

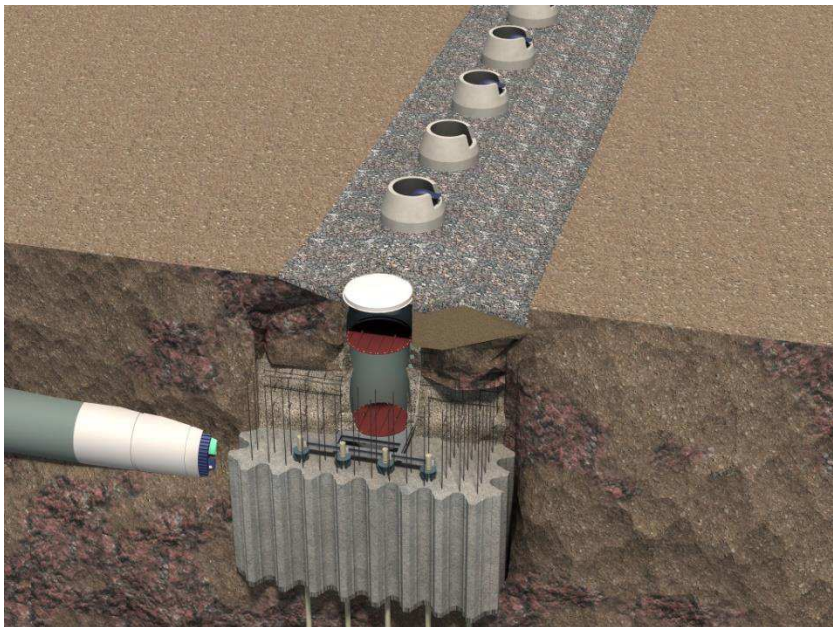
APPENDIX J ENVIRONMENTAL STUDIES

J.1: Geo-Environmental Assessment Report

Part B: Appendices

Annacis Island WWTP New Outfall System

Vancouver Fraser Port Authority
Project and Environmental Review Application



 **metrovancouver**
SERVICES AND SOLUTIONS FOR
A LIVABLE REGION

**CDM
Smith**

 **Golder
Associates**

envirowest

This page intentionally left blank



APPENDIX A

Borehole Logs

Special Note

The boreholes and shallow soil sampling holes excavated at the site as part of this environmental site assessment project were carried out for environmental sampling purposes only. No geotechnical testing was conducted as part of this work program. Therefore, any inferences or descriptions relating to grain size, soil density, moisture content, or other geotechnical parameters, are based solely on observations (primarily visual observations) made at the time of sampling, in the context of the experience and judgment of the sampler(s). These descriptions are provided only for general information purposes, and for general classification of observed soil types. The soil descriptions presented in these logs should not be used for interpretation of geotechnical or soil stability conditions.

DEPTH SCALE METRES	DRILLING RIG DRILLING METHOD	SOIL PROFILE		GEOTECH SAMPLES			CHEMISTRY SAMPLES		Minirae 3000 ppm				DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION				
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	CORE No. CORE RECOVERY %	NUMBER	SCN	ANALYSED	0.2	0.4	0.6	0.8	20			40	60	80	
0	Fraste ML Solid Stem Auger	Ground Surface		0.00																		
		(SP) SAND, fine to medium, some gravel, trace organics; brown, no odour, no staining; non-cohesive, moist, loose.			1	AS		1	100	1	02052-01											
1					2	AS		2	100	2	02052-02											
				- no gravel, no organics below 1.52m depth		3	AS		2	100	3	02052-03										
2					4	AS		4	100	4	02052-04											
					5	AS		3	100	5	02052-05											
3					6	AS		4	100	6	02052-06											
4				(SM) SILTY SAND, trace to some organics; grey, no odour, no staining; non-cohesive, moist, loose.	4.11	7	AS		4	100	7	02052-07										
5					5.94	8	AS		5	100	8	02052-08										
6				(SP) SAND, medium, trace fines; grey, no odour, no staining; non-cohesive, wet, loose. - increased fines content from 6.10 to 6.55m depth		9	AS		6	100	9	02052-09										
7						10	AS		7	90	10	02052-10										
8				11	AS				11	02052-11												
9																						
10																						

CONTINUED NEXT PAGE

PROJECT No.: 1525010 / 3300

RECORD OF AUGERHOLE: AH17-01

SHEET 2 OF 2

CLIENT: CDM Smith
 PROJECT: AWWTP Outfall and Transient Mitigation
 LOCATION: Annacis Island, Delta, BC

DRILLING DATE: February 16, 2017
 DRILLING CONTRACTOR: Mud Bay Drilling Co. Ltd.

DATUM:
 CVD28GVRD2005

DEPTH SCALE METRES	DRILLING RIG DRILLING METHOD	SOIL PROFILE		GEOTECH SAMPLES			CHEMISTRY SAMPLES		Minirae 3000 ppm				DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION					
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	CORE No. CORE RECOVERY %	NUMBER	SCN	ANALYSED	0.2	0.4	0.6	0.8	20			40	60	80		
10	Frasco ML Solid Stem Auger	<p>(SP) SAND, medium, trace fines; grey, no odour, no staining; non-cohesive, wet, loose. <i>(continued)</i></p> <p>- increased fines content from 12.19 to 12.80m depth</p>																					
				12	AS				7	90	12	02052-12											
11																							
				13/14	AS				8	100	13/14	02053-01/02											
12																							
				15	AS						15	02053-03											
13																							
				16	AS						16	02053-04											
14																							
				17	AS						17	02053-05											
15		End of Augerhole.		15.24																			
16																							
17																							
18																							
19																							
20																							

National IM Server\GINT_GAL_NATIONAL\IM Unique Project ID: Output Form\BC_BOREHOLE (GEOENV\RD) AWood 4/8/17

DEPTH SCALE
 1 : 50



SOIL CLASSIFICATION SYSTEM: GACS
 LOGGED: AGH
 CHECKED: AGH

REV:
 0

DEPTH SCALE METRES	DRILLING RIG DRILLING METHOD	SOIL PROFILE		GEOTECH SAMPLES				CHEMISTRY SAMPLES		Minirae 3000 ppm				DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION			
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	CORE No. CORE RECOVERY %	NUMBER	SCN	ANALYSED	0.2	0.4	0.6	0.8	20	40			60	80	
40	Fraste ML Mud Rotary	(ML/CL) CLAYEY SILT to SILTY CLAY, low plasticity, trace fine sand; grey; wet, firm. (continued)																				
41				26	SS	WR																
42																						
43																						
44																						
45																						
46																						
47																						
48		(ML-CL) sandy SILT, trace to some low plastic fines, trace fine sub-angular gravel; wet, compact.		40.01																		
49				47.24																		
50																						

Cementitious Grout Backfill

CONTINUED NEXT PAGE

National IM Server GINT_GAL_NATIONAL\IM Unique Project ID: Output Form BC_BOREHOLE (GEOENV\RD) AWood 48/17



DEPTH SCALE METRES	DRILLING RIG DRILLING METHOD	SOIL PROFILE		GEOTECH SAMPLES			CHEMISTRY SAMPLES		Minirae 3000 ppm				DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION			
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	CORE No. CORE RECOVERY %	NUMBER	SCN	ANALYSED	0.2	0.4	0.6	0.8	20			40	60	80
80		(ML) CLAYEY SILT, trace fine sand; grey; wet. (continued)					27/28	100													
81		(ML) SILT, trace fine sand, fine to coarse, trace sub-angular gravel; grey; wet. - gradual change from silt to sandy silt and silty fine sand with depth.		22.56 81.08																	
82																					
83		- cobble noted at 82.75m depth.					29	100													
84																					
85	Truck Mounted Sonic Drill Sonic																				
86																					
87																					
88		(ML-SM) sandy SILT to SILTY SAND, fine; grey; wet.		16.44 87.20																	
89																					
90																					
		CONTINUED NEXT PAGE																			

Bentonite Pellets

National IM Server\GINT_GAL_NATIONAL\IM Unique Project ID: Output Form\BC_BOREHOLE (GEOENV\RD) AWood 48/17



CLIENT: CDM Smith
 PROJECT: AWWTP Outfall and Transient Mitigation
 LOCATION: Annacis Island, Delta, BC
 N: 5447405.46 E: 503902.98 UTM NAD83 (Ground) Zone: 10

DRILLING DATE: November 25, 2016
 DRILLING CONTRACTOR: Mud Bay Drilling Co. Ltd.

DATUM:
 CVD28GVRD2005

DEPTH SCALE METRES	DRILLING RIG DRILLING METHOD	SOIL PROFILE		GEOTECH SAMPLES				CHEMISTRY SAMPLES		Minirae 3000 ppm				DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	CORE No. CORE RECOVERY %	NUMBER	SCN	ANALYSED	0.2	0.4	0.6	0.8	20	40			60
0		Ground Surface		104.15																
		Asphalt.		103.93																
		FILL - Granular Road Base		0.23																
		FILL - (SP) SAND, fine to medium, trace to some silt; brown; moist to wet.																		
1	Hydro Vacuumed						1	72												
2																				
3							1	SC												
4				99.89																
		(OL) ORGANIC SILT, with trace wood fibres; brown; wet.		4.27																
		(ML-SM) CLAYEY SILT to SILTY fine SAND, fine sand; grey, seams of silt; wet.		99.58																
5				4.57																
6	Truck Mounted Sonic Drill			98.52																
	Sonic	(ML) SILT to sandy SILT; grey; wet.		5.64			2	SC												
7				97.91																
		(SP-SM) SAND, fine to medium, trace to some silt; grey.		6.25			3	97												
8																				
9				95.01																
		(SM) SILTY fine SAND; grey, seams of silt; wet.		9.14																
10				94.40																
		(SP-SM) SAND, fine to medium, some silt; grey.		9.75			3	SC												
		CONTINUED NEXT PAGE																		

Bentonite Pellets

Filter Sand

25 mm Slotted PVC Pipe

National IM Server GINT_CAL_NATIONAL\IM Unique Project ID: Output Form BC_BOREHOLE (GEOENV\RD) AWood 4/8/17

DEPTH SCALE METRES	DRILLING RIG DRILLING METHOD	SOIL PROFILE		GEOTECH SAMPLES			CHEMISTRY SAMPLES		Minirae 3000 ppm				DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION					
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	CORE No. CORE RECOVERY %	NUMBER	SCN	ANALYSED	0.2	0.4	0.6	0.8	20			40	60	80		
70	Truck Mounted Sonic Drill Sonic	(CL) SILTY CLAY, low plasticity; grey; wet. (continued)																					
71					30	SC		24	100														
72		(ML/CL) sandy CLAYEY SILT to SILTY CLAY, some fine to coarse, sub-angular gravel; grey; wet.		32.22 71.93																			
73					31	SC																	
74		(ML) SILT to sandy SILT, some fine to coarse, subangular gravel to gravelly; grey; non-cohesive, wet.		30.24 73.91																			
75		- cobbles at 75.13m depth.																					
76					33	SC																	
77																							
78		(ML) SILT to CLAYEY SILT, trace to some sand and fine to coarse, subangular gravel; grey; wet.		26.13 78.03																			
79																							
80					35	SC																	
		CONTINUED NEXT PAGE																					

Bentonite Pellets

National IM Server\GINT_GAL_NATIONAL\IM Unique Project ID: Output Form\BC_BOREHOLE (GEOENV\RD) A\Wood 48/17



DEPTH SCALE METRES	DRILLING RIG DRILLING METHOD	SOIL PROFILE		GEOTECH SAMPLES				CHEMISTRY SAMPLES		Minirae 3000 ppm				DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION							
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	CORE No. CORE RECOVERY %	NUMBER	SCN	ANALYSED	0.2	0.4	0.6	0.8	20	40			60	80	Wp	W	Wi		
20	Truck Mounted Sonic	<p>(SP) SAND, fine to medium, trace silt; grey; wet. (continued)</p> <p>- trace organics between 21m and 21.6m depth.</p>		6	SC	100	6	100	20	02045-05																
21				7	SC	100	7	100	21	02045-06																
22				7	SC						22	02045-07														
23											22	02045-07														
24				8	SC						23	02045-08														
25				8	85						24	02045-09														
26				9	SC						25	02045-10														
27				10	SC						26/27	02045-11/12														
28				9	90						28	02046-01														
29				10	83																					

CONTINUED NEXT PAGE

Bentonite Pellets

National IM Server\GINT_GAL_NATIONAL\IM Unique Project ID: Output Form\BC_BOREHOLE (GEOENV\RD) AWood 48/17

DEPTH SCALE METRES	DRILLING RIG DRILLING METHOD	SOIL PROFILE		GEOTECH SAMPLES				CHEMISTRY SAMPLES		Minirae 3000 ppm ⊕				DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION			
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	BLOWS/0.3m	CORE No. CORE RECOVERY %	NUMBER	SCN	ANALYSED	0.2	0.4	0.6	0.8	20	40			60	80	
70	Truck Mounted Sonic		(CL) SILTY CLAY, trace fine sand; grey; wet. (continued)																			
71					32	SC		23	98													
72																						
73						(CL) SILTY CLAY, low plasticity, trace fine sand, trace seashells and fragments; grey, with dark grey staining; wet.	30.34 73.15				24											
74								33	SC													
75																						
76																						
77																						
78																						
79																						
80																						

CONTINUED NEXT PAGE

Bentonite Pellets

National IM Server\GINT_GAL_NATIONAL\IM Unique Project ID: Output Form\BC_BOREHOLE (GEOENV\RD) AWood_48/17





APPENDIX B

Groundwater Sampling Forms

GROUNDWATER DEVELOPMENT AND SAMPLING DATA

Development
 Purging/Sampling

Well No.: SH16-055

Project Name: Annaris Island WWTP Project No.: 152501013000
 Location: Annaris Island Date: 1-Dec-16 / 2-Dec-16
 Weather: Rain/break Temperature: 5°C Completed By: Jean S
 GPS Coordinates: _____ Reviewed By: _____

MONITORING WELL INFORMATION

Time of Measurement: 15:05 Tidally Influenced: Yes No
 Depth to Product: Post m Product Thickness: 1.090 nu. 27 m Pressurized: Yes No
 Depth to Water (A): Deep - 1.662 m below TOP Well Headspace: _____ ppm
 Depth to Bottom of Well (B): 9.862 m below TOP 3.165 dec 2 One Well Volume:
 Diameter of Standpipe: 31 mm (B-A)*2.0 = 17.5 Litres - for a 51 mm (2.0 inch) diameter well
 Well Condition: None (B-A)*1.1 = _____ Litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

