.00005 03-DEC-19 Silicon (SI)-Total <0.10 mg/L 0.1 03-DEC-19 Sliver (Ag)-Total <0.000010 mg/L 0.00001 03-DEC-19 Sodium (Na)-Total <0.050 mg/L 0.05 03-DEC-19 Strontium (Sr)-Total <0.00020 0.0002 03-DEC-19 ma/L Sulfur (S)-Total <0.50 mg/L 03-DEC-19 0.5

<0.00020

<0.000010

<0.00010

<0.00010

<0.00030

mg/L

mg/L

mg/L

mg/L

mg/L

0.0002

0.00001

0.0001

0.0001

0.0003

03-DEC-19

03-DEC-19

03-DEC-19

03-DEC-19

03-DEC-19





		Workorder	: L238743	7	Report Date: 1	0-DEC-19	Pa	ge 8 of 14
rest	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	Water							
Batch R493322	20							
WG3233720-1 MB			0.00040					
Tungsten (W)-Total			<0.00010		mg/L		0.0001	03-DEC-19
Uranium (U)-Total			<0.00001		mg/L		0.00001	03-DEC-19
Vanadium (V)-Total			<0.00050		mg/L		0.0005	03-DEC-19
Zinc (Zn)-Total			<0.0030		mg/L		0.003	03-DEC-19
Zirconium (Zr)-Totai			<0.00020		mg/L		0.0002	03-DEC-19
Batch R493627								
WG3234903-2 LCS Aluminum (AI)-Total			100.3		%		80-120	04-DEC-19
Antimony (Sb)-Total			102.8		%		80-120	04-DEC-19 04-DEC-19
Arsenic (As)-Total			97.6		%		80-120	04-DEC-19 04-DEC-19
Barlum (Ba)-Total			98.8		%		80-120	04-DEC-19
Beryllum (Be)-Total			105.0		%		80-120	04-DEC-19
Bismuth (BI)-Total			101.9		%		80-120	04-DEC-19 04-DEC-19
Boron (B)-Total			109.9		%		80-120	04-DEC-19
Cadmium (Cd)-Total			98.9		%		80-120	04-DEC-19
Calcium (Ca)-Total			100.5		%		80-120	04-DEC-19 04-DEC-19
Cesium (Cs)-Total			96.7		%		80-120	04-DEC-19
Chromium (Cr)-Total			98.0		%		80-120	04-DEC-19
Cobalt (Co)-Total			99.2		%		80-120	04-DEC-19
Copper (Cu)-Total			99.6		%		80-120	04-DEC-19
Iron (Fe)-Total			86.1		%		80-120	04-DEC-19
Lead (Pb)-Total			102.1		%		80-120	04-DEC-19
Lithium (LI)-Total			107.5		%		80-120	04-DEC-19
Magnesium (Mg)-Tota	al		117.3		%		80-120	04-DEC-19
Manganese (Mn)-Tota			98.9		%		80-120	04-DEC-19
Molybdenum (Mo)-To			98.8		%		80-120	04-DEC-19
Nickel (NI)-Total			97.8		%		80-120	04-DEC-19
Potassium (K)-Total			88.8		%		80-120	04-DEC-19
Phosphorus (P)-Total	I		98.3		%		80-120	04-DEC-19
Rubidium (Rb)-Total			98.7		%		80-120	04-DEC-19
Selenium (Se)-Total			96.2		%		80-120	04-DEC-19
Silicon (SI)-Total			93.2		%		80-120	04-DEC-19
Silver (Ag)-Total			97.1		%		80-120	04-DEC-19
Sodium (Na)-Total			103.1		%		80-120	04-DEC-19



Environmental

			Qualit	y Cont	rol Report			
		Workorder	: L238743	7	Report Date: 1	0-DEC-19	Pag	ge 9 of 14
Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	Water							
Batch R4936273								
WG3234903-2 LCS								
Strontium (Sr)-Total			94.9		%		80-120	04-DEC-19
Sulfur (S)-Total			94.7		%		80-120	04-DEC-19
Tellurium (Te)-Total			98.1		%		80-120	04-DEC-19
Thailium (TI)-Totai			103.7		%		80-120	04-DEC-19
Thorlum (Th)-Total			96.2		%		80-120	04-DEC-19
Tin (Sn)-Total			100.0		%		80-120	04-DEC-19
Titanium (Ti)-Totai			93.2		%		80-120	04-DEC-19
Tungsten (W)-Total			101.0		%		80-120	04-DEC-19
Uranium (U)-Total			106.1		%		80-120	04-DEC-19
Vanadium (V)-Total			100.1		%		80-120	04-DEC-19
Zinc (Zn)-Total			96.7		%		80-120	04-DEC-19
Zirconium (Zr)-Total			89.3		%		80-120	04-DEC-19
WG3234903-1 MB								
Aluminum (Al)-Total			<0.0030		mg/L		0.003	04-DEC-19
Antimony (Sb)-Total			<0.00010		mg/L		0.0001	04-DEC-19
Arsenic (As)-Total			<0.00010		mg/L		0.0001	04-DEC-19
Barlum (Ba)-Total			<0.00010		mg/L		0.0001	04-DEC-19
Beryllum (Be)-Total			<0.00010		mg/L		0.0001	04-DEC-19
Bismuth (BI)-Total			<0.00005	D	mg/L		0.00005	04-DEC-19
Boron (B)-Total			<0.010		mg/L		0.01	04-DEC-19
Cadmlum (Cd)-Total			<0.00000	50	mg/L		0.000005	04-DEC-19
Calcium (Ca)-Total			<0.050		mg/L		0.05	04-DEC-19
Cesium (Cs)-Total			<0.00001	0	mg/L		0.00001	04-DEC-19
Chromium (Cr)-Total			<0.00010		mg/L		0.0001	04-DEC-19
Cobalt (Co)-Total			<0.00010		mg/L		0.0001	04-DEC-19
Copper (Cu)-Total			<0.00050		mg/L		0.0005	04-DEC-19
Iron (Fe)-Total			<0.010		mg/L		0.01	04-DEC-19
Lead (Pb)-Total			<0.00005	0	mg/L		0.00005	04-DEC-19
Lithium (LI)-Total			<0.0010		mg/L		0.001	04-DEC-19
Magnesium (Mg)-Total			<0.0050		mg/L		0.005	04-DEC-19
Manganese (Mn)-Total			<0.00010		mg/L		0.0001	04-DEC-19
Molybdenum (Mo)-Total			<0.00005	0	mg/L		0.00005	04-DEC-19
Nickel (NI)-Total			<0.00050		mg/L		0.0005	04-DEC-19
Potassium (K)-Total			<0.050		mg/L		0.05	04-DEC-19





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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	Water							
Batch R4936273								
WG3234903-1 MB Phosphorus (P)-Total			<0.030		mg/L		0.03	04-DEC-19
Rubidium (Rb)-Total			<0.00020		mg/L		0.0002	04-DEC-19
Selenium (Se)-Total			<0.000050)	mg/L		0.00005	04-DEC-19
Silicon (SI)-Total			<0.10		mg/L		0.1	04-DEC-19
Silver (Ag)-Total			<0.000010)	mg/L		0.00001	04-DEC-19
Sodium (Na)-Total			<0.050		mg/L		0.05	04-DEC-19
Strontium (Sr)-Total			<0.00020		mg/L		0.0002	04-DEC-19
Sulfur (S)-Total			<0.50		mg/L		0.5	04-DEC-19
Tellurium (Te)-Total			<0.00020		mg/L		0.0002	04-DEC-19
Thailium (TI)-Totai			<0.000010)	mg/L		0.00001	04-DEC-19
Thorium (Th)-Total			<0.00010		mg/L		0.0001	04-DEC-19
Tin (Sn)-Total			<0.00010		mg/L		0.0001	04-DEC-19
Titanium (Ti)-Totai			<0.00030		mg/L		0.0003	04-DEC-19
Tungsten (W)-Total			<0.00010		mg/L		0.0001	04-DEC-19
Uranium (U)-Total			<0.000010)	mg/L		0.00001	04-DEC-19
Vanadium (V)-Total			<0.00050		mg/L		0.0005	04-DEC-19
Zinc (Zn)-Total			<0.0030		mg/L		0.003	04-DEC-19
Zirconium (Zr)-Total			<0.00020		mg/L		0.0002	04-DEC-19
N-TOTKJ-WP	Water							
Batch R4927893								
WG3229333-6 LCS								
Total Kjeldahl Nitrogen			96.5		%		75-125	28-NOV-19
WG3229333-5 MB								
Total Kjeldahl Nitrogen			<0.20		mg/L		0.2	28-NOV-19
NH3-COL-WP	Water							
Batch R4934147								
WG3235151-2 LCS								
Ammonia, Total (as N)			101.5		%		85-115	03-DEC-19
WG3235151-1 MB Ammonia, Total (as N)			<0.010		mg/L		0.01	03-DEC-19
			-0.010		nge		0.01	03-020-19
NO2-IC-N-WP	Water							
Batch R4926807 WG3228643-6 LCS								
WG3220643-6 LC3			102.0		%		90-110	27-NOV-19
Nitrite (as N)								
Nitrite (as N) WG3228643-5 MB								