Pump Watterra Multimeter Model: YSI on plus Rental Equipment: CAL @ warehouse
 Hydrolift pH/Temp Meter Model: _____
 Bailer (Type: _____) Conductivity Meter Model: _____ Field Bump
 Peristaltic Dissolved Oxygen Meter Model: _____ pH4 _____ pH7 _____
 Submersible ORP (Redox) Meter Model: _____ pH10 _____
 Bladder Organic Vapour Meter Model: _____ 1413 us/cm _____
 Pump Details: _____ D.O. Ampoule Field Calibration _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well Vol. X 6 = 105 litres Start: _____ Finish: _____
 Avg. Flow Rate: _____ L/min. Sample intake depth: _____

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	<input type="checkbox"/> Cond. <input checked="" type="checkbox"/> Specific Cond. (circle one) µS/cm or mS/cm	Redox (mV)	Diss. O ₂ * (mg/L)	Water Level (m)	Remarks
15:40	15	13.7	8.64	873	-48.4	4.06	-	DM @ 18L
16:15	40	13.8	7.06	675	-55.0	7.07	-	slow recharge
11:59	50	15.0	7.14	602.9	-68.4	4.97	-	DM @ 40L
13:37	55	14.1	6.96	543.9	-56.6	6.95	-	SD @ 55L
TOTAL		90L						

* Record DO in Mg/L, not percentage

Comments:

Odour: Yes No If yes organic
 Sheen: Yes No If yes Hydrocarbon-like OR Metallic-like
 Turbidity: Clear Very Silty

Analysis	Type	Container Size							Filtered		Preservatives
		40 mL	120 mL	250 mL	500 mL	1 L	2 L	4 L	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Plastic <input type="checkbox"/> Glass								<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Plastic <input type="checkbox"/> Glass								<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Plastic <input type="checkbox"/> Glass								<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Plastic <input type="checkbox"/> Glass								<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Plastic <input type="checkbox"/> Glass								<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Plastic <input type="checkbox"/> Glass								<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Plastic <input type="checkbox"/> Glass								<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

SCN No. _____ Consumables: Watterra Tubing _____ HDPE/Teflon Tubing _____ Groundwater Filter
 Field Dup. _____ Silicon Tubing _____ D.O. Ampoules _____ Footvalve _____



Dec 1 (total): 40L
 Dec 2 (total): 90L

GROUNDWATER DEVELOPMENT AND SAMPLING DATA

Development
 Purging/Sampling

Well No.: SH16-05M

Project Name: Annaxis Island WWTP.
 Location: Annaxis Island.
 Weather: Rain Temperature: 7°C.
 GPS Coordinates: _____

Project No.: 1525010 / 3000
 Date: 2-Dec-16
 Completed By: Jean S.
 Reviewed By: _____

MONITORING WELL INFORMATION

Time of Measurement: 14:30
 Depth to Product: Post m Product Thickness: 1 m Tidally Influenced: Yes No
 Depth to Water (A): Deep 1.99 m below TOP 0.896 m Nov 27 Pressurized: Yes No
 Depth to Bottom of Well (B): 2.655 m below TOP 3.450 m Dec 2. Well Headspace: _____ ppm
 Diameter of Standpipe: 51 mm One Well Volume: Based on Nov 29 measurement
 Well Condition: New (B-A)*2.0 = 63.7 Litres - for a 51 mm (2.0 inch) diameter well
 (B-A)*1.1 = _____ Litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

Pump Waterra Multimeter Model: yes pumps Rental Equipment: _____
 Hydrolift pH/Temp Meter Model: _____ Field Bump see field notes.
 Bailer (Type: _____) Conductivity Meter Model: _____ pH4 _____ pH7 _____
 Peristaltic Dissolved Oxygen Meter Model: _____ pH10 _____
 Submersible ORP (Redex) Meter Model: _____ 1413 us/cm _____
 Bladder Organic Vapour Meter Model: _____
 Pump Details: _____ D.O. Ampoule Field Calibration _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 6. = 382 litres Start: 11:35 Finish: _____
 Avg. Flow Rate: _____ L/min. Sample intake depth: _____

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	<input type="checkbox"/> Cond. <input checked="" type="checkbox"/> Specific Cond. (circle one) µS/cm or mS/cm	Redox (mV)	Diss. O ₂ * (mg/L)	Water Level (m)	Remarks
11:45	20	13.4	7.44	1285	-78.2	0.77	-	Dark grey/very Silty
11:52	60	13.7	6.88	1700	-81.0	3.45	-	
12:17	140	12.9	6.74	1886	-84.7	2.85	-	Clearing up.
	240	13.1	6.65	1899	-82.4	2.38	-	
14:57	320	13.5	6.71	1890	-97.4	0.87	-	
TOTAL:		340L						

* Record DO in Mg/L, not percentage

Comments:

Odour: Yes No If yes organic.
 Sheen: Yes No If yes Hydrocarbon-like OR Metallic-like
 Turbidity: Clear Very Silty

Analysis	Type		Container Size						Filtered		Preservatives
			40 mL	120 mL	250 mL	500 mL	1 L	2 L	4 L	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Plastic	<input type="checkbox"/> Glass								<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Plastic	<input type="checkbox"/> Glass								<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Plastic	<input type="checkbox"/> Glass								<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Plastic	<input type="checkbox"/> Glass								<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Plastic	<input type="checkbox"/> Glass								<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Plastic	<input type="checkbox"/> Glass								<input type="checkbox"/> Yes <input type="checkbox"/> No	

SCN No. _____ Consumables: Waterra Tubing _____ HDPE/Teflon Tubing _____ Groundwater Filter _____
 Field Dup. _____ Silicon Tubing _____ D.O. Ampoules _____ Footvalve _____



GROUNDWATER DEVELOPMENT AND SAMPLING DATA

Development
 Purging/Sampling
 Well No.: SH16-05 D

Project Name: Annabis Island WWTP. **Project No.:** 1525010/3000
Location: Annabis Island **Date:** 1-Dec-16 / 2-Dec-16
Weather: overcast/Rain **Temperature:** 6°C. **Completed By:** Jeans
GPS Coordinates: _____ **Reviewed By:** _____

MONITORING WELL INFORMATION

Time of Measurement: 12:00. Tidally Influenced: Yes No
Depth to Product: m Product Thickness: m Pressurized: Yes No
Depth to Water (A): 1.357 m below TOP 47.0m Dec 2 Well Headspace: ppm
Depth to Bottom of Well (B): 54.967 m below TOP 10:45 One Well Volume:
Diameter of Standpipe: 51 mm (B-A)*2.0 = 107.2 Litres - for a 51 mm (2.0 inch) diameter well
Well Condition: NEW. (B-A)*1.1 = Litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

Pump Waterra Multimeter Model: YSI pro plus Rental Equipment: see menu
 Hydrolift pH/Temp Meter Model: PHOS.
 Bailer (Type: _____) Conductivity Meter Model: Field Bump
 Peristaltic Dissolved Oxygen Meter Model: pH4 pH7
 Submersible ORP (Redex) Meter Model: pH10
 Bladder Organic Vapour Meter Model: 1413 us/cm
Pump Details: _____ D.O. Ampoule Field Calibration _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 6. = 643 litres **Start:** 12:15 **Finish:** _____
Avg. Flow Rate: _____ L/min. **Sample intake depth:** _____

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	<input type="checkbox"/> Cond. <input checked="" type="checkbox"/> Specific Cond.	Redox (mV)	Diss. O ₂ * (mg/L)	Water Level (m)	Remarks
				µS/cm or mS/cm (circle one)				
	20	14.1	8.97	758.	-86.8	0.67	-	Very Silty / Sherry Silt.
<u>13:50</u>	45	12.6	9.23	581.1	-124.8	0.29	-	
<u>14:17</u>	85	12.7	9.32	585.0	-117.7	4.77	-	
<u>11:07</u>	118	12.1	8.56	1899	-34.2	0.51	-	

* Record DO in Mg/L, not percentage

Comments:

Odour: Yes No If yes organic.
Sheen: Yes No If yes Hydrocarbon-like OR Metallic-like
Turbidity: Clear XXXXXXXXXXXXXXXXXXXXXXXXXXXXXS Very Silty

Analysis	Type		Container Size						Filtered		Preservatives	
			40 mL	120 mL	250 mL	500 mL	1 L	2 L				4 L
	<input type="checkbox"/> Plastic	<input type="checkbox"/> Glass								<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<input type="checkbox"/> Plastic	<input type="checkbox"/> Glass								<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<input type="checkbox"/> Plastic	<input type="checkbox"/> Glass								<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<input type="checkbox"/> Plastic	<input type="checkbox"/> Glass								<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<input type="checkbox"/> Plastic	<input type="checkbox"/> Glass								<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<input type="checkbox"/> Plastic	<input type="checkbox"/> Glass								<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<input type="checkbox"/> Plastic	<input type="checkbox"/> Glass								<input type="checkbox"/> Yes	<input type="checkbox"/> No	

SCN No. _____ **Consumables:** Waterra Tubing HDPE/Teflon Tubing Groundwater Filter
Field Dup. _____ Silicon Tubing D.O. Ampoules Footvalve

O:\Final\2013\1412\FORM UPDATE PROJECT 2013\Word Files - April\GW Development and Sampling Data.docx

April 26, 2013

Dec 1 Total = 110 L



GROUNDWATER DEVELOPMENT AND SAMPLING DATA

Development
 Purging/Sampling

Well No.: SH/6-07 S

Project Name: Annas Island WWTP.
 Location: Annas Island WWTP
 Weather: Overcast Temperature: 6°C
 GPS Coordinates: _____

Project No.: 152500 / 3000
 Date: 29 NOV -16
 Completed By: Jean S.
 Reviewed By: _____

MONITORING WELL INFORMATION

Time of Measurement: 15:15
 Tidally Influenced: Yes No
 Depth to Product: Root 2.26 m Product Thickness: _____ m Pressurized: Yes No
 Depth to Water (A): 2.26 m below TOP 1.249 ABH Well Headspace: _____ ppm
 Depth to Bottom of Well (B): 10.199 m below TOP on Nov. 26. One Well Volume: _____
 Diameter of Standpipe: 51 mm (B-A)*2.0 = 17.9 Litres - for a 51 mm (2.0 inch) diameter well
 Well Condition: New. (B-A)*1.1 = _____ Litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

Pump Waterra Hydrolift Bailer (Type: _____) Peristaltic Submersible Bladder
 Multimeter pH/Temp Meter Conductivity Meter Dissolved Oxygen Meter ORP (Redex) Meter Organic Vapour Meter
 Model: YSI pro plus Rental Equipment: cal @ warehouse.
 Model: _____ Field Pump pH4 _____ pH7 _____
 Model: _____ pH10 _____
 Model: _____ 1413 us/cm
 Pump Details: _____ D.O. Ampoule Field Calibration _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 6. = 107.9 litres Start: _____ Finish: _____
 Avg. Flow Rate: _____ L/min. Sample intake depth: _____

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	<input type="checkbox"/> Cond. <input checked="" type="checkbox"/> Specific Cond. (circle one) µS/cm or mS/cm	Redox (mV)	Diss. O ₂ * (mg/L)	Water Level (m)	Remarks
15:18	15	12.6	7.80	344.3	-129.6	2.20	-	Blank organics in H ₂ O.
15:25	35	12.7	7.70	325.7	-130.8	2.08	-	
15:37	55	12.9	7.56	312.0	-158.9	3.88	-	Cleaning up @ 30L
15:36	75	12.8	7.45	310.1	-115.8	1.76	-	
15:40	95	13.0	7.26	323.2	-131.1	1.48	-	
15:45	115	12.7	7.28	337.7	-122.9	1.81	-	

* Record DO in Mg/L, not percentage

Comments:
 Odour: Yes No If yes Organic
 Sheen: Yes No If yes Hydrocarbon-like OR Metallic-like
 Turbidity: Clear ||||| Very Silty

Analysis	Type	Container Size							Filtered		Preservatives
		40 mL	120 mL	250 mL	500 mL	1 L	2 L	4 L	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Plastic <input type="checkbox"/> Glass								<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Plastic <input type="checkbox"/> Glass								<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Plastic <input type="checkbox"/> Glass								<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Plastic <input type="checkbox"/> Glass								<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Plastic <input type="checkbox"/> Glass								<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Plastic <input type="checkbox"/> Glass								<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Plastic <input type="checkbox"/> Glass								<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

SCN No. _____ Consumables: Waterra Tubing _____ HDPE/Teflon Tubing _____ Groundwater Filter _____
 Field Dup. _____ Silicon Tubing _____ D.O. Ampoules _____ Footvalve _____



GROUNDWATER DEVELOPMENT AND SAMPLING DATA

Development
 Purging/Sampling

Well No.: SH16-07M

Project Name: Annanis Island WWTp
 Location: Annanis Island WWTp
 Weather: Rain Temperature: 6°C
 GPS Coordinates: _____

Project No.: 1525010/3000
 Date: 29-Nov-16
 Completed By: J. Evans
 Reviewed By: _____

MONITORING WELL INFORMATION

Time of Measurement: 11:30
 Depth to Product: After Purging m Product Thickness: _____ m Tidally Influenced: Yes No
 Depth to Water (A): 2.346 m below TOP Previous = 1.295 m Pressurized: Yes No
 Depth to Bottom of Well (B): 30.771 m below TOP Well Headspace: _____ ppm
 Diameter of Standpipe: 51 mm One Well Volume: _____
 Well Condition: New (B-A)*2.0 = 58.95 Litres - for a 51 mm (2.0 inch) diameter well
 (B-A)*1.1 = _____ Litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

Pump Waterra Multimeter Model: ysi proplus Rental Equipment: Cal @ WWTp
 Hydrolift pH/Temp Meter Model: _____
 Bailer (Type: _____) Conductivity Meter Model: _____ Field Bump
 Peristaltic Dissolved Oxygen Meter Model: _____ pH4 _____ pH7 _____
 Submersible ORP (Redex) Meter Model: _____ pH10 _____
 Bladder Organic Vapour Meter Model: _____ 1413 us/cm
 Pump Details: _____ D.O. Ampoule Field Calibration _____