Environmental

		Q	uality Cont	rol Report			
		Workorder: L23	Report Date: 10-0	DEC-19	Pag	e 11 of 14	
Test	Matrix	Reference Re	sult Qualifier	Units	RPD	Limit	Analyzed
NO2-IC-N-WP	Water						
Batch R492680 WG3228643-5 MB Nitrite (as N)	זי	<0	.010	mg/L		0.01	27-NOV-19
NO3-IC-N-WP	Water						
Batch R492680	7						
WG3228643-6 LCS Nitrate (as N)		10	0.6	%		90-110	27-NOV-19
WG3228643-5 MB Nitrate (as N)		<0	.020	mg/L		0.02	27-NOV-19
P-T-COL-WP	Water						
Batch R492776	5						
WG3230456-2 LCS Phosphorus (P)-Total		98	.9	%		80-120	28-NOV-19
WG3230456-1 MB Phosphorus (P)-Total		~0	.0030	mg/L		0.003	28-NOV-19
PH-WP	Water						
Batch R492764	1						
WG3230521-2 LCS pH		7.4	41	pH units		7.3-7.5	27-NOV-19
WG3230521-7 LCS pH		7.3	37	pH units		7.3-7.5	27-NOV-19
SO4-IC-N-WP	Water						
Batch R492680	7						
WG3228643-6 LCS Sulfate (SO4)		10	2.1	%		90-110	27-NOV-19
WG3228643-5 MB Sulfate (SO4)		~0	.30	mg/L		0.3	27-NOV-19
TDS-WP	Water						
Batch R492778	4						
WG3229286-2 LCS Total Dissolved Solids		10	3.6	%		85-115	27-NOV-19
WG3229286-1 MB Total Dissolved Solids	;	-4	.0	mg/L		4	27-NOV-19
Batch R492993 WG3231043-2 LC8							
Total Dissolved Solids WG3231043-1 MB	5	10	0.2	%		85-115	28-NOV-19
WG3231043-1 MB							



Test M			Workorder:	L238743	7	Report Date: 1	0-DEC-19	P	age 12 of 14
		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
TDS-WP		Water							
Batch	R4929933								
WG3231043-1 MB Total Dissolved Solids			<4.0		mg/L		4	28-NOV-19	



Workorder: L2387437 Report Date: 10-DEC-19 Page 13 of 14

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Legend:	
Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate



Workorder: L2387437 Report Date: 10-DEC-19 Page 14 of 14 Hold Time Exceedances: Sample ID. Sampling Date Date Processed Rec. HT Actual HT Units Qualifier ALS Product Description Physical Tests pН 21-NOV-19 13:40 1 27-NOV-19 12:00 0.25 142 hours EHTR-EM 22-NOV-19 10:50 27-NOV-19 12:00 2 0.25 121 hours EHTR-FM EHTR-EM 4 22-NOV-19 13:25 27-NOV-19 12:00 0.25 119 hours 5 22-NOV-19 12:12 27-NOV-19 12:00 0.25 120 hours EHTR-FM Anions and Nutrients Nitrate in Water by IC 1 21-NOV-19 13:40 27-NOV-19 07:45 3 6 days EHTR 22-NOV-19 10:50 27-NOV-19 07:45 2 3 5 EHTR days 22-NOV-19 13:25 27-NOV-19 07:45 EHTR 4 5 3 days 22-NOV-19 12:12 27-NOV-19 07:45 5 5 EHTR 3 days Nitrite in Water by IC 1 21-NOV-19 13:40 27-NOV-19 07:45 3 6 days EHTR 2 22-NOV-19 10:50 27-NOV-19 07:45 3 5 days EHTR 4 22-NOV-19 13:25 27-NOV-19 07:45 3 5 EHTR days 22-NOV-19 12:12 27-NOV-19 07:45 EHTR 5 3 5 days Aggregate Organics Biochemical Oxygen Demand (BOD) 21-NOV-19 13:40 27-NOV-19 07:00 48 137 EHTR 1 hours 22-NOV-19 10:50 27-NOV-19 07:00 FHTR 2 48 116 hours 22-NOV-19 13:25 hours 4 27-NOV-19 07:00 48 114 FHTR 5 22-NOV-19 12:12 27-NOV-19 07:00 48 115 hours FHTR Legend & Qualifier Definitions:

 EHTR-FM:
 Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.

 EHTR:
 Exceeded ALS recommended hold time prior to sample receipt.

 EHTL:
 Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.

 EHT:
 Exceeded ALS recommended hold time prior to analysis.

 Rec. HT:
 ALS recommended hold time (see units).

Notes":

Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes. Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L2387437 were received on 26-NOV-19 09:00.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

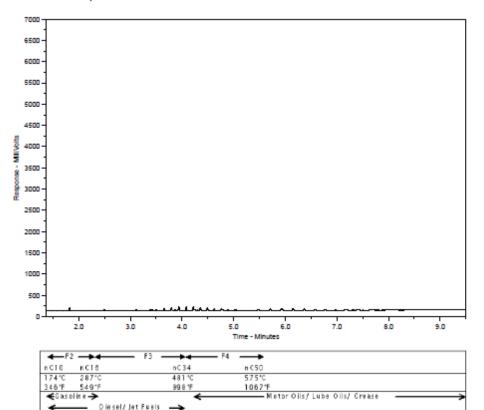
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.





ALS Sample ID: L2387437-1 Client Sample ID: GN1A



The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

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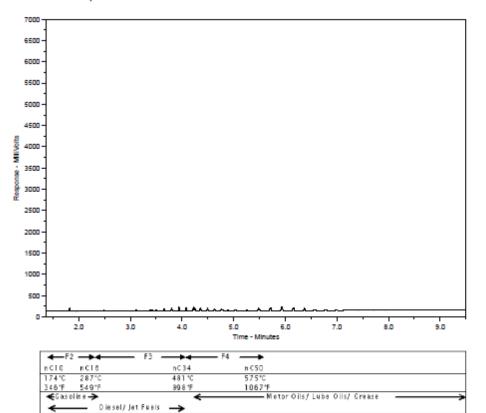
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ALS Sample ID: L2387437-2 Client Sample ID: GN1B



The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

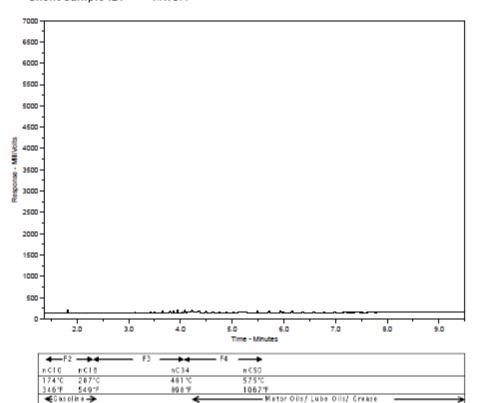
Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

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ALS Sample ID: L2387437-4 Client Sample ID: MW3A



The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

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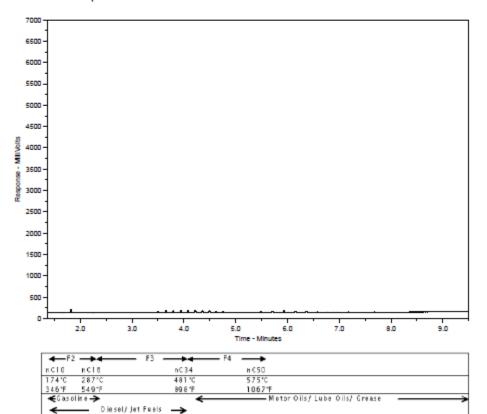
Diesel/Jet Fuels

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ALS Sample ID: L2387437-5 Client Sample ID: MW3B



The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

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MWM Environmental ATTN: BRANDI BERTHOLET Box 459 Souris MB ROK 2CO

Date Received: 26-NOV-19 Report Date: 10-DEC-19 15:43 (MT) Version: FINAL

Client Phone: 204-483-3986

Certificate of Analysis

Lab Work Order #: L2387433 Project P.O. #: NOT SUBMITTED Job Reference: C of C Numbers: Legal Site Desc:

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Hua Wo Chemistry Laboratory Manager [This report shall not be reproduced except in full without the written authority of the Laboratory.]

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L2387433 CONTD.... PAGE 2 of 10 Version: FINAL

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parar	neters	Result	Qualifier	D.L.	Units	Extracted	Analyzed	Batch
2387433-1 MW2	2							
	NT on 22-NOV-19 @ 09:50					[
Matrix: Wate								
viaurix. vviau: Nitrate + Nitrite	-							
Nitrate in Water b	w IC							
Nitrate (as N)	y 10	<1.0	DLM	1.0	mg/L		27-NOV-19	R4926807
Nitrate+Nitrite								
Nitrate and Nitrite a	as N	<1.1		1.1	mg/L		29-NOV-19	
Nitrite in Water by	y IC							
Nitrite (as N)		<0.50	DLM	0.50	mg/L		27-NOV-19	R4926807
BTEX plus F1-F4								
BTX plus F1 by G	SCMS							
Benzene		<0.00050		0.00050	mg/L		27-NOV-19	R4929936
Toluene		<0.0010		0.0010	mg/L		27-NOV-19	R4929936
Ethyl benzene		<0.00050		0.00050	mg/L		27-NOV-19	R4929936
o-Xylene		<0.00050		0.00050	mg/L		27-NOV-19	R4929936
m+p-Xylenes		<0.00040		0.00040	mg/L		27-NOV-19	R4929936
F1 (C6-C10)	offuerohenrene (CO)	<0.10 82.0		0.10	mg/L		27-NOV-19 27-NOV-19	R4929936 R4929936
	ofluorobenzene (SS)	82.0		70-130	%		27-NOV-19	R4929936
CCME PHC F2-F4 F2 (C10-C16)	in water	<0.10		0.10	mg/L	28-NOV-19	30-NOV-19	R4929054
F3 (C16-C34)		<0.10		0.10	mg/L	28-NOV-19	30-NOV-19	R4929054 R4929054
F4 (C34-C50)		<0.25		0.25	mg/L	28-NOV-19	30-NOV-19	R4929054
Surrogate: 2-Brom	obenzofrifluoride	95.5		60-140	%	28-NOV-19	30-NOV-19	R4929054 R4929054
CCME Total Hydr		50.0		00-140	76	20-140 - 19	30-140 4-15	14929034
F1-BTEX	ocarbons	<0.10		0.10	mg/L		04-DEC-19	
Total Hydrocarbon	s (C6-C50)	<0.38		0.38	mg/L		04-DEC-19	
	omer Concentrations							
Xylenes (Total)		< 0.00064		0.00064	mg/L		04-DEC-19	
Miscellaneous Pa	rameters				-			
Ammonia, Total (a	sN)	0.260		0.010	mg/L		03-DEC-19	R4934147
Blochemical Oxyge	en Demand	<2.0	1	2.0	mg/L		27-NOV-19	R4930316
Chemical Oxygen		154		20	ma/L		26-NOV-19	R4925988
Chloride (CI)		124		25	mg/L		27-NOV-19	R4926807
Dissolved Organic	Carbon	56.7		0.50	ma/L		26-NOV-19	R4926439
Phosphorus (P)-To		0.0480		0.0030	mg/L		28-NOV-19	R4927765
Sulfate (SO4)		10900		15	mg/L		27-NOV-19	R4926807
Total Dissolved So	l de	15500		80	mg/L		28-NOV-19	R4929933
Total Kjeldahl Nitro		2.80		0.20	-	27-NOV-19	28-NOV-19	R4927893
	ater by CRC ICPMS	2.00		0.20	mg/L	27-NOV-19	20-140-19	14927093
Aluminum (Al)-Tot		0.512		0.0030	ma/L	03-DEC-19	03-DEC-19	R4933220
Antimony (Sb)-Tot		0.0050		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Arsenic (As)-Total		0.00255		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Barlum (Ba)-Total		0.0120		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Bervillum (Be)-Tot	ai	0.00010		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Bismuth (BI)-Total		<0.000050		0.000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Boron (B)-Total		0.148		0.010	mg/L	03-DEC-19	03-DEC-19	R4933220
Cadmium (Cd)-Tot	al	0.000112		0.0000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Calcium (Ca)-Total	l i i i i i i i i i i i i i i i i i i i	465		0.050	mg/L	03-DEC-19	03-DEC-19	R4933220
Ceslum (Cs)-Total		0.000080		0.000010	mg/L	03-DEC-19	03-DEC-19	R4933220
Chromlum (Cr)-To	tai	0.00152		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Cobalt (Co)-Total		0.00190		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Copper (Cu)-Total		0.0116		0.00050	mg/L	03-DEC-19	03-DEC-19	R4933220
Iron (Fe)-Total		1.05		0.010	mg/L	03-DEC-19	03-DEC-19	R4933220
Lead (Pb)-Total		0.00406	1	0.000050	mg/L	03-DEC-19	03-DEC-19	R4933220