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 6 = 353.7 litres Start: _____ Finish: _____
 Avg. Flow Rate: _____ L/min. Sample intake depth: _____

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	<input type="checkbox"/> Cond. <input checked="" type="checkbox"/> Specific Cond. (µS/cm or mS/cm (circle one))	Redox (mV)	Diss. O ₂ * (mg/L)	Water Level (m)	Remarks
11:50	20	11.7	8.28	549.1	-197.7	0.59	-	Silty (very)
12:01	60	11.7	7.81	463.7	-247.9	1.49	-	
12:17	90	11.7	7.44	475.3	-157.7	1.45	-	Clearing up.
13:44	150	11.7	7.10	458.3	-144.0	0.70	-	
14:05	200	11.8	6.96	490.3	-118.2	0.91	-	cloudy/foamy
14:16	280	11.8	6.91	501.5	-99.9	1.18	-	Some black organic
14:50	320	11.8	6.92	520.5	-94.6	0.88	-	in H ₂ O.
14:59	360	11.7	6.90	518.9	-92.6	0.85	-	

* Record DO in Mg/L, not percentage

Comments:

Odour: Yes No If yes Organic odour
 Sheen: Yes No If yes Hydrocarbon-like OR Metallic-like
 Turbidity: Clear ||||| ||||| Very Silty

Analysis	Type	Container Size							Filtered		Preservatives
		40 mL	120 mL	250 mL	500 mL	1 L	2 L	4 L	Yes	No	
	<input type="checkbox"/> Plastic <input type="checkbox"/> Glass								<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<input type="checkbox"/> Plastic <input type="checkbox"/> Glass								<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<input type="checkbox"/> Plastic <input type="checkbox"/> Glass								<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<input type="checkbox"/> Plastic <input type="checkbox"/> Glass								<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<input type="checkbox"/> Plastic <input type="checkbox"/> Glass								<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<input type="checkbox"/> Plastic <input type="checkbox"/> Glass								<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<input type="checkbox"/> Plastic <input type="checkbox"/> Glass								<input type="checkbox"/> Yes	<input type="checkbox"/> No	

SCN No. _____ Consumables: Waterra Tubing HDPE/Teflon Tubing Groundwater Filter
 Field Dup. _____ Silicon Tubing D.O. Ampoules Footvalve

O:\Final\2013\1412\FORM UPDATE PROJECT 2013\Word Files - April\GW Development and Sampling Data.docx

April 26, 2013



GROUNDWATER DEVELOPMENT AND SAMPLING DATA

Development
 Purging/Sampling

Well No.: SH16-07D

Project Name: Annaxis Island WWTP
 Location: Annaxis Island
 Weather: overcast Temperature: 6°C
 GPS Coordinates: _____

Project No.: 1525010 / 3000
 Date: 29-Nov-16
 Completed By: Jean S.
 Reviewed By: _____

MONITORING WELL INFORMATION

Time of Measurement: 9:15
 Depth to Product: m Product Thickness: m Tidally Influenced: Yes No
 Depth to Water (A): 1.868 m below TOP Nov 30 - 16.50 m Pressurized: Yes No
 Depth to Bottom of Well (B): 48.175 m below TOP Dec 1 - 8.58 m Well Headspace: ppm
 Diameter of Standpipe: 51 mm One Well Volume: 92.6 Litres - for a 51 mm (2.0 inch) diameter well
 Well Condition: New 9:00 AM Dec 2 - 8.78 m (B-A)*2.0 = Litres - for a 38 mm (1.5 inch) diameter well
 (B-A)*1.1 =

EQUIPMENT LIST

Pump Waterra Multimeter Model: ysi proplus Rental Equipment: BUR142962
 Hydrolift pH/Temp Meter Model: _____
 Bailer (Type: _____) Conductivity Meter Model: _____
 Peristaltic Dissolved Oxygen Meter Model: _____
 Submersible ORP (Redox) Meter Model: _____
 Bladder Organic Vapour Meter Model: _____
 Pump Details: _____ D.O. Ampoule Field Calibration _____
 Field Bump See field notes for Nov 30 Dec 1
 pH4 pH7
 pH10
 1413 us/cm

WELL DEVELOPMENT/PURGING

Purge Volume: Well Vol. X 76. = 555.6 litres Start: 10:15 Finish: _____
 Avg. Flow Rate: _____ L/min. Sample intake depth: _____

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	<input type="checkbox"/> Cond. <input checked="" type="checkbox"/> Specific Cond. (µS/cm or mS/cm (circle one))	Redox (mV)	Diss. O ₂ * (mg/L)	Water Level (m)	Remarks
10:30	20	12.0	9.34	202	35.9	5.46	-	filty.
11:00	80	10.8	8.81	335.6	-29.0	6.29	-	clearing up
16:08	95	11.0	8.40	3082	-53.7	5.89	-	dry @ 90L / 5 Full 20L bucket
8:51	165	11.4	8.30	4729	-91.6	1.29	-	- move to 16:07 m
9:41	215	11.7	8.23	1646	-162.6	2.73	-	For Nov.
9:28	290	11.4	7.94	3048	-173.9	2.96	-	dry @ 105L
TOTAL	310			dry @ 310L	not sufficient for parameters.			dry @ 145L

* Record DO in Mg/L, not percentage

Comments:
 Odour: Yes No If yes Organic.
 Sheen: Yes No If yes Hydrocarbon-like OR Metallic-like
 Turbidity: Clear ||||| X(5) Very Silty

Analysis	Type		Container Size						Filtered		Preservatives	
			40 mL	120 mL	250 mL	500 mL	1 L	2 L	4 L	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Yes <input type="checkbox"/> No
	<input type="checkbox"/> Plastic	<input type="checkbox"/> Glass								<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Plastic	<input type="checkbox"/> Glass								<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Plastic	<input type="checkbox"/> Glass								<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Plastic	<input type="checkbox"/> Glass								<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Plastic	<input type="checkbox"/> Glass								<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Plastic	<input type="checkbox"/> Glass								<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

SCN No. _____ Consumables: Waterra Tubing _____ HDPE/Teflon Tubing _____ Groundwater Filter _____
 Field Dup. _____ Silicon Tubing _____ D.O. Ampoules _____ Footvalve _____

O:\Final\2013\1412\FORM UPDATE PROJECT 2013\Word Files - April\GW Development and Sampling Data.docx

April 26, 2013

Nov 30: 145 L total.
 Dec 1: 230 L total.
 DEC 2: 310 L total.

36.5

Recharge: ~10m in 4 hrs.



GROUNDWATER DEVELOPMENT AND SAMPLING DATA

Development
 Purging/Sampling Well No.: SH16-05M

Project Name: Annacis Island WWTP
Location: Edson Place, Delta
Weather: sunny **Temperature:** -5°C
GPS Coordinates: _____

Project No.: 1525010
Date: 12/2016
Completed By: S. Alachkar
Reviewed By: _____

MONITORING WELL INFORMATION

Time of Measurement: 910
Depth to Product: N/D m **Product Thickness:** N/A m
Depth to Water (A): 3.25 m below TOP
Depth to Bottom of Well (B): 33.58 m below TOP
Diameter of Standpipe: 51 mm
Well Condition: New

Tidally Influenced: Yes No
 Pressurized: Yes No
 Well Headspace: _____ ppm
 One Well Volume: _____
 (B-A)*2.0 = 60 Litres - for a 51 mm (2.0 inch) diameter well
 (B-A)*1.1 = _____ Litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

Pump Waterra Hydrolift Bailer (Type: _____) Peristaltic Submersible Bladder
Multimeter pH/Temp Meter Conductivity Meter Dissolved Oxygen Meter ORP (Redex) Meter Organic Vapour Meter D.O. Ampoule
Model: YSI Rental Equipment: 15B102277 (HOSKIN SCIENTIFIC)
Field Bump pH4 _____ pH7 _____
 pH10 _____
 1413 us/cm
 Field Calibration _____
Pump Details: 3065 (Pine Env)

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 180 litres
Avg. Flow Rate: _____ L/min. **Start:** 910 **Finish:** 1140
Sample intake depth: _____

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	<input type="checkbox"/> Cond. <input checked="" type="checkbox"/> Specific Cond. (µS/cm or mS/cm (Circle one))	Redox (mV)	Diss. O ₂ * (mg/L)	Water Level (m)	Remarks
1005	1	4.5	7.15	1333	-59.8	0.04	3.21	very silty! ↓
1015	2	4.0	7.17	1305	-61.6	0.02	3.19	
1030	3	5.3	7.21	1296	-62.0	0.02	3.18	
1055	4	6.2	7.15	1306	-62.6	0.02	3.11	
1112	5	6.4	7.16	1324	-63.9	0.02	3.10	
1127	7	10.6	7.23	1303	-61.6	0.03	3.09	
1140	8	10.8	7.22	1299	-61.4	0.04	3.09	
				SAMPLED @ 1140				

* Record DO in Mg/L, not percentage

Comments:
 Odour: Yes No If yes _____
 Sheen: Yes No If yes _____ Hydrocarbon-like OR Metallic-like
 Turbidity: Clear Very Silty

Analysis	Type	Container Size							Filtered		Preservatives
		40 mL	120 mL	250 mL	500 mL	1 L	2 L	4 L	Yes	No	
D. Metals	<input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass			1					<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	HNO ₃
LEPH/HEPH	<input type="checkbox"/> Plastic <input checked="" type="checkbox"/> Glass			2					<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Sod. Bis
VOCs	<input type="checkbox"/> Plastic <input checked="" type="checkbox"/> Glass	2							<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Sod. Bis
Non chlor. Pesticides	<input type="checkbox"/> Plastic <input checked="" type="checkbox"/> Glass				2				<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	NaHSO ₄ + Ascorbic Acid
Anions / Salinity	<input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass				1				<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	N/A
D. Mercury	<input type="checkbox"/> Plastic <input checked="" type="checkbox"/> Glass	1							<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	HCl

SCN No. 02333-01 **Consumables:** Waterra Tubing HDPE/Teflon Tubing Groundwater Filter
 Field Dup. Silicon Tubing D.O. Ampoules Footvalve

O:\Final\2013\1412\FORM UPDATE PROJECT 2013\Word Files - April\GW Development and Sampling Data.docx

April 26, 2013



GROUNDWATER DEVELOPMENT AND SAMPLING DATA

Development
 Purging/Sampling

Well No.: SH16-07M

Project Name: Annacis Island WWTP
Location: In plant by digesters
Weather: sn ow Temperature: -5°C
GPS Coordinates: _____

Project No.: 1525010
Date: 09/12/2016
Completed By: S. Alachker
Reviewed By: _____

MONITORING WELL INFORMATION

Time of Measurement: 835
Depth to Product: N/A m Product Thickness: N/A m Tidally Influenced: Yes No
Depth to Water (A): 2.53 m below TOP Pressurized: Yes No
Depth to Bottom of Well (B): 31.60 m below TOP Well Headspace: _____ ppm
Diameter of Standpipe: 51 mm One Well Volume: _____
Well Condition: New (B-A)*2.0 = 59 Litres - for a 51 mm (2.0 inch) diameter well
(B-A)*1.1 = _____ Litres - for a 38 mm (1.5 inch) diameter well

EQUIPMENT LIST

Pump Waterra Hydrolift Bailer (Type: _____) Peristaltic Submersible Bladder
Multimeter Model: VSI Proplus Rental Equipment: 158162273
pH/Temp Meter Model: _____
Conductivity Meter Model: _____
Dissolved Oxygen Meter Model: _____
ORP (Redox) Meter Model: _____
Organic Vapour Meter Model: _____
 Field Bump pH4 _____ pH7 _____
 pH10 _____
 1413 us/cm _____
 Field Calibration _____
Pump Details: 3065 (Pine Env) D.O. Ampoule

WELL DEVELOPMENT/PURGING

Purge Volume: Well. Vol. X 3 = 177 litres Start: _____ Finish: _____
Avg. Flow Rate: _____ L/min. Sample intake depth: _____

Time	Volume Removed (L)	Temp. (°C)	pH (Units)	<input checked="" type="checkbox"/> Cond. <input type="checkbox"/> Specific Cond. (circle one) µS/cm or mS/cm	Redox (mV)	Diss. O ₂ * (mg/L)	Water Level (m)	Remarks
901	1	12.0	6.99	553.9	-169.0	0.43	2.50	clear
905	2	11.9	6.90	562.7	-124.4	0.23	2.50	
910	3	11.6	6.86	563.7	-134.9	0.19	2.50	
916	4	12.0	6.84	570.0	-148.0	0.17	2.50	
922	5	12.1	6.84	560.0	-160.6	0.12	2.50	
				SAMPLED @	925			

* Record DO in Mg/L, not percentage

Comments:

Odour: Yes No If yes _____
Sheen: Yes No If yes _____ Hydrocarbon-like OR Metallic-like
Turbidity: Clear ||||| Very Silty

Analysis	Type		Container Size						Filtered		Preservatives	
			40 mL	120 mL	250 mL	500 mL	1 L	2 L	4 L	Yes		No
D. Metals	<input checked="" type="checkbox"/> Plastic	<input type="checkbox"/> Glass			1					<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	HNO ₃
LEPH/HEPH	<input type="checkbox"/> Plastic	<input checked="" type="checkbox"/> Glass			2					<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Sod. Bis
VOCs	<input type="checkbox"/> Plastic	<input checked="" type="checkbox"/> Glass	2							<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Sod. Bis
N. Chlor. Pherol	<input type="checkbox"/> Plastic	<input checked="" type="checkbox"/> Glass				2				<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Asc. Acid + Na ₂ SO ₄
Anions	<input checked="" type="checkbox"/> Plastic	<input type="checkbox"/> Glass				1				<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	N/A
D. Mercury	<input type="checkbox"/> Plastic	<input checked="" type="checkbox"/> Glass	1							<input type="checkbox"/> Yes	<input type="checkbox"/> No	HCl

SCN No. 02333-05 Consumables: Waterra Tubing HDPE/Teflon Tubing Groundwater Filter
Field Dup. _____ Silicon Tubing D.O. Ampoules Footvalve



APPENDIX C

Sediment Sampling Forms

SEDIMENT SAMPLING LOG

Project No: _____ | Project Title: Quarries DAS
 Date: 28/MAR/17 | Sampled by: PER/AGG
 Station Number (ID): SDS-4 | UTM: 296
 Weather: rain | Time (start/end): 9:27 am