* Refer to Referenced Information for Qualifiers (if any) and Methodology.



L2387433 CONTD.... PAGE 3 of 10 Version: FINAL

ALS ENVIRONMENTAL ANALYTICAL REPORT

ample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
2387433-1 MW2							
ampled By: CLIENT on 22-NOV-19 @ 09:50							
atrix: Water							
Total Metals In Water by CRC ICPMS							
Lithium (Li)-Total	3.02		0.010	mg/L	03-DEC-19	03-DEC-19	R4933220
Magnesium (Mg)-Total	2280		0.050	mg/L	03-DEC-19	03-DEC-19	R4933220
Manganese (Mn)-Total	3.33		0.0010	mg/L	03-DEC-19	03-DEC-19	R4933220
Molybdenum (Mo)-Total	0.00468		0.000050	ma/L	03-DEC-19	03-DEC-19	R4933220
Nickel (NI)-Total	0.0588		0.00050	mg/L	03-DEC-19	03-DEC-19	R4933220
Potassium (K)-Total	35.8		0.050	ma/L	03-DEC-19	03-DEC-19	R4933220
Phosphorus (P)-Total	0.070		0.030	mg/L	03-DEC-19	03-DEC-19	R4933220
Rubidium (Rb)-Total	0.00239		0.00020	mg/L	03-DEC-19	03-DEC-19	R4933220
Selenium (Se)-Total	0.0234		0.000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Silicon (SI)-Total	14.3		0.10	mg/L	03-DEC-19	03-DEC-19	R4933220
Silver (Ag)-Total	0.000064		0.000010	mg/L	03-DEC-19	03-DEC-19	R4933220
Sodium (Na)-Total	1100		0.50	mg/L	03-DEC-19	03-DEC-19	R4933220
Strontlum (Sr)-Total	7.93		0.0020	mg/L	03-DEC-19	03-DEC-19	R4933220
Sulfur (S)-Total	3620		50	mg/L	03-DEC-19	06-DEC-19	R4939729
Tellurium (Te)-Total	0.00122		0.00020	mg/L	03-DEC-19	03-DEC-19	R4933220
Thailium (Ti)-Totai	0.000183		0.000010	mg/L	03-DEC-19	03-DEC-19	R4933220
Thorium (Th)-Total	0.00022		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Tin (Sn)-Total	0.00098		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Titanium (TI)-Total	0.0140		0.00030	mg/L	03-DEC-19	03-DEC-19	R4933220
Tungsten (W)-Total	<0.00010		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Uranium (U)-Total	0.145		0.000010	mg/L	03-DEC-19	03-DEC-19	R4933220
Vanadium (V)-Total	0.00215		0.00050	mg/L	03-DEC-19	03-DEC-19	R4933220
Zinc (Zn)-Total	0.0182		0.0030	mg/L	03-DEC-19	03-DEC-19	R4933220
Zirconium (Zr)-Total	0.00192		0.00020	mg/L	03-DEC-19	03-DEC-19	R4933220
Dissolved Metals in Water by CRC ICPMS	1						
Dissolved Metals Filtration Location	FIELD					02-DEC-19	R4930087
Aluminum (AI)-Dissolved	0.0016		0.0010	mg/L	02-DEC-19	02-DEC-19	R4930341
Antimony (Sb)-Dissolved	0.00021		0.00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Arsenic (As)-Dissolved	0.00182		0.00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Barlum (Ba)-Dissolved	0.00744		0.00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Beryllium (Be)-Dissolved	<0.00010		0.00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Bismuth (BI)-Dissolved	<0.000050		0.000050	mg/L	02-DEC-19	02-DEC-19	R4930341
Boron (B)-Dissolved	0.146		0.010	mg/L	02-DEC-19	02-DEC-19	R4930341
Cadmium (Cd)-Dissolved	0.0000943		0.0000050	mg/L	02-DEC-19	02-DEC-19	R4930341
Calcium (Ca)-Dissolved	462		0.050	mg/L	02-DEC-19	02-DEC-19	R4930341
Ceslum (Cs)-Dissolved	<0.000010		0.000010	mg/L	02-DEC-19	02-DEC-19	R4930341
Chromlum (Cr)-Dissolved	0.00035		0.00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Cobalt (Co)-Dissolved	0.00129		0.00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Copper (Cu)-Dissolved	0.0110		0.00020	mg/L	02-DEC-19	02-DEC-19	R4930341
Iron (Fe)-Dissolved	<0.010		0.010	mg/L	02-DEC-19	02-DEC-19	R4930341
Lead (Pb)-Dissolved	0.00237		0.000050	mg/L	02-DEC-19	02-DEC-19	R4930341
Lithium (LI)-Dissolved	2.92		0.010	mg/L	02-DEC-19	02-DEC-19	R4930341
Magnesium (Mg)-Dissolved	2540		0.050	mg/L	02-DEC-19	02-DEC-19	R4930341
Manganese (Mn)-Dissolved	3.18		0.0010	mg/L	02-DEC-19	02-DEC-19	R4930341
Molybdenum (Mo)-Dissolved	0.00453		0.000050	mg/L	02-DEC-19	02-DEC-19	R4930341
Nickel (NI)-Dissolved	0.0623		0.00050	mg/L	02-DEC-19	02-DEC-19	R4930341
Phosphorus (P)-Dissolved	0.032		0.030	mg/L	02-DEC-19	02-DEC-19	R4930341
Potassium (K)-Dissolved	32.9		0.050	mg/L	02-DEC-19	02-DEC-19	R4930341
Rubidium (Rb)-Dissolved	0.00153		0.00020	mg/L	02-DEC-19	02-DEC-19	R4930341
Selenium (Se)-Dissolved	0.0198		0.000050	mg/L	02-DEC-19	02-DEC-19	R4930341
Silicon (SI)-Dissolved	16.0	1	0.050	mg/L	02-DEC-19	02-DEC-19	R4930341

' Refer to Referenced Information for Qualifiers (if any) and Methodology.