Location Description (including access/egress, surrounding features, distance from structures etc.):

adjacent to the waste channel

Sediment Description (including colour, type/grain size, anthropogenic debris, organic material, shell, wood, odour, sheen, staining, organisms/biota etc.):

Coarse-med grey-brown sand
- nothing else of note

Photograph Numbers (include sample location, grab, homogenized sediment, field sampling methods):

Grab type (e.g. ponar): Van Veen | Sampling Depth: 14.3

Record number of grabs to obtain sample and the percent full of each grab (grab should be at least 60% full):

Chemistry Number of grabs: 1 | % Full: 60%

Benthic Taxonomy Number of grabs: _____ | % Full: _____

Notes (any issues with collection):

1st grab successful

Sample Record

Analysis	Container type and number	SCN	Duplicate SCN
Sediment Chemistry			
Benthic Taxonomy			

SEDIMENT SAMPLING LOG

Project No: _____ | Project Title: _____
 Date: 28/Mar/17 | Sampled by: AGG/PM
 Station Number (ID): SDS-5 | UTM: WP297
 Weather: Part | Time (start/end): 9:45 am

Location Description (including access/egress, surrounding features, distance from structures etc.):

mid-level FR marsh area

Sediment Description (including colour, type/grain size, anthropogenic debris, organic material, shell, wood, odour, sheen, staining, organisms/biota etc.):

med-coarse grey-brown sand
1/2 homogenous
1/2 no odor

Photograph Numbers (include sample location, grab, homogenized sediment, field sampling methods):

Grab type (e.g. ponar): Van Veen | Sampling Depth: 12.7m

Record number of grabs to obtain sample and the percent full of each grab (grab should be at least 60% full):

Chemistry Number of grabs: 2 | % Full: 90%

Benthic Taxonomy Number of grabs: 1 | % Full: 1

Notes (any issues with collection):

2nd grab successful

Sample Record

Analysis	Container type and number	SCN	Duplicate SCN
Sediment Chemistry			
Benthic Taxonomy			

SEDIMENT SAMPLING LOG

Project No: _____ | Project Title: Quacks DAS
 Date: 28/Mar/17 | Sampled by: DW/AGG
 Station Number (ID): SOS-3 | UTM: 295
 Weather: rain | Time (start/end): 8:45 am

Location Description (including access/egress, surrounding features, distance from structures etc.):

Mid FR Main Channel

Sediment Description (including colour, type/grain size, anthropogenic debris, organic material, shell, wood, odour, sheen, staining, organisms/biota etc.):

Med coarse grey-brown sand

Photograph Numbers (include sample location, grab, homogenized sediment, field sampling methods):

Grab type (e.g. ponar): Van Veen | Sampling Depth: 14.4m

Record number of grabs to obtain sample and the percent full of each grab (grab should be at least 60% full):

Chemistry
 Number of grabs: 1 | % Full: 80-90%

Benthic Taxonomy
 Number of grabs: 1 | % Full: ~90%

Notes (any issues with collection):

[DUP-1] Collected
grab size too large so couldn't reduce sample in benthic bucket.

Sample Record

Analysis	Container type and number	SCN	Duplicate SCN
Sediment Chemistry			
Benthic Taxonomy			

SEDIMENT SAMPLING LOG

Project No: _____ | Project Title: Arucks DAS
 Date: 28/Dec/17 | Sampled by: PW/AGG
 Station Number (ID): SDS-2 | UTM: 294
 Weather: cloudy | Time (start/end): 8:30 am

Location Description (including access/egress, surrounding features, distance from structures etc.):

mid FR main channel

Sediment Description (including colour, type/grain size, anthropogenic debris, organic material, shell, wood, odour, sheen, staining, organisms/biota etc.):

med-coarse grey-brown sand some small
cobble

Photograph Numbers (include sample location, grab, homogenized sediment, field sampling methods):

Grab type (e.g. ponar): Van Veen | Sampling Depth: 14.1 m

Record number of grabs to obtain sample and the percent full of each grab (grab should be at least 60% full):

Chemistry
 Number of grabs: 1 | % Full: ~80%

Benthic Taxonomy
 Number of grabs: _____ | % Full: _____

Notes (any issues with collection):

1st grab successful

Sample Record

Analysis	Container type and number	SCN	Duplicate SCN
Sediment Chemistry			
Benthic Taxonomy	<u>/</u>	<u>/</u>	<u>/</u>

SEDIMENT SAMPLING LOG

Project No: _____ | Project Title: _____
 Date: 28/Nov/17 | Sampled by: AGG/PM
 Station Number (ID): SDS-6 | UTM: WP299
 Weather: Wind | Time (start/end): 10 am

Location Description (including access/egress, surrounding features, distance from structures etc.):

within DA -> beside road channel

Sediment Description (including colour, type/grain size, anthropogenic debris, organic material, shell, wood, odour, sheen, staining, organisms/biota etc.):

Coarse grey brown sand
nothing else else -> same as sand in other grabs
- no detectable odor

Photograph Numbers (include sample location, grab, homogenized sediment, field sampling methods):

Grab type (e.g. ponar): Van Veen | Sampling Depth: 13.4m

Record number of grabs to obtain sample and the percent full of each grab (grab should be at least 60% full):

Chemistry
 Number of grabs: 3 | % Full: 90%

Benthic Taxonomy
 Number of grabs: ✓ | % Full: ✓

Notes (any issues with collection):

1st Grab failed
2nd also failed
3rd - good

Sample Record

Analysis	Container type and number	SCN	Duplicate SCN
Sediment Chemistry			
Benthic Taxonomy			

SEDIMENT SAMPLING LOG

Project No: _____ | Project Title: River's Das
 Date: 26 Mar 17 | Sampled by: _____
 Station Number (ID): GDS-1 | UTM: 293
 Weather: rain | Time (start/end): 8:00

Location Description (including access/egress, surrounding features, distance from structures etc.):

coarse sand

Sediment Description (including colour, type/grain size, anthropogenic debris, organic material, shell, wood, odour, sheen, staining, organisms/biota etc.):

grey-brown med-coarse sand
small amount of organics on surface

Photograph Numbers (include sample location, grab, homogenized sediment, field sampling methods):

Grab type (e.g. ponar): van veen | Sampling Depth: 14m

Record number of grabs to obtain sample and the percent full of each grab (grab should be at least 60% full):

Chemistry Number of grabs: 1 | % Full: 70-80%

Benthic Taxonomy Number of grabs: _____ | % Full: _____

Notes (any issues with collection):

1st grab successful

Sample Record

Analysis	Container type and number	SCN	Duplicate SCN
Sediment Chemistry	<u>1 kys 4 jar als 1 bag als</u>		
Benthic Taxonomy	<u>/</u>	<u>/</u>	<u>/</u>

SEDIMENT SAMPLING LOG

Project No: _____ | Project Title: Anda's Das
 Date: 28/Nov/17 | Sampled by: PM/Ab6
 Station Number (ID): HF-3 | UTM: several sea holes
 Weather: rain | Time (start/end): _____

Location Description (including access/egress, surrounding features, distance from structures etc.):

Sediment Description (including colour, type/grain size, anthropogenic debris, organic material, shell, wood, odour, sheen, staining, organisms/biota etc.):

green/grey grab 1 → silty sand
 grab 2 = similar to grab 1
 grab 3 → small amount of organics (like algae)

Photograph Numbers (include sample location, grab, homogenized sediment, field sampling methods):

Grab type (e.g. ponar): Van Veen | Sampling Depth: 14.0m

Record number of grabs to obtain sample and the percent full of each grab (grab should be at least 60% full):

Chemistry Number of grabs: 1/2/3 | % Full: 50% / 50% / 90%

Benthic Taxonomy Number of grabs: _____ | % Full: _____

Notes (any issues with collection):

grab 1 → found some sheen → photo → small amount of fines
 grab 2 → small amount of fines (DUP-2 collected)
 grab 3 → lots of worms

Sample Record

Analysis	Container type and number	SCN	Duplicate SCN
Sediment Chemistry			
Benthic Taxonomy			

SEDIMENT SAMPLING LOG

Project No: _____ | Project Title: _____
 Date: 28/Mar/17 | Sampled by: _____
 Station Number (ID): SDS-7 | UTM: WP300
 Weather: rain | Time (start/end): 10:00

Location Description (including access/egress, surrounding features, distance from structures etc.):

within DA closest to AF Bridge

Sediment Description (including colour, type/grain size, anthropogenic debris, organic material, shell, wood, odour, sheen, staining, organisms/biota etc.):

Coarse - med gray-brown sand

Photograph Numbers (include sample location, grab, homogenized sediment, field sampling methods):

Grab type (e.g. ponar): Van Veen | Sampling Depth: 12.9

Record number of grabs to obtain sample and the percent full of each grab (grab should be at least 60% full):

Chemistry
 Number of grabs: 1 | % Full: 90%

Benthic Taxonomy
 Number of grabs: / | % Full: /

Notes (any issues with collection):

1st grab successful

Sample Record

Analysis	Container type and number	SCN	Duplicate SCN
Sediment Chemistry			
Benthic Taxonomy			



APPENDIX D

Soil Analysis Results



GOLDER ASSOCIATES LTD.
ATTN: Jm Laidlaw
200- 2920 Virtual Way
Vancouver BC V5M 0C4

Date Received: 16- FEB- 17
Report Date: 16- MAR- 17 15:36 (MT)
Version: FINAL

Client Phone: 604- 298- 6623

Certificate of Analysis

Lab Work Order #: L1891783

Project P.O. #: NOT SUBMITTED
Job Reference: 1525010/3300/3300.2
C of C Numbers: 02052, 02053
Legal Site Desc:

Amber Springer, B.Sc
Account Manager

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

ADDRESS: 8081 Lougheed Hwy, Suite 100, Burnaby, BC V5A 1W9 Canada | Phone: +1 604 253 4188 | Fax: +1 604 253 6700
ALSCANADA LTD Part of the ALS Group An ALS Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1891783-1 Soil 16-FEB-17 02052-01	L1891783-3 Soil 16-FEB-17 02052-03	L1891783-4 Soil 16-FEB-17 02052-04	L1891783-6 Soil 16-FEB-17 02052-06	L1891783-7 Soil 16-FEB-17 02052-07
Grouping	Analyte					
SOIL						
Physical Tests	% Moisture (%)		4.03			25.4
	Moisture (%)	10.0	3.82	3.78	23.4	25.1
	pH (1:2 soil:water) (pH)	9.87	7.88		6.60	6.23
Particle Size	% Gravel (>2mm) (%)		<1.0		<1.0	
	% Sand (2.0mm - 0.063mm) (%)		97.4		39.3	
	% Silt (0.063mm - 4um) (%)		2.0		48.1	
	% Clay (<4um) (%)		<1.0		12.6	
	Texture		Sand		Loam	
Leachable Anions & Nutrients	Bromide (Br) (mg/kg)	<0.50		<0.50		
	Chloride (Cl) (mg/kg)	<5.0		<5.0		
	Fluoride (F) (mg/kg)	0.37		0.39		
	Nitrate (as N) (mg/kg)	0.490		0.756		
	Nitrite (as N) (mg/kg)	0.061		<0.010		
	Sulfate (SO4) (mg/kg)	307		<10		
Organic / Inorganic Carbon	Total Organic Carbon (%)		0.065			0.785
Saturated Paste Extractables	Chloride (Cl) (mg/kg)	<6.1		1.59		
	% Saturation (%)	30.3		28.8		
	Sodium (Na) (mg/kg)	3.5		4.7		
Metals	Antimony (Sb) (mg/kg)	2.03	0.22		0.58	0.59
	Arsenic (As) (mg/kg)	5.64	2.86		5.80	6.16
	Barium (Ba) (mg/kg)	72.5	50.8		156	118
	Beryllium (Be) (mg/kg)	0.21	0.18		0.43	0.33
	Cadmium (Cd) (mg/kg)	0.160	0.127		0.124	0.399
	Chromium (Cr) (mg/kg)	31.3	24.0		58.8	46.1
	Cobalt (Co) (mg/kg)	7.11	7.13		16.6	18.9
	Copper (Cu) (mg/kg)	24.9	13.1		38.7	33.7
	Lead (Pb) (mg/kg)	15.0	2.20		6.43	6.02
	Mercury (Hg) (mg/kg)	<0.050	0.098		0.062	<0.050
	Molybdenum (Mo) (mg/kg)	0.80	0.37		1.34	0.80
	Nickel (Ni) (mg/kg)	22.2	28.4		55.9	73.0
	Selenium (Se) (mg/kg)	<0.20	<0.20		0.25	0.52
	Silver (Ag) (mg/kg)	0.12	<0.10		0.13	0.12
	Thallium (Tl) (mg/kg)	<0.050	<0.050		0.100	0.119
	Tin (Sn) (mg/kg)	2.2	<2.0		<2.0	<2.0
	Uranium (U) (mg/kg)	0.465	0.252		0.872	0.791
	Vanadium (V) (mg/kg)	49.4	42.2		64.1	50.4