L2387433 CONTD.... PAGE 4 of 10 Version: FINAL

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier	D.L.	Units	Extracted	Analyzed	Batch
L2387433-1 MW2							
Sampled By: CLIENT on 22-NOV-19 @ 09:50							
Matrix: Water							
Dissolved Metals in Water by CRC ICPMS							
Silver (Ag)-Dissolved	0.000048		0.000010	mg/L	02-DEC-19	02-DEC-19	R4930341
Sodium (Na)-Dissolved	1180		0.50	mg/L	02-DEC-19	02-DEC-19	R4930341
Strontium (Sr)-Dissolved	7.71		0.0010	mg/L	02-DEC-19	02-DEC-19	R4930341
Sulfur (S)-Dissolved	3530		50	mg/L	02-DEC-19	06-DEC-19	R4939729
Tellurium (Te)-Dissolved	0.00042		0.00020	mg/L	02-DEC-19	02-DEC-19	R4930341
Thallum (TI)-Dissolved	0.000208		0.000010	mg/L	02-DEC-19	02-DEC-19	R4930341
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Tin (Sn)-Dissolved	0.00011		0.00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Titanium (TI)-Dissolved	<0.00030		0.00030	mg/L	02-DEC-19	02-DEC-19	R4930341
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Uranium (U)-Dissolved	0.186		0.000010	mg/L	02-DEC-19	02-DEC-19	R4930341
Vanadium (V)-Dissolved	<0.00050	1	0.00050	mg/L	02-DEC-19	02-DEC-19	R4930341
Zinc (Zn)-Dissolved	0.0134	1	0.0010	mg/L	02-DEC-19	02-DEC-19	R4930341
Zirconium (Zr)-Dissolved	0.00101		0.00020	mg/L	02-DEC-19	02-DEC-19	R4930341
Mercury Dissolved		1					
Dissolved Mercury Filtration Location	FIELD					02-DEC-19	R4934767
Mercury (Hg)-Dissolved	<0.000050		0.0000050	mg/L	04-DEC-19	04-DEC-19	R4935634
pH, Conductivity and Total Alkalinity							
Alkalinity, Bicarbonate Bicarbonate (HCO3)	976		1.2	mg/L		28-NOV-19	
Alkalinity, Carbonate	-					20110115	
Carbonate (CO3)	<0.60		0.60	mg/L		28-NOV-19	
Alkalinity, Hydroxide				-			
Hydroxide (OH)	<0.34		0.34	mg/L		28-NOV-19	
Alkalinity, Total (as CaCO3)				-			
Alkalinity, Total (as CaCO3)	800		1.0	mg/L		27-NOV-19	R4927641
Conductivity							
Conductivity	12400		1.0	umhos/cm		27-NOV-19	R4927641
рн							
рН	7.61		0.10	pH units		27-NOV-19	R4927641
2387433-2 MW5A							
Sampled By: CLIENT on 22-NOV-19 @ 15:28							
Matrix: Water							
Nitrate + Nitrite		1					
Nitrate In Water by IC		1					
Nitrate (as N)	<0.40	DLM	0.40	mg/L		27-NOV-19	R4926807
Nitrate+Nitrite							
Nitrate and Nitrite as N	<0.45	1	0.45	mg/L		29-NOV-19	
Nitrite In Water by IC		1					
Nitrite (as N)	<0.20	DLM	0.20	mg/L		27-NOV-19	R4926807
BTEX plus F1-F4							
BTX plus F1 by GCMS							
Benzene	<0.00050	1	0.00050	mg/L		27-NOV-19	R4929936
Toluene	<0.0010		0.0010	mg/L		27-NOV-19	R4929936
Ethyl benzene	<0.00050	1	0.00050	mg/L		27-NOV-19	R4929936
o-Xylene	<0.00050		0.00050	mg/L		27-NOV-19	R4929936
m+p-Xylenes	<0.00040		0.00040	mg/L		27-NOV-19	R4929936
F1 (C6-C10)	<0.10		0.10	mg/L		27-NOV-19	R4929936
Surrogate: 4-Bromofluorobenzene (SS)	84.0		70-130	%		27-NOV-19	R4929936
CCME PHC F2-F4 In Water		1					
F2 (C10-C16)	<0.10		0.10	mg/L	28-NOV-19	30-NOV-19	R4929054
F3 (C16-C34)	<0.25	1	0.25	mg/L	28-NOV-19	30-NOV-19	R4929054



L2387433 CONTD.... PAGE 5 of 10 Version: FINAL

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier'	D.L.	Units	Extracted	Analyzed	Batch
_2387433-2 MW5A							
Sampled By: CLIENT on 22-NOV-19 @ 15:28							
Matrix: Water							
CCME PHC F2-F4 In Water							
F4 (C34-C50)	<0.25		0.25	mg/L	28-NOV-19	30-NOV-19	R4929054
Surrogate: 2-Bromobenzotrifluoride	98.0		60-140	%	28-NOV-19	30-NOV-19	R4929054
CCME Total Hydrocarbons				~			
F1-BTEX	<0.10		0.10	ma/L		04-DEC-19	
Total Hydrocarbons (C6-C50)	<0.38		0.38	mg/L		04-DEC-19	
Sum of Xylene Isomer Concentrations				-			
Xylenes (Total)	<0.00064		0.00064	mg/L		04-DEC-19	
Miscellaneous Parameters							
Ammonia, Total (as N)	1.15		0.10	mg/L		03-DEC-19	R4934147
Biochemical Oxygen Demand	<2.0		2.0	mg/L		27-NOV-19	R4930316
Chemical Oxygen Demand	75		20	mg/L		26-NOV-19	R4925988
Chloride (CI)	90		10	mg/L		27-NOV-19	R4926807
Dissolved Organic Carbon	23.5		0.50	mg/L		26-NOV-19	R4926439
Phosphorus (P)-Total	0.0121		0.0030	mg/L		28-NOV-19	R4927765
Sulfate (SO4)	3650		6.0	mg/L		27-NOV-19	R4926807
Total Dissolved Solids	6260		20	mg/L		27-NOV-19	R4927784
Total Kjeldahi Nitrogen				-	27 1001 40		
	2.04		0.20	mg/L	27-NOV-19	28-NOV-19	R4927893
Total Metals In Water by CRC ICPMS Aluminum (Al)-Total	0.0259		0.0030	mg/L	03-DEC-19	03-DEC-19	R4933220
Antimony (Sb)-Total	0.00116		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Arsenic (As)-Total	0.00346		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Barlum (Ba)-Total	0.0104		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Bervilium (Be)-Total	<0.00010		0.00010	ma/L	03-DEC-19	03-DEC-19	R4933220
Bismuth (BI)-Total	<0.000050		0.000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Boron (B)-Total	0.492		0.010	ma/L	03-DEC-19	03-DEC-19	R4933220
Cadmium (Cd)-Total	0.000411		0.0000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Calcium (Ca)-Total	593		0.50	mg/L	03-DEC-19	03-DEC-19	R4933220
Cesium (Cs)-Total	0.000021		0.000010	mg/L	03-DEC-19	03-DEC-19	R4933220
Chromlum (Cr)-Total	0.00064		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Cobalt (Co)-Total	0.0193		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Copper (Cu)-Total	0.00505		0.00050	mg/L	03-DEC-19	03-DEC-19	R4933220
Iron (Fe)-Total	0.088		0.010	mg/L	03-DEC-19	03-DEC-19	R4933220
Lead (Pb)-Total	0.00517		0.000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Lithium (Li)-Total	1.68		0.010	mg/L	03-DEC-19	03-DEC-19	R4933220
Magnesium (Mg)-Total	384		0.0050	mg/L	03-DEC-19	03-DEC-19	R4933220
Manganese (Mn)-Total	7.32		0.0010	mg/L	03-DEC-19	03-DEC-19	R4933220
Molybdenum (Mo)-Total	0.00417		0.000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Nickel (NI)-Total	0.0394		0.00050	mg/L	03-DEC-19	03-DEC-19	R4933220
Potassium (K)-Total	33.0		0.050	mg/L	03-DEC-19	03-DEC-19	R4933220
Phosphorus (P)-Total	<0.030		0.030	mg/L	03-DEC-19	03-DEC-19	R4933220
Rubidium (Rb)-Total	0.00810		0.00020	mg/L	03-DEC-19	03-DEC-19	R4933220
Selenium (Se)-Total	0.00246		0.000050	mg/L	03-DEC-19	03-DEC-19	R4933220
Silicon (SI)-Total	13		10	mg/L	03-DEC-19	06-DEC-19	R4939729
Silver (Ag)-Total	0.000053		0.000010	mg/L	03-DEC-19	03-DEC-19	R4933220
Sodium (Na)-Total	775		0.50	mg/L	03-DEC-19	03-DEC-19	R4933220
Strontium (Sr)-Total	4.76		0.0020	mg/L	03-DEC-19	03-DEC-19	R4933220
Sultur (S) Total	1120		5.0	mg/L	03-DEC-19	03-DEC-19	R4933220
Tellurium (Te)-Total	0.00048		0.00020	mg/L	03-DEC-19	03-DEC-19	R4933220
Thailium (TI)-Totai	0.000355		0.000010	mg/L	03-DEC-19	03-DEC-19	R4933220
Thorium (Th)-Total	<0.00010		0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220
Tin (Sn)-Total	0.00085	1	0.00010	mg/L	03-DEC-19	03-DEC-19	R4933220