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1891783-9 Soil 16-FEB-17 02052-09	L1891783-10 Soil 16-FEB-17 02052-10	L1891783-12 Soil 16-FEB-17 02052-12	L1891783-13 Soil 16-FEB-17 02053-01	L1891783-15 Soil 16-FEB-17 02053-03	
Grouping	Analyte					
SOIL						
Physical Tests	% Moisture (%)		25.4		23.2	
	Moisture (%)	18.2	23.9	24.1	21.5	26.3
	pH (1:2 soil:water) (pH)	7.03		7.04	6.91	
Particle Size	% Gravel (>2mm) (%)	<1.0			<1.0	
	% Sand (2.0mm - 0.063mm) (%)	91.8			92.4	
	% Silt (0.063mm - 4um) (%)	6.7			6.7	
	% Clay (<4um) (%)	1.6			<1.0	
	Texture	Sand			Sand	
Leachable Anions & Nutrients	Bromide (Br) (mg/kg)		<0.50	<0.50		<0.50
	Chloride (Cl) (mg/kg)		<5.0	<5.0		9.0
	Fluoride (F) (mg/kg)		0.30	0.22		0.40
	Nitrate (as N) (mg/kg)		<0.050	<0.050		0.149
	Nitrite (as N) (mg/kg)		<0.010	<0.010		<0.010
	Sulfate (SO4) (mg/kg)		<10	<10		<10
Organic / Inorganic Carbon	Total Organic Carbon (%)		0.598	0.137		0.663
Saturated Paste Extractables	Chloride (Cl) (mg/kg)		4.45	3.79		13.7
	% Saturation (%)		38.9	34.2		54.2
	Sodium (Na) (mg/kg)		7.7	6.9		7.0
Metals	Antimony (Sb) (mg/kg)	0.24		0.30	0.29	
	Arsenic (As) (mg/kg)	1.94		1.83	2.62	
	Barium (Ba) (mg/kg)	59.5		72.8	69.1	
	Beryllium (Be) (mg/kg)	0.20		0.20	0.21	
	Cadmium (Cd) (mg/kg)	0.124		0.131	0.126	
	Chromium (Cr) (mg/kg)	27.5		27.3	27.6	
	Cobalt (Co) (mg/kg)	7.55		8.29	12.2	
	Copper (Cu) (mg/kg)	14.6		15.3	16.1	
	Lead (Pb) (mg/kg)	2.48		2.67	2.70	
	Mercury (Hg) (mg/kg)	<0.050		<0.050	<0.050	
	Molybdenum (Mo) (mg/kg)	0.26		0.25	0.40	
	Nickel (Ni) (mg/kg)	31.8		34.6	44.1	
	Selenium (Se) (mg/kg)	<0.20		<0.20	<0.20	
	Silver (Ag) (mg/kg)	<0.10		<0.10	<0.10	
	Thallium (Tl) (mg/kg)	<0.050		<0.050	<0.050	
	Tin (Sn) (mg/kg)	<2.0		<2.0	<2.0	
	Uranium (U) (mg/kg)	0.294		0.335	0.353	
	Vanadium (V) (mg/kg)	42.2		40.6	42.9	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1891783-16 Soil 16-FEB-17 02053-04	L1891783-17 Soil 16-FEB-17 02053-05	L1891783-18 Soil 16-FEB-17 02053-06	L1891783-20 Soil 16-FEB-17 02053-08	L1891783-21 Soil 16-FEB-17 02053-09
Grouping	Analyte					
SOIL						
Physical Tests	% Moisture (%)		23.1		12.5	
	Moisture (%)	20.2	26.9	4.90	12.7	6.13
	pH (1:2 soil:water) (pH)	7.24		7.97	7.37	7.43
Particle Size	% Gravel (>2mm) (%)			1.7	9.0	
	% Sand (2.0mm - 0.063mm) (%)			96.6	89.9	
	% Silt (0.063mm - 4um) (%)			1.4	<1.0	
	% Clay (<4um) (%)			<1.0	<1.0	
	Texture			Sand	Sand	
Leachable Anions & Nutrients	Bromide (Br) (mg/kg)		<0.50			<0.50
	Chloride (Cl) (mg/kg)		<5.0			6.0
	Fluoride (F) (mg/kg)		0.25			2.75
	Nitrate (as N) (mg/kg)		0.160			<0.050
	Nitrite (as N) (mg/kg)		<0.010			<0.010
	Sulfate (SO4) (mg/kg)		<10			<10
Organic / Inorganic Carbon	Total Organic Carbon (%)		0.35		<0.050	
Saturated Paste Extractables	Chloride (Cl) (mg/kg)		5.88			6.70
	% Saturation (%)		42.7			29.2
	Sodium (Na) (mg/kg)		8.6			5.0
Metals	Antimony (Sb) (mg/kg)	0.24		0.20	0.16	0.22
	Arsenic (As) (mg/kg)	2.06		3.08	3.57	3.05
	Barium (Ba) (mg/kg)	60.0		53.5	39.3	53.0
	Beryllium (Be) (mg/kg)	0.21		0.19	0.17	0.19
	Cadmium (Cd) (mg/kg)	0.160		0.110	0.109	0.112
	Chromium (Cr) (mg/kg)	31.2		28.1	20.0	24.7
	Cobalt (Co) (mg/kg)	7.96		7.48	6.84	7.30
	Copper (Cu) (mg/kg)	14.7		13.4	13.0	13.4
	Lead (Pb) (mg/kg)	2.42		2.17	1.95	2.12
	Mercury (Hg) (mg/kg)	<0.050		<0.050	<0.050	<0.050
	Molybdenum (Mo) (mg/kg)	0.23		0.36	0.28	0.36
	Nickel (Ni) (mg/kg)	34.2		32.3	23.9	31.2
	Selenium (Se) (mg/kg)	<0.20		<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)	<0.10		<0.10	<0.10	<0.10
	Thallium (Tl) (mg/kg)	0.054		<0.050	<0.050	<0.050
	Tin (Sn) (mg/kg)	<2.0		<2.0	<2.0	<2.0
	Uranium (U) (mg/kg)	0.283		0.242	0.273	0.254
Vanadium (V) (mg/kg)	45.5		41.8	41.6	41.2	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1891783-23	L1891783-24		
		Description	Soil	Soil		
		Sampled Date	16-FEB-17	16-FEB-17		
		Sampled Time				
		Client ID	02053-11	02053-12		
Grouping	Analyte					
SOIL						
Physical Tests	% Moisture (%)		11.6			
	Moisture (%)		8.58	8.82		
	pH (1:2 soil:water) (pH)		7.77	7.75		
Particle Size	% Gravel (>2mm) (%)		<1.0			
	% Sand (2.0mm - 0.063mm) (%)		94.5			
	% Silt (0.063mm - 4um) (%)		4.5			
	% Clay (<4um) (%)		<1.0			
	Texture		Sand			
Leachable Anions & Nutrients	Bromide (Br) (mg/kg)					
	Chloride (Cl) (mg/kg)					
	Fluoride (F) (mg/kg)					
	Nitrate (as N) (mg/kg)					
	Nitrite (as N) (mg/kg)					
	Sulfate (SO4) (mg/kg)					
Organic / Inorganic Carbon	Total Organic Carbon (%)					
Saturated Paste Extractables	Chloride (Cl) (mg/kg)					
	% Saturation (%)					
	Sodium (Na) (mg/kg)					
Metals	Antimony (Sb) (mg/kg)		0.24	0.26		
	Arsenic (As) (mg/kg)		3.59	3.89		
	Barium (Ba) (mg/kg)		79.4	81.8		
	Beryllium (Be) (mg/kg)		0.19	0.20		
	Cadmium (Cd) (mg/kg)		0.125	0.155		
	Chromium (Cr) (mg/kg)		23.9	23.8		
	Cobalt (Co) (mg/kg)		7.69	8.69		
	Copper (Cu) (mg/kg)		14.3	15.7		
	Lead (Pb) (mg/kg)		2.37	2.53		
	Mercury (Hg) (mg/kg)		<0.050	<0.050		
	Molybdenum (Mo) (mg/kg)		0.38	0.40		
	Nickel (Ni) (mg/kg)		32.8	36.0		
	Selenium (Se) (mg/kg)		<0.20	<0.20		
	Silver (Ag) (mg/kg)		<0.10	<0.10		
	Thallium (Tl) (mg/kg)		0.056	0.060		
	Tin (Sn) (mg/kg)		<2.0	<2.0		
	Uranium (U) (mg/kg)		0.311	0.343		
	Vanadium (V) (mg/kg)		33.6	37.0		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1891783-1 Soil 16-FEB-17 02052-01	L1891783-3 Soil 16-FEB-17 02052-03	L1891783-4 Soil 16-FEB-17 02052-04	L1891783-6 Soil 16-FEB-17 02052-06	L1891783-7 Soil 16-FEB-17 02052-07
Grouping	Analyte				
SOIL					
Metals	Zinc (Zn) (mg/kg)	57.7	34.5	63.2	66.6
Hydrocarbons	EPH10-19 (mg/kg)	<200	<200	<200	
	EPH19-32 (mg/kg)	<200	<200	<200	
	LEPH (mg/kg)	<200	<200	<200	
	HEPH (mg/kg)	<200	<200	<200	
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)	<0.050	<0.050	<0.050	
	Acenaphthylene (mg/kg)	<0.050	<0.050	<0.050	
	Anthracene (mg/kg)	<0.050	<0.050	<0.050	
	Benz(a)anthracene (mg/kg)	0.078	<0.050	<0.050	
	Benzo(a)pyrene (mg/kg)	0.083	<0.050	<0.050	
	Benzo(b)fluoranthene (mg/kg)	0.094	<0.050	<0.050	
	Benzo(g,h,i)perylene (mg/kg)	0.087	<0.050	<0.050	
	Benzo(k)fluoranthene (mg/kg)	0.074	<0.050	<0.050	
	Chrysene (mg/kg)	0.123	<0.050	<0.050	
	Dibenz(a,h)anthracene (mg/kg)	<0.050	<0.050	<0.050	
	Fluoranthene (mg/kg)	0.206	<0.050	<0.050	
	Fluorene (mg/kg)	<0.050	<0.050	<0.050	
	Indeno(1,2,3-c,d)pyrene (mg/kg)	0.084	<0.050	<0.050	
	2-Methylnaphthalene (mg/kg)	<0.050	<0.050	<0.050	
	Naphthalene (mg/kg)	<0.050	<0.050	<0.050	
	Phenanthrene (mg/kg)	0.087	<0.050	<0.050	
	Pyrene (mg/kg)	0.239	<0.050	<0.050	
	Surrogate: Acenaphthene d10 (%)	94.8	77.9	83.6	
	Surrogate: Chrysene d12 (%)	91.7	87.8	95.6	
	Surrogate: Naphthalene d8 (%)	83.1	75.6	81.8	
	Surrogate: Phenanthrene d10 (%)	93.6	75.2	83.5	
Phenolics	4-Chloro-3-methylphenol (mg/kg)		<0.020		
	2-Chlorophenol (mg/kg)		<0.020		
	3-Chlorophenol (mg/kg)		<0.020		
	4-Chlorophenol (mg/kg)		<0.020		
	2,3-Dichlorophenol (mg/kg)		<0.020		
	2,4 & 2,5-Dichlorophenol (mg/kg)		<0.020		
	2,6-Dichlorophenol (mg/kg)		<0.020		
	3,4-Dichlorophenol (mg/kg)		<0.020		
	3,5-Dichlorophenol (mg/kg)		<0.020		
	2,4-Dimethylphenol (mg/kg)		<0.020		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1891783-9 Soil 16-FEB-17 02052-09	L1891783-10 Soil 16-FEB-17 02052-10	L1891783-12 Soil 16-FEB-17 02052-12	L1891783-13 Soil 16-FEB-17 02053-01	L1891783-15 Soil 16-FEB-17 02053-03
Grouping	Analyte				
SOIL					
Metals	Zinc (Zn) (mg/kg)	38.0		39.5	42.8
Hydrocarbons	EPH10-19 (mg/kg)	<200		<200	<200
	EPH19-32 (mg/kg)	<200		<200	<200
	LEPH (mg/kg)	<200		<200	<200
	HEPH (mg/kg)	<200		<200	<200
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)	<0.050		<0.050	<0.050
	Acenaphthylene (mg/kg)	<0.050		<0.050	<0.050
	Anthracene (mg/kg)	<0.050		<0.050	<0.050
	Benz(a)anthracene (mg/kg)	<0.050		<0.050	<0.050
	Benzo(a)pyrene (mg/kg)	<0.050		<0.050	<0.050
	Benzo(b)fluoranthene (mg/kg)	<0.050		<0.050	<0.050
	Benzo(g,h,i)perylene (mg/kg)	<0.050		<0.050	<0.050
	Benzo(k)fluoranthene (mg/kg)	<0.050		<0.050	<0.050
	Chrysene (mg/kg)	<0.050		<0.050	<0.050
	Dibenz(a,h)anthracene (mg/kg)	<0.050		<0.050	<0.050
	Fluoranthene (mg/kg)	<0.050		<0.050	<0.050
	Fluorene (mg/kg)	<0.050		<0.050	<0.050
	Indeno(1,2,3-c,d)pyrene (mg/kg)	<0.050		<0.050	<0.050
	2-Methylnaphthalene (mg/kg)	<0.050		<0.050	<0.050
	Naphthalene (mg/kg)	<0.050		<0.050	<0.050
	Phenanthrene (mg/kg)	<0.050		<0.050	<0.050
	Pyrene (mg/kg)	<0.050		<0.050	<0.050
	Surrogate: Acenaphthene d10 (%)	83.6		87.4	80.6
	Surrogate: Chrysene d12 (%)	88.9		95.1	89.0
	Surrogate: Naphthalene d8 (%)	82.1		86.4	80.2
	Surrogate: Phenanthrene d10 (%)	78.3		81.4	75.0
Phenolics	4-Chloro-3-methylphenol (mg/kg)	<0.020			<0.020
	2-Chlorophenol (mg/kg)	<0.020			<0.020
	3-Chlorophenol (mg/kg)	<0.020			<0.020
	4-Chlorophenol (mg/kg)	<0.020			<0.020
	2,3-Dichlorophenol (mg/kg)	<0.020			<0.020
	2,4 & 2,5-Dichlorophenol (mg/kg)	<0.020			<0.020
	2,6-Dichlorophenol (mg/kg)	<0.020			<0.020
	3,4-Dichlorophenol (mg/kg)	<0.020			<0.020
	3,5-Dichlorophenol (mg/kg)	<0.020			<0.020
	2,4-Dimethylphenol (mg/kg)	<0.020			<0.020