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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier	D.L.	Units	Extracted	Analyzed	Batch
L2387433-2 MW5A							
Sampled By: CLIENT on 22-NOV-19 @ 15:28							
Matrix: Water							
Total Metals In Water by CRC ICPMS							
Titanium (Ti)-Total	0.00125		0.00030	ma/L	03-DEC-19	03-DEC-19	R4933220
Tungsten (W)-Total	<0.00010		0.00010	ma/L	03-DEC-19	03-DEC-19	R4933220
Uranium (U)-Total	0.0732		0.000010	mg/L	03-DEC-19	03-DEC-19	R4933220
Vanadium (V)-Total	0.00314		0.00050	ma/L	03-DEC-19	03-DEC-19	R4933220
Zinc (Zn)-Total	0.0685		0.0030	ma/L	03-DEC-19	03-DEC-19	R4933220
Zirconium (Zr)-Total	0.00107		0.00020	mg/L	03-DEC-19	03-DEC-19	R4933220
Dissolved Metals In Water by CRC ICPMS	0.00101		0.00020		0002015	0002015	10000220
Dissolved Metals Filtration Location	FIELD					02-DEC-19	R4930087
Aluminum (Al)-Dissolved	0.0015		0.0010	mg/L	02-DEC-19	02-DEC-19	R4930341
Antimony (Sb)-Dissolved	0.00101		0.00010	ma/L	02-DEC-19	02-DEC-19	R4930341
Arsenic (As)-Dissolved	0.00298		0.00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Barlum (Ba)-Dissolved	0.0102		0.00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Bervilium (Be)-Dissolved	<0.00010		0.00010	ma/L	02-DEC-19	02-DEC-19	R4930341
Bismuth (BI)-Dissolved	<0.000050		0.000050	ma/L	02-DEC-19	02-DEC-19	R4930341
Boron (B)-Dissolved	0.536		0.010	mg/L	02-DEC-19	02-DEC-19	R4930341
Cadmium (Cd)-Dissolved	0.000440		0.0000050	mg/L	02-DEC-19	02-DEC-19	R4930341
Calcium (Ca)-Dissolved	667		0.50	ma/L	02-DEC-19	02-DEC-19	R4930341
Cesium (Cs)-Dissolved	0.000015		0.000010	mg/L	02-DEC-19	02-DEC-19	R4930341
Chromium (Cr)-Dissolved	0.00042		0.00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Cobalt (Co)-Dissolved	0.0207		0.00010	mg/L	02-DEC-19	02-DEC-19	R4930341
Copper (Cu)-Dissolved	0.00492		0.00020	mg/L	02-DEC-19	02-DEC-19	R4930341
Iron (Fe)-Dissolved	<0.010		0.010	mg/L	02-DEC-19	02-DEC-19	R4930341
Lead (Pb)-Dissolved	0.00217		0.000050	mg/L	02-DEC-19	02-DEC-19	R4930341
Lithium (LI)-Dissolved	1.66		0.010	mg/L	02-DEC-19	02-DEC-19	R4930341
Magnesium (Mg)-Dissolved	403		0.0050	mg/L	02-DEC-19	02-DEC-19	R4930341
Manganese (Mn)-Dissolved	8.26		0.0010	mg/L	02-DEC-19	02-DEC-19	R4930341
Molybdenum (Mo)-Dissolved	0.00396		0.000050	mg/L	02-DEC-19	02-DEC-19	R4930341
Nickel (NI)-Dissolved	0.0432	1	0.00050	mg/L	02-DEC-19	02-DEC-19	R4930341
Phosphorus (P)-Dissolved	<0.030		0.030	mg/L	02-DEC-19	02-DEC-19	R4930341
Potassium (K)-Dissolved	33.0		0.050	mg/L	02-DEC-19	02-DEC-19	R4930341
Rubidium (Rb)-Dissolved	0.00809		0.00020	mg/L	02-DEC-19	02-DEC-19	R4930341
Selenium (Se)-Dissolved	0.00241		0.000050	mg/L	02-DEC-19	02-DEC-19	R4930341
Silicon (Si)-Dissolved	12.7		5.0	mg/L	02-DEC-19	06-DEC-19	R4939729
Silver (Ag)-Dissolved	0.000025		0.000010	mg/L	02-DEC-19	02-DEC-19	R4930341
Sodium (Na)-Dissolved	830		0.50	mg/L	02-DEC-19	02-DEC-19	R4930341
Strontium (Sr)-Dissolved	4.63		0.0010	mg/L	02-DEC-19	02-DEC-19	R4930341
Sulfur (S)-Dissolved	1370		50	mg/L	02-DEC-19	02-DEC-19	R4930341
Tellurium (Te)-Dissolved	<0.00020		0.00020	mg/L	02-DEC-19	02-DEC-19	R4930341 R4930341
Thaillum (Te)-Dissolved	<0.00020		0.00020	mg/L mg/L	02-DEC-19 02-DEC-19	02-DEC-19 02-DEC-19	R4930341 R4930341
Thorium (Th)-Dissolved	<0.000358		0.00010	mg/L	02-DEC-19 02-DEC-19	02-DEC-19	R4930341 R4930341
Tin (Sn)-Dissolved	<0.00010		0.00010	mg/L	02-DEC-19 02-DEC-19	02-DEC-19 02-DEC-19	R4930341 R4930341
Titanium (TI)-Dissolved	0.00038		0.00030	mg/L	02-DEC-19 02-DEC-19	02-DEC-19 02-DEC-19	R4930341
Tungsten (W)-Dissolved	<0.00038		0.00030	mg/L	02-DEC-19 02-DEC-19	02-DEC-19 02-DEC-19	R4930341 R4930341
Uranium (U)-Dissolved	0.0763		0.00010	mg/L mg/L	02-DEC-19 02-DEC-19	02-DEC-19 02-DEC-19	R4930341 R4930341
Vanadium (V)-Dissolved	0.00289		0.00050	mg/L	02-DEC-19 02-DEC-19	02-DEC-19	R4930341 R4930341
Zinc (Zn)-Dissolved	0.00289		0.00050	mg/L mg/L	02-DEC-19 02-DEC-19	02-DEC-19 02-DEC-19	R4930341 R4930341
			0.0010	-		02-DEC-19 02-DEC-19	R4930341 R4930341
Zirconium (Zr)-Dissolved	0.00095		0.00020	mg/L	02-DEC-19	02-DEC-19	R4930341
Mercury Dissolved						02-DEC-19	
Dissolved Mercury Filtration Location	FIELD						R4934767
Mercury (Hg)-Dissolved	<0.0000050		0.0000050	mg/L	04-DEC-19	04-DEC-19	R4935634
pH, Conductivity and Total Alkalinity							
Alkalinity, Bicarbonate							

* Refer to Referenced Information for Qualifiers (if any) and Methodology.



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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
_2387433-2 MW5A							
Sampled By: CLIENT on 22-NOV-19 @ 15:28							
Matrix: Water							
Alkalinity, Bicarbonate Bicarbonate (HCO3)	869		1.2	mg/L		28-NOV-19	
Alkalinity, Carbonate	000		1.2				
Carbonate (CO3)	<0.60		0.60	mg/L		28-NOV-19	
Alkalinity, Hydroxide Hydroxide (OH)	<0.34		0.34	mg/L		28-NOV-19	
Alkalinity, Total (as CaCO3)							
Alkalinity, Total (as CaCO3) Conductivity	712		1.0	mg/L		27-NOV-19	R4927641
Conductivity	6080		1.0	umhos/cm		27-NOV-19	R4927641
pH pH	7.43		0.10	pH units		27-NOV-19	R4927641
pri	7.45		0.10	pri unito		27-140-0-15	R4927041
		(
		1					
Refer to Referenced Information for Outsiders 14 and a	d Mathadalami						
Refer to Referenced Information for Qualifiers (if any) ar	nd Methodology.						



Reference Information

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Sample Parameter Qualifier Key: Qualifier Description DLM Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity). Matrix Spike recovery could not be accurately calculated due to high analyte background in sample. MS-B Test Method References: ALS Test Code Matrix Test Description Method Reference** ALK-CO3CO3-CALC-WP Water Alkalinity, Carbonate CALCULATION The Aikalinity of water is a measure of its acid neutralizing capacity. Aikalinity is imparted by bicarbonale, carbonate and hydroxide components of water. The fraction of alkalinity contributed by carbonate is calculated and reported as mg CO3 2-/L. ALK-HCO3HCO3-CALC- Water Alkalinity, Bicarbonate CALCULATION WP The Aikalinity of water is a measure of its acid neutralizing capacity. Aikalinity is imparted by bicarbonate, carbonate and hydroxide components of water. The fraction of alkalinity contributed by bicarbonate is calculated and reported as mg HCO3-/L ALK-OHOH-CALC-WP Water Alkalinity, Hydroxide CALCULATION The Aikalinity of water is a measure of its acid neutralizing capacity. Aikalinity is imparted by bicarbonate, carbonate and hydroxide components of water. The fraction of alkalinity contributed by hydroxide is calculated and reported as mg OH-/L ALK-TITR-WP Water Alkalinity, Total (as CaCO3) APHA 2320B The Alkalinity of water is a measure of its acid neutralizing capacity. Alkalinity is imparted by bicarbonate, carbonate and hydroxide components of water. Total alkalinity is determined by titration with a strong standard mineral acid to the successive HCO3- and H2CO3 endpoints indicated electrometrically. BOD-WP Water Blochemical Oxygen Demand (BOD) APHA 5210 B Samples are diluted and seeded and then incubated in airtight bottles at 2010 for 5 days. Dissolved oxygen is measured initially and after incubation, and results are computed from the difference between initial and final DO. BTEXS+F1-HSMS-WP Water BTX plus F1 by GCMS EPA 8260C / EPA 5021A The water sample, with added reagents, is heated in a sealed vial to equilibrium. The headspace from the vial is transfered into a gas chromatograph. Target compound concentrations are measured using mass spectrometry detection. C-DOC-HTC-WP Water Dissolved Organic Carbon by Combustion APHA 5310 B-WP Filtered (0.45 um) sample is acidified and purged to remove inorganic carbon, then injected into a heated reaction chamber where organic carbon is oxidized to CO2 which is then transported in the carrier gas stream and measured via a non-dispersive infrared analyzer. Water Chloride In Water by IC EPA 300.1 (mod) CL-IC-N-WP Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection. Chemical Oxygen Demand APHA 5220 D COD-WP Water This analysis is carried out using procedures adapted from APHA Method 5220 "Chemical Oxygen Demand (COD)". Chemical oxygen demand is determined using the closed reflux colorimetric method. EC-SCREEN-WP APHA 2510 Water Conductivity Screen (Internal Use Only) Qualitative analysis of conductivity where required during preparation of other test eg. IC, TDS, TSS, etc. EC-WP Water Conductivity APHA 2510B Conductivity of an aqueous solution refers to its ability to carry an electric current. Conductance of a solution is measured between two spatially fixed and chemically inert electrodes. CCME Total Hydrocarbons F1-F4-CALC-WP Water CCME CWS-PHC, Pub #1310, Dec 2001-L Analytical methods used for analysis of CCME Petroleum Hydrocarbons have been validated and comply with the Reference Method for the CWS PHC. In cases where results for both F4 and F4G are reported, the greater of the two results must be used in any application of the CWS PHC guidelines and the gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons. In samples where BTEX and F1 were analyzed, F1-BTEX represents a value where the sum of Benzene, Toluene, Ethylbenzene and total Xylenes has been subtracted from F1. In samples where PAHs, F2 and F3 were analyzed, F2-Naphth represents the result where Naphthalene has been subtracted from F2. F3-PAH represents a result where the sum of Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, and Pyrene has been subtracted from F3.