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1891783-16 Soil 16-FEB-17 02053-04	L1891783-17 Soil 16-FEB-17 02053-05	L1891783-18 Soil 16-FEB-17 02053-06	L1891783-20 Soil 16-FEB-17 02053-08	L1891783-21 Soil 16-FEB-17 02053-09
Grouping	Analyte					
SOIL						
Metals	Zinc (Zn) (mg/kg)	37.9		35.1	34.4	34.8
Hydrocarbons	EPH10-19 (mg/kg)		<200	<200	<200	<200
	EPH19-32 (mg/kg)		<200	<200	<200	<200
	LEPH (mg/kg)		<200	<200	<200	<200
	HEPH (mg/kg)		<200	<200	<200	<200
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)		<0.050	<0.050	<0.050	<0.050
	Acenaphthylene (mg/kg)		<0.050	<0.050	<0.050	<0.050
	Anthracene (mg/kg)		<0.050	<0.050	<0.050	<0.050
	Benz(a)anthracene (mg/kg)		<0.050	<0.050	<0.050	<0.050
	Benzo(a)pyrene (mg/kg)		<0.050	<0.050	<0.050	<0.050
	Benzo(b)fluoranthene (mg/kg)		<0.050	<0.050	<0.050	<0.050
	Benzo(g,h,i)perylene (mg/kg)		<0.050	<0.050	<0.050	<0.050
	Benzo(k)fluoranthene (mg/kg)		<0.050	<0.050	<0.050	<0.050
	Chrysene (mg/kg)		<0.050	<0.050	<0.050	<0.050
	Dibenz(a,h)anthracene (mg/kg)		<0.050	<0.050	<0.050	<0.050
	Fluoranthene (mg/kg)		<0.050	<0.050	<0.050	<0.050
	Fluorene (mg/kg)		<0.050	<0.050	<0.050	<0.050
	Indeno(1,2,3-c,d)pyrene (mg/kg)		<0.050	<0.050	<0.050	<0.050
	2-Methylnaphthalene (mg/kg)		<0.050	<0.050	<0.050	<0.050
	Naphthalene (mg/kg)		<0.050	<0.050	<0.050	<0.050
	Phenanthrene (mg/kg)		<0.050	<0.050	<0.050	<0.050
	Pyrene (mg/kg)		<0.050	<0.050	<0.050	<0.050
	Surrogate: Acenaphthene d10 (%)		82.4	100.1	86.5	81.5
	Surrogate: Chrysene d12 (%)		89.9	105.8	95.4	91.1
	Surrogate: Naphthalene d8 (%)		80.2	97.0	84.5	79.9
	Surrogate: Phenanthrene d10 (%)		83.8	93.7	86.3	76.0
Phenolics	4-Chloro-3-methylphenol (mg/kg)	<0.020				<0.020
	2-Chlorophenol (mg/kg)	<0.020				<0.020
	3-Chlorophenol (mg/kg)	<0.020				<0.020
	4-Chlorophenol (mg/kg)	<0.020				<0.020
	2,3-Dichlorophenol (mg/kg)	<0.020				<0.020
	2,4 & 2,5-Dichlorophenol (mg/kg)	<0.020				<0.020
	2,6-Dichlorophenol (mg/kg)	<0.020				<0.020
	3,4-Dichlorophenol (mg/kg)	<0.020				<0.020
	3,5-Dichlorophenol (mg/kg)	<0.020				<0.020
	2,4-Dimethylphenol (mg/kg)	<0.020				<0.020

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1891783-23 Soil 16-FEB-17 02053-11	L1891783-24 Soil 16-FEB-17 02053-12		
Grouping	Analyte				
SOIL					
Metals	Zinc (Zn) (mg/kg)	36.8	40.5		
Hydrocarbons	EPH10-19 (mg/kg)	<200	<200		
	EPH19-32 (mg/kg)	<200	<200		
	LEPH (mg/kg)	<200	<200		
	HEPH (mg/kg)	<200	<200		
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)	<0.050	<0.050		
	Acenaphthylene (mg/kg)	<0.050	<0.050		
	Anthracene (mg/kg)	<0.050	<0.050		
	Benz(a)anthracene (mg/kg)	<0.050	<0.050		
	Benzo(a)pyrene (mg/kg)	<0.050	<0.050		
	Benzo(b)fluoranthene (mg/kg)	<0.050	<0.050		
	Benzo(g,h,i)perylene (mg/kg)	<0.050	<0.050		
	Benzo(k)fluoranthene (mg/kg)	<0.050	<0.050		
	Chrysene (mg/kg)	<0.050	<0.050		
	Dibenz(a,h)anthracene (mg/kg)	<0.050	<0.050		
	Fluoranthene (mg/kg)	<0.050	<0.050		
	Fluorene (mg/kg)	<0.050	<0.050		
	Indeno(1,2,3-c,d)pyrene (mg/kg)	<0.050	<0.050		
	2-Methylnaphthalene (mg/kg)	<0.050	<0.050		
	Naphthalene (mg/kg)	<0.050	<0.050		
	Phenanthrene (mg/kg)	<0.050	<0.050		
	Pyrene (mg/kg)	<0.050	<0.050		
	Surrogate: Acenaphthene d10 (%)	93.1	83.6		
Surrogate: Chrysene d12 (%)	91.9	92.0			
Surrogate: Naphthalene d8 (%)	90.7	83.8			
Surrogate: Phenanthrene d10 (%)	86.0	80.7			
Phenolics	4-Chloro-3-methylphenol (mg/kg)	<0.020	<0.020		
	2-Chlorophenol (mg/kg)	<0.020	<0.020		
	3-Chlorophenol (mg/kg)	<0.020	<0.020		
	4-Chlorophenol (mg/kg)	<0.020	<0.020		
	2,3-Dichlorophenol (mg/kg)	<0.020	<0.020		
	2,4 & 2,5-Dichlorophenol (mg/kg)	<0.020	<0.020		
	2,6-Dichlorophenol (mg/kg)	<0.020	<0.020		
	3,4-Dichlorophenol (mg/kg)	<0.020	<0.020		
	3,5-Dichlorophenol (mg/kg)	<0.020	<0.020		
	2,4-Dimethylphenol (mg/kg)	<0.020	<0.020		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1891783-1	L1891783-3	L1891783-4	L1891783-6	L1891783-7
		Description	Soil	Soil	Soil	Soil	Soil
		Sampled Date	16-FEB-17	16-FEB-17	16-FEB-17	16-FEB-17	16-FEB-17
		Sampled Time					
		Client ID	02052-01	02052-03	02052-04	02052-06	02052-07
Grouping	Analyte						
SOIL							
Phenolics	o-Cresol (mg/kg)			<0.020			
	m-Cresol (mg/kg)			<0.020			
	p-Cresol (mg/kg)			<0.020			
	Pentachlorophenol (mg/kg)			<0.045 ^{DLB}			
	Phenol (mg/kg)			<0.020			
	2,3,4,5-Tetrachlorophenol (mg/kg)			<0.020			
	2,3,4,6-Tetrachlorophenol (mg/kg)			<0.020			
	2,3,5,6-Tetrachlorophenol (mg/kg)			<0.020			
	2,3,4-Trichlorophenol (mg/kg)			<0.020			
	2,3,5-Trichlorophenol (mg/kg)			<0.020			
	2,3,6-Trichlorophenol (mg/kg)			<0.020			
	2,4,5-Trichlorophenol (mg/kg)			<0.020			
	2,4,6-Trichlorophenol (mg/kg)			<0.020			
	3,4,5-Trichlorophenol (mg/kg)			<0.020			
Polychlorinated Biphenyls	PCB-1016 (mg/kg)				<0.020		<0.020
	PCB-1221 (mg/kg)				<0.020		<0.020
	PCB-1232 (mg/kg)				<0.020		<0.020
	PCB-1242 (mg/kg)				<0.020		<0.020
	PCB-1248 (mg/kg)				<0.020		<0.020
	PCB-1254 (mg/kg)				<0.020		<0.020
	PCB-1260 (mg/kg)				<0.020		<0.020
	PCB-1262 (mg/kg)				<0.020		<0.020
	PCB-1268 (mg/kg)				<0.020		<0.020
	Total PCB (BC CSR) (mg/kg)				<0.020		<0.020
	Total Polychlorinated Biphenyls (mg/kg)				<0.020		<0.020
Dioxins and Furans	2,3,7,8-TCDD (pg/g)			<0.063 ^[U]			<1.3 ^[U]
	1,2,3,7,8-PeCDD (pg/g)			<0.048 ^[U]			<0.74 ^{M,U}
	1,2,3,4,7,8-HxCDD (pg/g)			<0.072 ^[U]			<0.85 ^[U]
	1,2,3,6,7,8-HxCDD (pg/g)			<0.070 ^[U]			<0.94 ^{M,U}
	1,2,3,7,8,9-HxCDD (pg/g)			0.098 ^[U]			<0.94 ^[U]
	1,2,3,4,6,7,8-HpCDD (pg/g)			0.360 ^{J,R}			8.3 ^[R]
	OCDD (pg/g)			2.20 ^{J,B}			115
	Total-TCDD (pg/g)			0.289			2.1
	Total TCDD # Homologues			1			1
	Total-PeCDD (pg/g)			<0.048 ^[U]			<0.74 ^[U]
	Total PeCDD # Homologues			0			0