Reference Information

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Test Method References: Matrix Method Reference** ALS Test Code Test Description Unless otherwise qualified, the following quality control criteria have been met for the F1 hydrocarbon range: All extraction and analysis holding times were met.
 Instrument performance showing response factors for C6 and C10 within 30% of the response factor for toluene. 3. Linearity of gasoline response within 15% throughout the calibration range. Unless otherwise qualified, the following quality control criteria have been met for the F2-F4 hydrocarbon ranges: 1. All extraction and analysis holding times were met. 2. Instrument performance showing C10, C16 and C34 response factors within 10% of their average Instrument performance showing the C50 response factor within 30% of the average of the C10, C16 and C34 response factors.
 Linearity of desel or motor oil response within 15% throughout the calibration range. F2-F4-FID-WP CCME PHC F2-F4 In Water Water EPA 3511 Petroleum hydrocarbons in water are determined by liquid-liquid micro-scale solvent extraction using a reciprocal shaker extraction apparatus prior to capillary column gas chromatography with flame ionization detection (GC-FID) analysis. HG-D-CVAA-WP Water Mercury Dissolved APHA 3030B/EPA 1631E (mod) Water samples are filtered (0.45 um), preserved with hydrochioric acid, then undergo a cold-oxidation using bromine monochioride prior to reduction with stannous chloride, and analyzed by CVAAS. MET-D-CCMS-WP Water Dissolved Metals In Water by CRC ICPMS APHA 3030B/6020B (mod) Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. MET-T-CCMS-WP Water Total Metals In Water by CRC ICPMS EPA 200.2/6020B (mod.) Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method. N-TOTKJ-WP Water Total Kleidahl Nitrogen APHA 4500 NorgD (modified) Aqueous samples are digested in a block digester with sulfuric acid and copper sulfate as a catalyst. Total Kjeldahi Nitrogen is then analyzed using a discrete analyzer with colorimetric detection. Water APHA 4500 NH3 E NH3-COL-WP Ammonia by colour Ammonia in water samples forms indophenol when reacted with hypochlorite and phenol. The intensity is amplified by the addition of sodium nitroorusside and measured colourmetrically. NO2+NO3-CALC-WP Water Nitrate+Nitrite CALCULATION NO2-IC-N-WP Water Nitrite In Water by IC EPA 300.1 (mod) Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection. NO3-IC-N-WP Water Nitrate in Water by IC EPA 300.1 (mod) Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection. P-T-COL-WP APHA 4500 P PHOSPHORUS-L Water Phosphorus, Total This analysis is carried out using procedures adapted from APHA METHOD 4500-P "Phosphorus". Total Phosphorus is determined colourmetrically after persulphate digestion of the sample. PH-WP Water APHA 4500H DH The pH of a sample is the determination of the activity of the hydrogen ions by potentiometric measurement using a standard hydrogen electrode and a reference electrode. SO4-IC-N-WP Water Sulfate In Water by IC EPA 300.1 (mod) Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection. Total Dissolved Solids (TDS) APHA 2540 SOLIDS C,E TDS-WP Water A well-mixed sample is filtered through a glass fiber filter paper. The filtrate is then evaportaed to dryness in a pre-weighed vial and dried at 180 - 2C. The increase in vial weight represents the total dissolved solids. XYLENES-SUM-CALC- Water Sum of Xylene Isomer Concentrations CALCULATED RESULT



Reference Information

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The last two letters of the above Laboratory Definition Code WP Chain of Custody Numbers: SLOSSARY OF REPORT TERM Surrogates are compounds that a	n of o-xylene and m&p-xylene. ate modifications from specified reference methods to improve performance. test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below: Laboratory Location ALS ENVIRONMENTAL - WINNIPEG, MANITOBA, CANADA
ALS test methods may incorpor The last two letters of the above aboratory Definition Code VP Chain of Custody Numbers: LOSSARY OF REPORT TERM imogates are compounds that a pilicable tests, surrogates are a	ate modifications from specified reference methods to improve performance. test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below: Laboratory Location
he last two letters of the above aboratory Definition Code IP hain of Custody Numbers: .OS\$ARY OF REPORT TERM mogates are compounds that a plicable tests, surrogates are a	test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below: Laboratory Location
aboratory Definition Code P hain of Custody Numbers: OS\$ARY OF REPORT TERM rogates are compounds that a bilicable tests, surrogates are a	Laboratory Location
P hain of Custody Numbers: OS\$ARY OF REPORT TERM rogates are compounds that a blicable tests, surrogates are a	•
Chain of Custody Numbers: LOSSARY OF REPORT TERM urrogates are compounds that a oplicable tests, surrogates are a	ALS ENVIRONMENTAL - WINNIPEG, MANITOBA, CANADA
LOSSARY OF REPORT TERM. urrogates are compounds that a pplicable tests, surrogates are a	
urrogates are compounds that a pplicable tests, surrogates are a	
ng/kg - miligrams per kilogram bi ng/kg wwt - miligrams per kilogra ng/kg lwt - miligrams per kilogra ng/L - unit of concentration base « - Less than. D.L The reporting limit.	re similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For Ided to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory I there. ased on dry weight of sample in based on wet weight of sample n based on lipid-adjusted weight





					Report Date: 1(ge 1 of 1
Client	MWM Environ Box 459	hmental						
	Souris MB R	0K 2C0						
Contact:	BRANDI BER	THOLET						
rest	Ma	trix Reference	e Result	Qualifier	Units	RPD	Limit	Analyzed
ALK-TITR-WP	W	ater						
Batch R	4927641							
WG3230521-4	LCS							
Alkalinity, Tota	al (as CaCO3)		104.1		%		85-115	27-NOV-19
WG3230521-1 Alkalinity, Tota			<1.0		mg/L		1	27-NOV-19
BOD-WP	W	ater			-			
Batch R	4930316							
WG3228792-2								
Blochemical C	xygen Deman	d	99.4		%		85-115	27-NOV-19
WG3228792-1					_			
Blochemical C	xygen Deman	d	<2.0		mg/L		2	27-NOV-19
BTEXS+F1-HSMS	S-WP Wa	ater						
	4929936							
WG3229963-2	LCS		87.7					
Benzene Toluene			92.4		%		70-130	27-NOV-19
Ethyl benzene			92.4 87.7		%		70-130 70-130	27-NOV-19 27-NOV-19
o-Xylene			90.9		%		70-130	27-NOV-19 27-NOV-19
m+p-Xylenes			101.4		%		70-130	27-NOV-19 27-NOV-19
WG3229963-3	1.08		191.4		~		70-130	27-1907-19
F1 (C6-C10)	200		96.0		%		70-130	27-NOV-19
WG3229963-1	MB							
Benzene			<0.00050	1	mg/L		0.0005	27-NOV-19
Toluene			<0.0010		mg/L		0.001	27-NOV-19
Ethyl benzene			<0.00050	1	mg/L		0.0005	27-NOV-19
o-Xylene			<0.00050	1	mg/L		0.0005	27-NOV-19
m+p-Xylenes			<0.00040	1	mg/L		0.0004	27-NOV-19
F1 (C6-C10)			<0.10		mg/L		0.1	27-NOV-19
Surrogate: 4-E	Bromofluorober	nzene (SS)	92.0		%		70-130	27-NOV-19
WG3229963-5	MS	L2387433						
Benzene			92.3		%		50-150	27-NOV-19
Toluene Ethyl bonzono			94.7		%		50-150	27-NOV-19
Ethyl benzene			88.4		%		50-150	27-NOV-19
o-Xylene			90.6		%		50-150	27-NOV-19
m+p-Xylenes			102.0		%		50-150	27-NOV-19
WG3229963-6 F1 (C6-C10)	MS	L2387433	3-2 101.7		%		50-150	27-NOV-19
C-DOC-HTC-WP	144	ater						



Quality Control Report Workorder: L2387433 Report Date: 10-DEC-19 Page 2 of 11 Test Matrix Reference Result Qualifier Units RPD Limit Analyzed C-DOC-HTC-WP Water Batch R4926439 WG3229389-6 LCS Dissolved Organic Carbon 100.7 % 80-120 26-NOV-19 WG3229389-5 MB Dissolved Organic Carbon mg/L <0.50 0.5 26-NOV-19 Water CL-IC-N-WP R4926807 Batch WG3228643-6 LCS Chloride (CI) 101.2 % 90-110 27-NOV-19 WG3228643-5 MB Chloride (CI) <0.50 mg/L 0.5 27-NOV-19 COD-WP Water Batch R4925988 WG3229254-2 LCS Chemical Oxygen Demand 101.7 % 85-115 26-NOV-19 WG3229254-1 MB Chemical Oxygen Demand <20 mg/L 20 26-NOV-19 EC-WP Water Batch R4927641 WG3230521-3 LCS Conductivity 98.4 % 90-110 27-NOV-19 WG3230521-1 MB Conductivity <1.0 umhos/cm 1 27-NOV-19 F2-F4-FID-WP Water Batch R4929054 WG3230328-2 LCS F2 (C10-C16) 104.8 % 70-130 29-NOV-19 F3 (C16-C34) 96.5 % 70-130 29-NOV-19 F4 (C34-C50) 99.3 % 70-130 29-NOV-19 WG3230328-1 MB F2 (C10-C16) <0.10 mg/L 0.1 29-NOV-19 F3 (C16-C34) <0.25 mg/L 0.25 29-NOV-19 F4 (C34-C50) <0.25 mg/L 0.25 29-NOV-19 Surrogate: 2-Bromobenzotrifluoride 98.7 % 60-140 29-NOV-19

HG-D-CVAA-WP

Water





		Workorder	: L238743	3	Report Date: 1	0-DEC-19	Pag	ge 3 of 1
est	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-D-CVAA-WP	Water							
Batch R4935634	Ļ							
WG3235354-2 LCS Mercury (Hg)-Dissolved	1		103.0		%		80-120	04-DEC-19
WG3235354-1 MB Mercury (Hg)-Dissolved	1		<0.00000	50	mg/L		0.000005	04-DEC-19
MET-D-CCMS-WP	Water							
Batch R4930341								
WG3233319-2 LCS								
Aluminum (Al)-Dissolve			97.4		%		80-120	02-DEC-19
Antimony (Sb)-Dissolve			102.5		%		80-120	02-DEC-19
Arsenic (As)-Dissolved			106.4		96		80-120	02-DEC-19
Barlum (Ba)-Dissolved			105.4		%		80-120	02-DEC-19
Beryllum (Be)-Dissolve			106.0		%		80-120	02-DEC-19
Bismuth (BI)-Dissolved			103.4		%		80-120	02-DEC-19
Boron (B)-Dissolved			90.1		%		80-120	02-DEC-19
Cadmium (Cd)-Dissolv			106.4		%		80-120	02-DEC-19
Calcium (Ca)-Dissolved	1		103.9		%		80-120	02-DEC-19
Ceslum (Cs)-Dissolved	l		101.6		%		80-120	02-DEC-19
Chromlum (Cr)-Dissolv	ed		105.8		%		80-120	02-DEC-19
Cobalt (Co)-Dissolved			105.2		%		80-120	02-DEC-19
Copper (Cu)-Dissolved			106.2		%		80-120	02-DEC-19
Iron (Fe)-Dissolved			92.0		%		80-120	02-DEC-19
Lead (Pb)-Dissolved			104.6		%		80-120	02-DEC-19
Lithium (LI)-Dissolved			101.2		%		80-120	02-DEC-19
Magneslum (Mg)-Disso	lved		117.6		%		80-120	02-DEC-19
Manganese (Mn)-Disso	lved		105.8		%		80-120	02-DEC-19
Molybdenum (Mo)-Diss	olved		104.2		%		80-120	02-DEC-19
Nickel (NI)-Dissolved			103.1		%		80-120	02-DEC-19
Phosphorus (P)-Dissolv	ved		104.6		%		80-120	02-DEC-19
Potassium (K)-Dissolve	bd		95.7		%		80-120	02-DEC-19
Rubidium (Rb)-Dissolve	ed		106.5		%		80-120	02-DEC-19
Selenium (Se)-Dissolve	ed		104.9		%		80-120	02-DEC-19
Silicon (Si)-Dissolved			81.1		%		80-120	02-DEC-19
Silver (Ag)-Dissolved			103.1		%		80-120	02-DEC-19
Sodium (Na)-Dissolved	I		101.7		%		80-120	02-DEC-19
Strontium (Sr)-Dissolve	d		101.0		%		80-120	02-DEC-19



Workorder: L2387433 Report Date: 10-DEC-19 Page 4 of 11 Test Matrix Reference Result Qualifier Units RPD Limit Analyzed MET-D-CCMS-WP Water Batch R4930341 WG3233319-2 LCS Sulfur (S)-Dissolved 80.1 96 80-120 02-DEC-19 Tellurium (Te)-Dissolved 104.0 % 80-120 02-DEC-19 Thaillum (TI)-Dissolved 104.6 % 80-120 02-DEC-19 Thorium (Th)-Dissolved 95.4 % 80-120 02-DEC-19 Tin (Sn)-Dissolved 102.4 % 80-120 02-DEC-19 Titanium (TI)-Dissolved 101.0 80-120 02-DEC-19 % Tungsten (W)-Dissolved 103.9 % 80-120 02-DEC-19 Uranium (U)-Dissolved 107.3 % 80-120 02-DEC-19 Vanadium (V)-Dissolved 105.7 % 80-120 02-DEC-19 Zinc (Zn)-Dissolved 105.8 % 80-120 02-DEC-19 Zirconium (Zr)-Dissolved 98.5 % 80-120 02-DEC-19 WG3233319-1 MB Aluminum (AI)-Dissolved <0.0010 mg/L 0.001 02-DEC-19 Antimony (Sb)-Dissolved <0.00010 mg/L 0.0001 02-DEC-19 <0.00010 Arsenic (As)-Dissolved mg/L 0.0001 02-DEC-19 Barlum (Ba)-Dissolved 0.0001 02-DEC-19 <0.00010 mg/L Beryllum (Be)-Dissolved <0.00010 mg/L 0.0001 02-DEC-19 Bismuth (BI)-Dissolved <0.000050 mg/L 0.00005 02-DEC-19 Boron (B)-Dissolved <0.010 mg/L 0.01 02-DEC-19 Cadmium (Cd)-Dissolved <0.0000050 mg/L 0.000005 02-DEC-19 Calcium (Ca)-Dissolved <0.050 mg/L 0.05 02-DEC-19 Ceslum (Cs)-Dissolved <0.000010 0.00001 02-DEC-19 mg/L Chromium (Cr)-Dissolved mg/L <0.00010 0.0001 02-DEC-19 Cobalt (Co)-Dissolved <0.00010 mg/L 0.0001 02-DEC-19 Copper (Cu)-Dissolved <0.00020 mg/L 0.0002 02-DEC-19 Iron (Fe)-Dissolved <0.010 mg/L 0.01 02-DEC-19 Lead (Pb)-Dissolved 0.00005 02-DEC-19 <0.000050 mg/L Lithium (LI)-Dissolved <0.0010 mg/L 0.001 02-DEC-19 Magnesium (Mg)-Dissolved <0.0050 mg/L 0.005 02-DEC-19 Manganese (Mn)-Dissolved <0.00010 mg/L 0.0001 02-DEC-19 Molybdenum (Mo)-Dissolved <0.000050 mg/L 0.00005 02-DEC-19 Nickel (NI)-Dissolved <0.00050 0.0005 02-DEC-19 mg/L Phosphorus (P)-Dissolved <0.030 mg/L 0.03 02-DEC-19 Potassium (K)-Dissolved <0.050 mg/L 02-DEC-19 0.05





est Mat	trix Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
IET-D-CCMS-WP Wa	tor						-
Batch R4930341	uei						
WG3233319-1 MB							
Rubidium (Rb)-Dissolved		<0.00020		mg/L		0.0002	02-DEC-19
Selenium (Se)-Dissolved		<0.000050)	mg/L		0.00005	02-DEC-19
Silicon (SI)-Dissolved		<0.050		mg/L		0.05	02-DEC-19
Silver (Ag)-Dissolved		<0.000010)	mg/L		0.00001	02-DEC-19
Sodium (Na)-Dissolved		<0.050		mg/L		0.05	02-DEC-19
Strontium (Sr)-Dissolved		<0.00010		mg/L		0.0001	02-DEC-19
Sulfur (S)-Dissolved		<0.50		mg/L		0.5	02-DEC-19
Tellurium (Te)-Dissolved		<0.00020		mg/L		0.0002	02-DEC-19
Thailium (TI)-Dissolved		<0.000010)	mg/L		0.00001	02-DEC-19
Thorium (Th)-Dissolved		<0.00010		mg/L		0.0001	02-DEC-19
Tin (Sn)-Dissolved		<0.00010		mg/L		0.0001	02-DEC-19
Titanium (TI)-Dissolved		<0.00030		mg/L		0.0003	02-DEC-19
Tungsten (W)-Dissolved		<0.00010		mg/L		0.0001	02-DEC-19
Uranium (U)-Dissolved		<0.000010)	mg/L		0.00001	02-DEC-19
Vanadium (V)-Dissolved		<0.00050		mg/L		0.0005	02-DEC-19
Zinc (Zn)-Dissolved		<0.0010		mg/L		0.001	02-DEC-19
Zirconium (Zr)-Dissolved		<0.00020		mg/L		0.0002	02-DEC-19
MET-T-CCMS-WP Wa	ter						
Batch R4933220							
WG3233715-2 LCS		102.9					
Aluminum (Al)-Total				%		80-120	03-DEC-19
Antimony (Sb)-Total		100.3		%		80-120	03-DEC-19
Arsenic (As)-Total		100.3		%		80-120	03-DEC-19
Barlum (Ba)-Total		100.5		%		80-120	03-DEC-19
Beryllum (Be)-Total		99.3		%		80-120	03-DEC-19
Bismuth (BI)-Total		93.2		%		80-120	03-DEC-19
Boron (B)-Total		93.7		%		80-120	03-DEC-19
Cadmium (Cd)-Total		100.0		%		80-120	03-DEC-19
Calcium (Ca)-Total		98.5		%		80-120	03-DEC-19
Cesium (Cs)-Total		107.4		%		80-120	03-DEC-19
Chromium (Cr)-Total		101.8		%		80-120	03-DEC-19
Cobalt (Co)-Total		100.1		%		80-120	03-DEC-19
Copper (Cu)-Total		99.4		%		80-120	03-DEC-19
Iron (Fe)-Total		91.4		%		80-120	03-DEC-19





		Workorder	: L238743	3	Report Date: 1	0-DEC-19	Pag	ge 6 of 11
rest	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WP	Water							
Batch R493322	20							
WG3233715-2 LCS Lead (Pb)-Total	6		94.2		%		80-120	03-DEC-19
Lithium (LI)-Totai			99.3		%		80-120	03-DEC-19
Magnesium (Mg)-Tot	al		109.9		%		80-120	03-DEC-19
Manganese (Mn)-Tot	al		101.3		%		80-120	03-DEC-19
Molybdenum (Mo)-To	ital		99.9		%		80-120	03-DEC-19
Nickel (NI)-Total			97.2		%		80-120	03-DEC-19
Potassium (K)-Total			98.3		%		80-120	03-DEC-19
Phosphorus (P)-Total	I		105.5		%		80-120	03-DEC-19
Rubidium (Rb)-Total			101.3		%		80-120	03-DEC-19
Selenium (Se)-Total			99.3		%		80-120	03-DEC-19
Silicon (Si)-Total			96.5		%		80-120	03-DEC-19
Sliver (Ag)-Total			100.2		%		80-120	03-DEC-19
Sodium (Na)-Total			100.0		%		80-120	03-DEC-19
Strontium (Sr)-Total			107.8		%		80-120	03-DEC-19
Sulfur (S)-Total			91.9		%		80-120	03-DEC-19
Tellurlum (Te)-Total			95.6		%		80-120	03-DEC-19
Thailium (TI)-Totai			95.0		%		80-120	03-DEC-19
Thorium (Th)-Total			94.1		%		80-120	03-DEC-19
Tin (Sn)-Total			97.7		%		80-120	03-DEC-19
Titanium (TI)-Total			95.6		%		80-120	03-DEC-19
Tungsten (W)-Total			100.6		%		80-120	03-DEC-19
Uranium (U)-Total			102.0		%		80-120	03-DEC-19
Vanadium (V)-Total			101.2		%		80-120	03-DEC-19
Zinc (Zn)-Total			99.6		%		80-120	03-DEC-19
Zirconium (Zr)-Totai			99.2		%		80-120	03-DEC-19
WG3233715-1 MB								
Aluminum (Al)-Total			<0.0030		mg/L		0.003	03-DEC-19
Antimony (Sb)-Total			<0.00010		mg/L		0.0001	03-DEC-19
Arsenic (As)-Total			<0.00010		mg/L		0.0001	03-DEC-19
Barium (Ba)-Totai			<0.00010		mg/L		0.0001	03-DEC-19
Beryllum (Be)-Total			<0.00010		mg/L		0.0001	03-DEC-19
Bismuth (BI)-Total			<0.00005	0	mg/L		0.00005	03-DEC-19
Boron (B)-Total			<0.010		mg/L		0.01	03-DEC-19
Cadmlum (Cd)-Total			<0.00000	50	mg/L		0.000005	03-DEC-19