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1891783-9	L1891783-10	L1891783-12	L1891783-13	L1891783-15
					Soil	Soil	Soil	Soil	Soil
					16-FEB-17	16-FEB-17	16-FEB-17	16-FEB-17	16-FEB-17
					02052-09	02052-10	02052-12	02053-01	02053-03
Grouping	Analyte								
SOIL									
Phenolics	o-Cresol (mg/kg)	<0.020			<0.020			<0.020	
	m-Cresol (mg/kg)	<0.020			<0.020			<0.090 ^{DLCI}	
	p-Cresol (mg/kg)	<0.030 ^{DLCI}			<0.030			<0.030 ^{DLCI}	
	Pentachlorophenol (mg/kg)	<0.020			<0.020			<0.020	
	Phenol (mg/kg)	<0.020			<0.020			<0.020	
	2,3,4,5-Tetrachlorophenol (mg/kg)	<0.020			<0.020			<0.020	
	2,3,4,6-Tetrachlorophenol (mg/kg)	<0.020			<0.020			<0.020	
	2,3,5,6-Tetrachlorophenol (mg/kg)	<0.020			<0.020			<0.020	
	2,3,4-Trichlorophenol (mg/kg)	<0.020			<0.020			<0.020	
	2,3,5-Trichlorophenol (mg/kg)	<0.020			<0.020			<0.020	
	2,3,6-Trichlorophenol (mg/kg)	<0.020			<0.020			<0.020	
	2,4,5-Trichlorophenol (mg/kg)	<0.020			<0.020			<0.020	
	2,4,6-Trichlorophenol (mg/kg)	<0.020			<0.020			<0.020	
	3,4,5-Trichlorophenol (mg/kg)	<0.020			<0.020			<0.020	
	Polychlorinated Biphenyls	PCB-1016 (mg/kg)					<0.020		
PCB-1221 (mg/kg)						<0.020			<0.020
PCB-1232 (mg/kg)						<0.020			<0.020
PCB-1242 (mg/kg)						<0.020			<0.020
PCB-1248 (mg/kg)						<0.020			<0.020
PCB-1254 (mg/kg)						<0.020			<0.020
PCB-1260 (mg/kg)						<0.020			<0.020
PCB-1262 (mg/kg)						<0.020			<0.020
PCB-1268 (mg/kg)						<0.020			<0.020
Total PCB (BC CSR) (mg/kg)						<0.020			<0.020
Total Polychlorinated Biphenyls (mg/kg)						<0.020			<0.020
Dioxins and Furans	2,3,7,8-TCDD (pg/g)					0.056 ^{J,R}		0.048 ^{M,J,R}	
	1,2,3,7,8-PeCDD (pg/g)					0.120 ^{M,J,R}		<0.039 ^[U]	
	1,2,3,4,7,8-HxCDD (pg/g)					0.11 ^{J,R}		<0.059 ^[U]	
	1,2,3,6,7,8-HxCDD (pg/g)					<0.11 ^[U]		<0.056 ^[U]	
	1,2,3,7,8,9-HxCDD (pg/g)					0.33 ^{M,J,R}		<0.060 ^[U]	
	1,2,3,4,6,7,8-HpCDD (pg/g)					4.24		1.53 ^{M,J}	
	OCDD (pg/g)					48.2		14.6	
	Total-TCDD (pg/g)					1.34		0.567	
	Total TCDD # Homologues					1		1	
	Total-PeCDD (pg/g)					1.27		<0.039 ^[U]	
	Total PeCDD # Homologues					3		0	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1891783-16 Soil 16-FEB-17 02053-04	L1891783-17 Soil 16-FEB-17 02053-05	L1891783-18 Soil 16-FEB-17 02053-06	L1891783-20 Soil 16-FEB-17 02053-08	L1891783-21 Soil 16-FEB-17 02053-09
Grouping	Analyte					
SOIL						
Phenolics	o-Cresol (mg/kg)	<0.020				<0.020
	m-Cresol (mg/kg)	<0.090 ^{DLCI}				<0.020
	p-Cresol (mg/kg)	<0.050 ^{DLCI}				<0.020
	Pentachlorophenol (mg/kg)	<0.020				<0.020
	Phenol (mg/kg)	<0.020				<0.020
	2,3,4,5-Tetrachlorophenol (mg/kg)	<0.020				<0.020
	2,3,4,6-Tetrachlorophenol (mg/kg)	<0.020				<0.020
	2,3,5,6-Tetrachlorophenol (mg/kg)	<0.020				<0.020
	2,3,4-Trichlorophenol (mg/kg)	<0.020				<0.020
	2,3,5-Trichlorophenol (mg/kg)	<0.020				<0.020
	2,3,6-Trichlorophenol (mg/kg)	<0.020				<0.020
	2,4,5-Trichlorophenol (mg/kg)	<0.020				<0.020
	2,4,6-Trichlorophenol (mg/kg)	<0.020				<0.020
	3,4,5-Trichlorophenol (mg/kg)	<0.020				<0.020
Polychlorinated Biphenyls	PCB-1016 (mg/kg)		<0.020		<0.020	
	PCB-1221 (mg/kg)		<0.020		<0.020	
	PCB-1232 (mg/kg)		<0.020		<0.020	
	PCB-1242 (mg/kg)		<0.020		<0.020	
	PCB-1248 (mg/kg)		<0.020		<0.020	
	PCB-1254 (mg/kg)		<0.020		<0.020	
	PCB-1260 (mg/kg)		<0.020		<0.020	
	PCB-1262 (mg/kg)		<0.020		<0.020	
	PCB-1268 (mg/kg)		<0.020		<0.020	
	Total PCB (BC CSR) (mg/kg)		<0.020		<0.020	
	Total Polychlorinated Biphenyls (mg/kg)		<0.020		<0.020	
Dioxins and Furans	2,3,7,8-TCDD (pg/g)		0.082 ^{J,R}		<0.032 ^[U]	
	1,2,3,7,8-PeCDD (pg/g)		0.140 ^{M,J,R}		<0.017 ^{M,U}	
	1,2,3,4,7,8-HxCDD (pg/g)		0.13 ^{J,R}		<0.028 ^[U]	
	1,2,3,6,7,8-HxCDD (pg/g)		0.21 ^{M,J,R}		<0.025 ^[U]	
	1,2,3,7,8,9-HxCDD (pg/g)		0.55 ^{J,R}		0.060 ^{M,J}	
	1,2,3,4,6,7,8-HpCDD (pg/g)		5.64		0.225 ^[U]	
	OCDD (pg/g)		61.6		1.46 ^{J,B}	
	Total-TCDD (pg/g)		1.63		<0.032 ^[U]	
	Total TCDD # Homologues		3		0	
	Total-PeCDD (pg/g)		0.539		0.042	
	Total PeCDD # Homologues		2		1	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1891783-23 Soil 16-FEB-17 02053-11	L1891783-24 Soil 16-FEB-17 02053-12		
Grouping	Analyte				
SOIL					
Phenolics	o-Cresol (mg/kg)	<0.020	<0.020		
	m-Cresol (mg/kg)	<0.020	<0.020		
	p-Cresol (mg/kg)	<0.020	<0.020		
	Pentachlorophenol (mg/kg)	<0.020	<0.020		
	Phenol (mg/kg)	<0.020	<0.020		
	2,3,4,5-Tetrachlorophenol (mg/kg)	<0.020	<0.020		
	2,3,4,6-Tetrachlorophenol (mg/kg)	<0.020	<0.020		
	2,3,5,6-Tetrachlorophenol (mg/kg)	<0.020	<0.020		
	2,3,4-Trichlorophenol (mg/kg)	<0.020	<0.020		
	2,3,5-Trichlorophenol (mg/kg)	<0.020	<0.020		
	2,3,6-Trichlorophenol (mg/kg)	<0.020	<0.020		
	2,4,5-Trichlorophenol (mg/kg)	<0.020	<0.020		
	2,4,6-Trichlorophenol (mg/kg)	<0.020	<0.020		
	3,4,5-Trichlorophenol (mg/kg)	<0.020	<0.020		
Polychlorinated Biphenyls	PCB-1016 (mg/kg)				
	PCB-1221 (mg/kg)				
	PCB-1232 (mg/kg)				
	PCB-1242 (mg/kg)				
	PCB-1248 (mg/kg)				
	PCB-1254 (mg/kg)				
	PCB-1260 (mg/kg)				
	PCB-1262 (mg/kg)				
	PCB-1268 (mg/kg)				
	Total PCB (BC CSR) (mg/kg)				
Total Polychlorinated Biphenyls (mg/kg)					
Dioxins and Furans	2,3,7,8-TCDD (pg/g)	0.061 ^{J,R}			
	1,2,3,7,8-PeCDD (pg/g)	0.054 ^{M,J,R}			
	1,2,3,4,7,8-HxCDD (pg/g)	0.057 ^[J]			
	1,2,3,6,7,8-HxCDD (pg/g)	0.141 ^[J]			
	1,2,3,7,8,9-HxCDD (pg/g)	0.210 ^{M,J,R}			
	1,2,3,4,6,7,8-HpCDD (pg/g)	2.61 ^[J]			
	OCDD (pg/g)	19.6			
	Total-TCDD (pg/g)	8.38			
	Total TCDD # Homologues	5			
	Total-PeCDD (pg/g)	1.20			
	Total PeCDD # Homologues	4			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1891783-1	L1891783-3	L1891783-4	L1891783-6	L1891783-7
		Description	Soil	Soil	Soil	Soil	Soil
		Sampled Date	16-FEB-17	16-FEB-17	16-FEB-17	16-FEB-17	16-FEB-17
		Sampled Time					
		Client ID	02052-01	02052-03	02052-04	02052-06	02052-07
Grouping	Analyte						
SOIL							
Dioxins and Furans	Total-HxCDD (pg/g)			0.098			<0.94 ^[U]
	Total HxCDD # Homologues			1			0
	Total-HpCDD (pg/g)			<0.084 ^[U]			19.0
	Total HpCDD # Homologues			0			1
	2,3,7,8-TCDF (pg/g)			<0.028 ^[U]			<1.1 ^[U]
	1,2,3,7,8-PeCDF (pg/g)			0.042 ^{M,J,R}			<0.37 ^[U]
	2,3,4,7,8-PeCDF (pg/g)			0.047 ^{M,J,R}			<0.29 ^[U]
	1,2,3,4,7,8-HxCDF (pg/g)			0.055 ^{M,J,R}			<0.79 ^[U]
	1,2,3,6,7,8-HxCDF (pg/g)			<0.042 ^{M,J,R}			<0.80 ^[U]
	1,2,3,7,8,9-HxCDF (pg/g)			<0.060 ^[U]			<0.96 ^[U]
	2,3,4,6,7,8-HxCDF (pg/g)			<0.041 ^[U]			<0.66 ^[U]
	1,2,3,4,6,7,8-HpCDF (pg/g)			0.081 ^{J,R}			<0.59 ^[U]
	1,2,3,4,7,8,9-HpCDF (pg/g)			<0.038 ^[U]			<0.91 ^[U]
	OCDF (pg/g)			0.42 ^[U]			<0.72 ^[U]
	Total-TCDF (pg/g)			<0.028 ^[U]			<1.1 ^[U]
	Total TCDF # Homologues			0			0
	Total-PeCDF (pg/g)			<0.020 ^[U]			<0.37 ^[U]
	Total PeCDF # Homologues			0			0
	Total-HxCDF (pg/g)			<0.060 ^[U]			<0.96 ^[U]
	Total HxCDF # Homologues			0			0
	Total-HpCDF (pg/g)			0.050			<0.91 ^[U]
	Total HpCDF # Homologues			1			0
	Surrogate: 13C12-2,3,7,8-TCDD (%)			69.0			101.0
	Surrogate: 13C12-1,2,3,7,8-PeCDD (%)			70.0			240.0 ^G
	Surrogate: 13C12-1,2,3,4,7,8-HxCDD (%)			79.0			83.0
	Surrogate: 13C12-1,2,3,6,7,8-HxCDD (%)			79.0			70.0
	Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD (%)			78.0			96.0
	Surrogate: 13C12-OCDD (%)			60.0			62.0
	Surrogate: 13C12-2,3,7,8-TCDF (%)			74.0			101.0
	Surrogate: 13C12-1,2,3,7,8-PeCDF (%)			72.0			210.0 ^G
	Surrogate: 13C12-2,3,4,7,8-PeCDF (%)			70.0			234.0 ^G
	Surrogate: 13C12-1,2,3,4,7,8-HxCDF (%)			70.0			67.0
	Surrogate: 13C12-1,2,3,6,7,8-HxCDF (%)			73.0			67.0
Surrogate: 13C12-2,3,4,6,7,8-HxCDF (%)			77.0			82.0	
Surrogate: 13C12-1,2,3,7,8,9-HxCDF (%)			69.0			71.0	
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF (%)			70.0			74.0	
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF (%)			69.0			74.0	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1891783-9	L1891783-10	L1891783-12	L1891783-13	L1891783-15
		Description	Soil	Soil	Soil	Soil	Soil
		Sampled Date	16-FEB-17	16-FEB-17	16-FEB-17	16-FEB-17	16-FEB-17
		Sampled Time					
		Client ID	02052-09	02052-10	02052-12	02053-01	02053-03
Grouping	Analyte						
SOIL							
Dioxins and Furans	Total-HxCDD (pg/g)			3.56		1.62	
	Total HxCDD # Homologues			2		3	
	Total-HpCDD (pg/g)			12.4		4.16	
	Total HpCDD # Homologues			2		2	
	2,3,7,8-TCDF (pg/g)			<0.018 ^[U]		<0.012 ^[U]	
	1,2,3,7,8-PeCDF (pg/g)			0.032 ^{M,J}		<0.017 ^[U]	
	2,3,4,7,8-PeCDF (pg/g)			<0.013 ^[U]		<0.016 ^[U]	
	1,2,3,4,7,8-HxCDF (pg/g)			<0.016 ^[U]		<0.015 ^[U]	
	1,2,3,6,7,8-HxCDF (pg/g)			<0.014 ^[U]		<0.014 ^[U]	
	1,2,3,7,8,9-HxCDF (pg/g)			<0.022 ^[U]		<0.022 ^[U]	
	2,3,4,6,7,8-HxCDF (pg/g)			<0.015 ^[U]		<0.015 ^[U]	
	1,2,3,4,6,7,8-HpCDF (pg/g)			0.043 ^{M,J}		<0.014 ^[U]	
	1,2,3,4,7,8,9-HpCDF (pg/g)			<0.026 ^[U]		<0.021 ^[U]	
	OCDF (pg/g)			0.182 ^[U]		0.110 ^{J,R}	
	Total-TCDF (pg/g)			<0.018 ^[U]		<0.012 ^[U]	
	Total TCDF # Homologues			0		0	
	Total-PeCDF (pg/g)			0.032		<0.017 ^[U]	
	Total PeCDF # Homologues			1		0	
	Total-HxCDF (pg/g)			<0.022 ^[U]		<0.022 ^[U]	
	Total HxCDF # Homologues			0		0	
	Total-HpCDF (pg/g)			0.043		<0.021 ^[U]	
	Total HpCDF # Homologues			1		0	
	Surrogate: 13C12-2,3,7,8-TCDD (%)			89.0		86.0	
	Surrogate: 13C12-1,2,3,7,8-PeCDD (%)			80.0		78.0	
	Surrogate: 13C12-1,2,3,4,7,8-HxCDD (%)			87.0		79.0	
	Surrogate: 13C12-1,2,3,6,7,8-HxCDD (%)			87.0		83.0	
	Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD (%)			88.0		84.0	
	Surrogate: 13C12-OCDD (%)			73.0		68.0	
	Surrogate: 13C12-2,3,7,8-TCDF (%)			82.0		87.0	
	Surrogate: 13C12-1,2,3,7,8-PeCDF (%)			80.0		82.0	
	Surrogate: 13C12-2,3,4,7,8-PeCDF (%)			78.0		79.0	
	Surrogate: 13C12-1,2,3,4,7,8-HxCDF (%)			72.0		71.0	
	Surrogate: 13C12-1,2,3,6,7,8-HxCDF (%)			86.0		78.0	
Surrogate: 13C12-2,3,4,6,7,8-HxCDF (%)			87.0		79.0		
Surrogate: 13C12-1,2,3,7,8,9-HxCDF (%)			78.0		73.0		
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF (%)			78.0		74.0		
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF (%)			76.0		74.0		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1891783-16	L1891783-17	L1891783-18	L1891783-20	L1891783-21
		Description	Soil	Soil	Soil	Soil	Soil
		Sampled Date	16-FEB-17	16-FEB-17	16-FEB-17	16-FEB-17	16-FEB-17
		Sampled Time					
		Client ID	02053-04	02053-05	02053-06	02053-08	02053-09
Grouping	Analyte						
SOIL							
Dioxins and Furans	Total-HxCDD (pg/g)			4.43		0.244	
	Total HxCDD # Homologues			3		2	
	Total-HpCDD (pg/g)			15.3		0.619	
	Total HpCDD # Homologues			2		2	
	2,3,7,8-TCDF (pg/g)			<0.025 ^[U]		<0.015 ^[U]	
	1,2,3,7,8-PeCDF (pg/g)			<0.014 ^[U]		<0.015 ^[U]	
	2,3,4,7,8-PeCDF (pg/g)			<0.013 ^[U]		<0.012 ^[U]	
	1,2,3,4,7,8-HxCDF (pg/g)			<0.019 ^[U]		<0.012 ^[U]	
	1,2,3,6,7,8-HxCDF (pg/g)			<0.017 ^[U]		<0.011 ^[U]	
	1,2,3,7,8,9-HxCDF (pg/g)			<0.027 ^[U]		<0.018 ^[U]	
	2,3,4,6,7,8-HxCDF (pg/g)			<0.018 ^[U]		<0.011 ^[U]	
	1,2,3,4,6,7,8-HpCDF (pg/g)			<0.014 ^[U]		0.0350 ^{M,J,R}	
	1,2,3,4,7,8,9-HpCDF (pg/g)			<0.024 ^[U]		<0.014 ^{M,U}	
	OCDF (pg/g)			0.265 ^[U]		0.130 ^{M,J,R}	
	Total-TCDF (pg/g)			<0.025 ^[U]		<0.015 ^[U]	
	Total TCDF # Homologues			0		0	
	Total-PeCDF (pg/g)			<0.014 ^[U]		<0.015 ^[U]	
	Total PeCDF # Homologues			0		0	
	Total-HxCDF (pg/g)			<0.027 ^[U]		<0.018 ^[U]	
	Total HxCDF # Homologues			0		0	
	Total-HpCDF (pg/g)			<0.024 ^[U]		0.039	
	Total HpCDF # Homologues			0		2	
	Surrogate: 13C12-2,3,7,8-TCDD (%)			90.0		74.0	
	Surrogate: 13C12-1,2,3,7,8-PeCDD (%)			72.0		131.0	
	Surrogate: 13C12-1,2,3,4,7,8-HxCDD (%)			83.0		72.0	
	Surrogate: 13C12-1,2,3,6,7,8-HxCDD (%)			83.0		81.0	
	Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD (%)			83.0		90.0	
	Surrogate: 13C12-OCDD (%)			70.0		68.0	
	Surrogate: 13C12-2,3,7,8-TCDF (%)			83.0		87.0	
	Surrogate: 13C12-1,2,3,7,8-PeCDF (%)			77.0		118.0	
	Surrogate: 13C12-2,3,4,7,8-PeCDF (%)			73.0		126.0	
	Surrogate: 13C12-1,2,3,4,7,8-HxCDF (%)			75.0		61.0	
	Surrogate: 13C12-1,2,3,6,7,8-HxCDF (%)			85.0		70.0	
Surrogate: 13C12-2,3,4,6,7,8-HxCDF (%)			87.0		77.0		
Surrogate: 13C12-1,2,3,7,8,9-HxCDF (%)			80.0		67.0		
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF (%)			77.0		77.0		
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF (%)			77.0		81.0		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1891783-23 Soil 16-FEB-17 02053-11	L1891783-24 Soil 16-FEB-17 02053-12		
Grouping	Analyte				
SOIL					
Dioxins and Furans	Total-HxCDD (pg/g)	2.47			
	Total HxCDD # Homologues	5			
	Total-HpCDD (pg/g)	6.23			
	Total HpCDD # Homologues	2			
	2,3,7,8-TCDF (pg/g)	<0.027 ^[U]			
	1,2,3,7,8-PeCDF (pg/g)	<0.022 ^[U]			
	2,3,4,7,8-PeCDF (pg/g)	<0.020 ^[U]			
	1,2,3,4,7,8-HxCDF (pg/g)	<0.027 ^[U]			
	1,2,3,6,7,8-HxCDF (pg/g)	<0.025 ^[U]			
	1,2,3,7,8,9-HxCDF (pg/g)	<0.037 ^[U]			
	2,3,4,6,7,8-HxCDF (pg/g)	<0.026 ^[U]			
	1,2,3,4,6,7,8-HpCDF (pg/g)	0.083 ^{M,J}			
	1,2,3,4,7,8,9-HpCDF (pg/g)	<0.029 ^[U]			
	OCDF (pg/g)	0.235 ^{M,J}			
	Total-TCDF (pg/g)	0.057			
	Total TCDF # Homologues	1			
	Total-PeCDF (pg/g)	<0.022 ^[U]			
	Total PeCDF # Homologues	0			
	Total-HxCDF (pg/g)	0.081			
	Total HxCDF # Homologues	2			
	Total-HpCDF (pg/g)	0.083			
	Total HpCDF # Homologues	1			
	Surrogate: 13C12-2,3,7,8-TCDD (%)	77.0			
	Surrogate: 13C12-1,2,3,7,8-PeCDD (%)	83.0			
	Surrogate: 13C12-1,2,3,4,7,8-HxCDD (%)	78.0			
	Surrogate: 13C12-1,2,3,6,7,8-HxCDD (%)	81.0			
	Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD (%)	83.0			
	Surrogate: 13C12-OCDD (%)	66.0			
	Surrogate: 13C12-2,3,7,8-TCDF (%)	86.0			
	Surrogate: 13C12-1,2,3,7,8-PeCDF (%)	80.0			
	Surrogate: 13C12-2,3,4,7,8-PeCDF (%)	82.0			
	Surrogate: 13C12-1,2,3,4,7,8-HxCDF (%)	71.0			
	Surrogate: 13C12-1,2,3,6,7,8-HxCDF (%)	77.0			
Surrogate: 13C12-2,3,4,6,7,8-HxCDF (%)	83.0				
Surrogate: 13C12-1,2,3,7,8,9-HxCDF (%)	78.0				
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF (%)	77.0				
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF (%)	79.0				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1891783-1	L1891783-3	L1891783-4	L1891783-6	L1891783-7
		Description	Soil	Soil	Soil	Soil	Soil
		Sampled Date	16-FEB-17	16-FEB-17	16-FEB-17	16-FEB-17	16-FEB-17
		Sampled Time					
		Client ID	02052-01	02052-03	02052-04	02052-06	02052-07
Grouping	Analyte						
SOIL							
Dioxins and Furans	Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup) (%)			74.0			96
Toxic Equivalency	Lower Bound PCDD/F TEQ (WHO 2005) (pg/g)			0.0106			0.0345
	Mid Point PCDD/F TEQ (WHO 2005) (pg/g)			0.109			1.55
	Upper Bound PCDD/F TEQ (WHO 2005) (pg/g)			0.179			2.97