Vanadium (V)-Total

Zirconium (Zr)-Total

Water

Zinc (Zn)-Total

N-TOTKJ-WP

Workorder: L2387433 Report Date: 10-DEC-19 Page 7 of 11 Test Matrix Reference Result Qualifier Units RPD 1 Imit Analyzed MET-T-CCMS-WP Water Batch R4933220 WG3233715-1 MB Calcium (Ca)-Total <0.050 mg/L 0.05 03-DEC-19 Ceslum (Cs)-Total <0.000010 mg/L 0.00001 03-DEC-19 Chromlum (Cr)-Total <0.00010 mg/L 0.0001 03-DEC-19 <0.00010 Cobalt (Co)-Total mg/L 0.0001 03-DEC-19 Copper (Cu)-Total <0.00050 mg/L 0.0005 03-DEC-19 Iron (Fe)-Total <0.010 mg/L 03-DEC-19 0.01 Lead (Pb)-Total 0.00005 03-DEC-19 <0.000050 mg/L Lithium (LI)-Total <0.0010 mg/L 0.001 03-DEC-19 Magneslum (Mg)-Total <0.0050 mg/L 0.005 03-DEC-19 Manganese (Mn)-Total <0.00010 mg/L 0.0001 03-DEC-19 Molybdenum (Mo)-Total <0.000050 mg/L 0.00005 03-DEC-19 Nickel (NI)-Total <0.00050 mg/L 0.0005 03-DEC-19 Potassium (K)-Total <0.050 ma/L 0.05 03-DEC-19 Phosphorus (P)-Total <0.030 mg/L 0.03 03-DEC-19 Rubidium (Rb)-Total <0.00020 mg/L 0.0002 03-DEC-19 Selenium (Se)-Total <0.000050 mg/L 0.00005 03-DEC-19 Silicon (SI)-Total <0.10 mg/L 0.1 03-DEC-19 Silver (Ag)-Total <0.000010 mg/L 0.00001 03-DEC-19 Sodium (Na)-Total <0.050 mg/L 0.05 03-DEC-19 Strontium (Sr)-Total <0.00020 mg/L 0.0002 03-DEC-19 Sulfur (S)-Total <0.50 mg/L 0.5 03-DEC-19 0.0002 Tellurium (Te)-Total <0.00020 03-DEC-19 mg/L Thailium (TI)-Total <0.000010 mg/L 0.00001 03-DEC-19 Thorium (Th)-Total <0.00010 mg/L 0.0001 03-DEC-19 Tin (Sn)-Total <0.00010 mg/L 0.0001 03-DEC-19 Titanium (TI)-Total <0.00030 mg/L 0.0003 03-DEC-19 Tungsten (W)-Total <0.00010 mg/L 0.0001 03-DEC-19 Uranium (U)-Total <0.000010 mg/L 0.00001 03-DEC-19

<0.00050

<0.0030

<0.00020

mg/L

mg/L

mg/L

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0.0005 03-DEC-19

0.003 03-DEC-19

0.0002 03-DEC-19



Quality Control Report Workorder: L2387433 Report Date: 10-DEC-19 Page 8 of 11 Test Matrix Reference Result Qualifier Units RPD 1 Imit Analyzed N-TOTKJ-WP Water Batch R4927893 WG3229333-6 LCS Total Kjeldahl Nitrogen 96.5 % 75-125 28-NOV-19 WG3229333-5 MB Total Kjeldahl Nitrogen <0.20 mg/L 0.2 28-NOV-19 NH3-COL-WP Water R4934147 Batch WG3235151-2 LCS Ammonia, Total (as N) 101.5 % 85-115 03-DEC-19 WG3235151-1 MB Ammonia, Total (as N) <0.010 mg/L 0.01 03-DEC-19 NO2-IC-N-WP Water R4926807 Batch WG3228643-6 LCS Nitrite (as N) 102.0 % 90-110 27-NOV-19 WG3228643-5 MB Nitrite (as N) mg/L <0.010 0.01 27-NOV-19 NO3-IC-N-WP Water Batch R4926807 WG3228643-6 LCS Nitrate (as N) 100.6 % 90-110 27-NOV-19 WG3228643-5 MB Nitrate (as N) <0.020 mg/L 0.02 27-NOV-19 P-T-COL-WP Water Batch R4927765 WG3230456-2 LCS Phosphorus (P)-Total 98.9 % 80-120 28-NOV-19 WG3230456-1 MB Phosphorus (P)-Total <0.0030 mg/L 0.003 28-NOV-19 Water PH-WP R4927641 Batch WG3230521-2 LCS 7.41 pH units pH 7.3-7.5 27-NOV-19

SO4-IC-N-WP

Water



ALS Environmental

				-				
		Workorder:	L238743	3	Report Date: 10	-DEC-19	Pa	ge 9 of 11
Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SO4-IC-N-WP	Water							
Batch R4926807								
WG3228643-6 LCS Sulfate (SO4)			102.1		%		90-110	27-NOV-19
WG3228643-5 MB Sulfate (SO4)			<0.30		mg/L		0.3	27-NOV-19
TDS-WP	Water							
Batch R4927784								
WG3229286-2 LCS Total Dissolved Solids			103.6		%		85-115	27-NOV-19
WG3229286-1 MB Total Dissolved Solids			<4.0		mg/L		4	27-NOV-19
Batch R4929933								
WG3231043-2 LCS Total Dissolved Solids			100.2		%		85-115	28-NOV-19
WG3231043-1 MB Total Dissolved Solids			<4.0		mg/L		4	28-NOV-19



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Workorder: L2387433	Report Date: 10-DEC-19	Page
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Legend:	
Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate



	Workorder: L2387433		Report Date	: 10-DEC	-19	Page 11 of 1						
Hold Time Exceedances:												
	Sample											
ALS Product Description	ID [®]	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier					
Physical Tests												
pH												
	1	22-NOV-19 09:50	27-NOV-19 12:00	0.25	122	hours	EHTR-FM					
	2	22-NOV-19 15:28	27-NOV-19 12:00	0.25	117	hours	EHTR-FM					
Anions and Nutrients												
Nitrate in Water by IC												
-	1	22-NOV-19 09:50	27-NOV-19 07:45	3	5	days	EHTR					
	2	22-NOV-19 15:28	27-NOV-19 07:45	3	5	days	EHTR					
Nitrite in Water by IC						-						
-	1	22-NOV-19 09:50	27-NOV-19 07:45	3	5	days	EHTR					
	2	22-NOV-19 15:28	27-NOV-19 07:45	3	5	days	EHTR					
Aggregate Organics						-						
Biochemical Oxygen Dema	nd (BOD)											
	1	22-NOV-19 09:50	27-NOV-19 07:00	48	117	hours	EHTR					
	2	22-NOV-19 15:28	27-NOV-19 07:00	48	112	hours	EHTR					
errend & Qualifier Definition												

Legend & Qualifier Definitions:

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended.

EHTR: Exceeded ALS recommended hold time prior to sample receipt.

EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.

EHT: Exceeded ALS recommended hold time prior to analysis.

Rec. HT: ALS recommended hold time (see units).

Notes*:

Where actual sampling date is not provided to ALS, the date (& time) of receipt is used for calculation purposes. Where actual sampling time is not provided to ALS, the earlier of 12 noon on the sampling date or the time (& date) of receipt is used for calculation purposes. Samples for L2387433 were received on 26-NOV-19 09:00.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

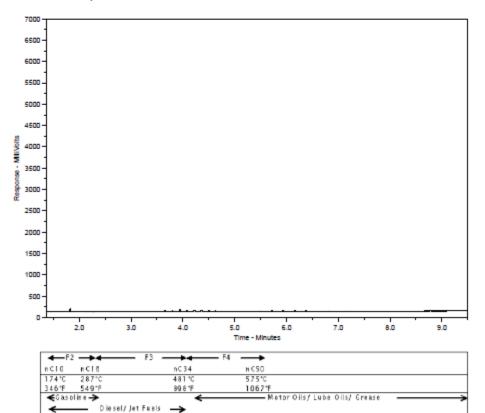
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.





ALS Sample ID: L2387433-1 Client Sample ID: MW2



The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

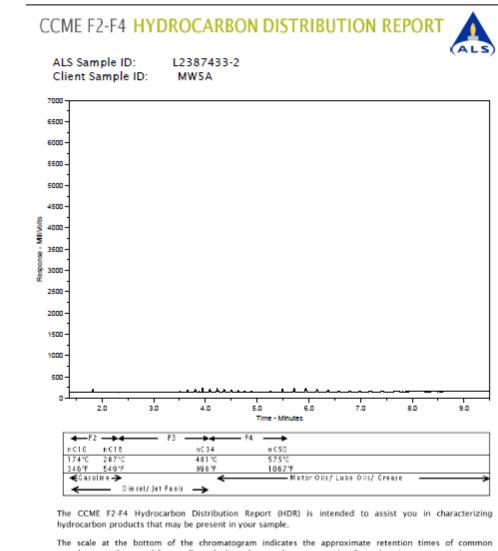
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

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petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

samples, but general patterns and distributions will remain similar.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR library can be found at www.alsglobal.com.

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ent: «Province: tal Code: cice To	Company address below will appear on the final report	Compare Results to Criter Select Distribution:	a a front -			Regular [R] ✓ Standard TAT if received by 3 pm - business cays - in such argins apply § 4 days (P4-20%) § 1											
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ice To			Email 2			Permats that can not be performed according to the anvite invel solution, you will be contacted.											
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1. If any water samples are taken from a Reputated Driving Water (DW) System, please submit using an Authorized DW ODC form.

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