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1891783-9	L1891783-10	L1891783-12	L1891783-13	L1891783-15
	Soil	16-FEB-17		02052-09	Soil	16-FEB-17	Soil	16-FEB-17	Soil
					02052-10		02052-12	02053-01	02053-03
Grouping	Analyte								
SOIL									
Dioxins and Furans	Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup) (%)					93.0		94.0	
Toxic Equivalency	Lower Bound PCDD/F TEQ (WHO 2005) (pg/g)					0.0583		0.0197	
	Mid Point PCDD/F TEQ (WHO 2005) (pg/g)					0.290		0.103	
	Upper Bound PCDD/F TEQ (WHO 2005) (pg/g)					0.302		0.138	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1891783-23 Soil 16-FEB-17 02053-11	L1891783-24 Soil 16-FEB-17 02053-12		
Grouping	Analyte				
SOIL					
Dioxins and Furans	Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup) (%)	79.0			
Toxic Equivalency	Lower Bound PCDD/F TEQ (WHO 2005) (pg/g)	0.0527			
	Mid Point PCDD/F TEQ (WHO 2005) (pg/g)	0.199			
	Upper Bound PCDD/F TEQ (WHO 2005) (pg/g)	0.210			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

Additional Comments for Sample Listed:

Samplenum	Matrix	Report Remarks	Sample Comment:
L1891783-7	Soil	Note: Sample outside method recovery criteria for labelled PeCDD/F. Sample non-detect for these targets. Results quantified using isotope dilution, no impact to data quality is expected.	

Qualifiers for Individual Samples Listed:

Sample Number	Client Sample ID	Qualifier	Description
L1891783-13	02053-01	PSAL	Limited sample was available for PSA (100g minimum is standard). Measurement Uncertainty for PSA results may be higher than usual.
L1891783-18	02053-06	PSAL	Limited sample was available for PSA (100g minimum is standard). Measurement Uncertainty for PSA results may be higher than usual.
L1891783-20	02053-08	PSAL	Limited sample was available for PSA (100g minimum is standard). Measurement Uncertainty for PSA results may be higher than usual.
L1891783-23	02053-11	PSAL	Limited sample was available for PSA (100g minimum is standard). Measurement Uncertainty for PSA results may be higher than usual.
L1891783-3	02052-03	PSAL	Limited sample was available for PSA (100g minimum is standard). Measurement Uncertainty for PSA results may be higher than usual.
L1891783-6	02052-06	PSAL	Limited sample was available for PSA (100g minimum is standard). Measurement Uncertainty for PSA results may be higher than usual.
L1891783-9	02052-09	PSAL	Limited sample was available for PSA (100g minimum is standard). Measurement Uncertainty for PSA results may be higher than usual.

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Method Blank	Total-PeCDD	A	L1891783-10, -13, -17, -20, -23, -3, -7
Comments:	The Method Blank contained positively detected 12378-PeCDD, but at levels within the method acceptance limits. Samples are qualified if the blank concentration is 10% or greater of the sample concentration.		
Duplicate	Cobalt (Co)	DUP-H	L1891783-1, -12, -13, -18, -20, -21, -23, -24, -3, -6, -9
Duplicate	Copper (Cu)	DUP-H	L1891783-1, -12, -13, -18, -20, -21, -23, -24, -3, -6, -9
Duplicate	Lead (Pb)	DUP-H	L1891783-1, -12, -13, -18, -20, -21, -23, -24, -3, -6, -9
Duplicate	Nickel (Ni)	DUP-H	L1891783-1, -12, -13, -18, -20, -21, -23, -24, -3, -6, -9
Duplicate	Tin (Sn)	DUP-H	L1891783-1, -12, -13, -18, -20, -21, -23, -24, -3, -6, -9
Duplicate	1,2,3,7,8-PeCDF	G	L1891783-10, -13, -17, -20, -23, -3, -7
Comments:	The sample has some non-positive detects that are not found in the duplicate.		
Duplicate	2,3,4,7,8-PeCDF	G	L1891783-10, -13, -17, -20, -23, -3, -7
Comments:	The sample has some non-positive detects that are not found in the duplicate.		
Method Blank	1,2,3,7,8-PeCDD	M,J	L1891783-10, -13, -17, -20, -23, -3, -7
Comments:	The Method Blank contained positively detected 12378-PeCDD, but at levels within the method acceptance limits. Samples are qualified if the blank concentration is 10% or greater of the sample concentration.		
Method Blank	OCDD	M,J	L1891783-10, -13, -17, -20, -23, -3, -7
Comments:	The Method Blank contained positively detected 12378-PeCDD, but at levels within the method acceptance limits. Samples are qualified if the blank concentration is 10% or greater of the sample concentration.		
Method Blank	1,2,3,4,6,7,8-HpCDF	M,J,R	L1891783-10, -13, -17, -20, -23, -3, -7
Comments:	The Method Blank contained positively detected 12378-PeCDD, but at levels within the method acceptance limits. Samples are qualified if the blank concentration is 10% or greater of the sample concentration.		
Method Blank	1,2,3,7,8,9-HxCDF	M,J,R	L1891783-10, -13, -17, -20, -23, -3, -7
Comments:	The Method Blank contained positively detected 12378-PeCDD, but at levels within the method acceptance limits. Samples are qualified if the blank concentration is 10% or greater of the sample concentration.		
Method Blank	1,2,3,7,8-PeCDF	M,J,R	L1891783-10, -13, -17, -20, -23, -3, -7
Comments:	The Method Blank contained positively detected 12378-PeCDD, but at levels within the method acceptance limits. Samples are qualified if the blank concentration is 10% or greater of the sample concentration.		
Method Blank	OCDF	M,J,R	L1891783-10, -13, -17, -20, -23, -3, -7
Comments:	The Method Blank contained positively detected 12378-PeCDD, but at levels within the method acceptance limits. Samples are qualified if the blank concentration is 10% or greater of the sample concentration.		
Method Blank	1,2,3,6,7,8-HxCDF	M,U	L1891783-10, -13, -17, -20, -23, -3, -7
Comments:	The Method Blank contained positively detected 12378-PeCDD, but at levels within the method acceptance limits. Samples are qualified if the blank concentration is 10% or greater of the sample concentration.		
Certified Reference Material	Pentachlorophenol	RM-H	L1891783-13, -16, -21, -23, -24, -3, -9
Certified Reference Material	2,4 & 2,5-Dichlorophenol	RM-H	L1891783-13, -16, -21, -23, -24, -3, -9
Method Blank	1,2,3,4,6,7,8-HpCDD	[U]	L1891783-10, -13, -17, -20, -23, -3, -7
Comments:	The Method Blank contained positively detected 12378-PeCDD, but at levels within the method acceptance limits. Samples are		

Reference Information

Parameter Qualifier Applies to Sample Number(s)

qualified if the blank concentration is 10% or greater of the sample concentration.

Comments:

Method Blank	1,2,3,4,7,8,9-HpCDF	[U]	L1891783-10, -13, -17, -20, -23, -3, -7
Comments:	The Method Blank contained positively detected 12378-PeCDD, but at levels within the method acceptance limits. Samples are qualified if the blank concentration is 10% or greater of the sample concentration.		
Method Blank	1,2,3,4,7,8-HxCDD	[U]	L1891783-10, -13, -17, -20, -23, -3, -7
Comments:	The Method Blank contained positively detected 12378-PeCDD, but at levels within the method acceptance limits. Samples are qualified if the blank concentration is 10% or greater of the sample concentration.		
Method Blank	1,2,3,4,7,8-HxCDF	[U]	L1891783-10, -13, -17, -20, -23, -3, -7
Comments:	The Method Blank contained positively detected 12378-PeCDD, but at levels within the method acceptance limits. Samples are qualified if the blank concentration is 10% or greater of the sample concentration.		
Method Blank	1,2,3,6,7,8-HxCDD	[U]	L1891783-10, -13, -17, -20, -23, -3, -7
Comments:	The Method Blank contained positively detected 12378-PeCDD, but at levels within the method acceptance limits. Samples are qualified if the blank concentration is 10% or greater of the sample concentration.		
Method Blank	1,2,3,7,8,9-HxCDD	[U]	L1891783-10, -13, -17, -20, -23, -3, -7
Comments:	The Method Blank contained positively detected 12378-PeCDD, but at levels within the method acceptance limits. Samples are qualified if the blank concentration is 10% or greater of the sample concentration.		
Method Blank	2,3,4,6,7,8-HxCDF	[U]	L1891783-10, -13, -17, -20, -23, -3, -7
Comments:	The Method Blank contained positively detected 12378-PeCDD, but at levels within the method acceptance limits. Samples are qualified if the blank concentration is 10% or greater of the sample concentration.		
Method Blank	2,3,4,7,8-PeCDF	[U]	L1891783-10, -13, -17, -20, -23, -3, -7
Comments:	The Method Blank contained positively detected 12378-PeCDD, but at levels within the method acceptance limits. Samples are qualified if the blank concentration is 10% or greater of the sample concentration.		
Method Blank	2,3,7,8-TCDD	[U]	L1891783-10, -13, -17, -20, -23, -3, -7
Comments:	The Method Blank contained positively detected 12378-PeCDD, but at levels within the method acceptance limits. Samples are qualified if the blank concentration is 10% or greater of the sample concentration.		
Method Blank	2,3,7,8-TCDF	[U]	L1891783-10, -13, -17, -20, -23, -3, -7
Comments:	The Method Blank contained positively detected 12378-PeCDD, but at levels within the method acceptance limits. Samples are qualified if the blank concentration is 10% or greater of the sample concentration.		
Method Blank	Total-HpCDD	[U]	L1891783-10, -13, -17, -20, -23, -3, -7
Comments:	The Method Blank contained positively detected 12378-PeCDD, but at levels within the method acceptance limits. Samples are qualified if the blank concentration is 10% or greater of the sample concentration.		
Method Blank	Total-HpCDF	[U]	L1891783-10, -13, -17, -20, -23, -3, -7
Comments:	The Method Blank contained positively detected 12378-PeCDD, but at levels within the method acceptance limits. Samples are qualified if the blank concentration is 10% or greater of the sample concentration.		
Method Blank	Total-HxCDD	[U]	L1891783-10, -13, -17, -20, -23, -3, -7
Comments:	The Method Blank contained positively detected 12378-PeCDD, but at levels within the method acceptance limits. Samples are qualified if the blank concentration is 10% or greater of the sample concentration.		
Method Blank	Total-HxCDF	[U]	L1891783-10, -13, -17, -20, -23, -3, -7
Comments:	The Method Blank contained positively detected 12378-PeCDD, but at levels within the method acceptance limits. Samples are qualified if the blank concentration is 10% or greater of the sample concentration.		
Method Blank	Total-PeCDF	[U]	L1891783-10, -13, -17, -20, -23, -3, -7
Comments:	The Method Blank contained positively detected 12378-PeCDD, but at levels within the method acceptance limits. Samples are qualified if the blank concentration is 10% or greater of the sample concentration.		
Method Blank	Total-TCDD	[U]	L1891783-10, -13, -17, -20, -23, -3, -7
Comments:	The Method Blank contained positively detected 12378-PeCDD, but at levels within the method acceptance limits. Samples are qualified if the blank concentration is 10% or greater of the sample concentration.		
Method Blank	Total-TCDF	[U]	L1891783-10, -13, -17, -20, -23, -3, -7
Comments:	The Method Blank contained positively detected 12378-PeCDD, but at levels within the method acceptance limits. Samples are qualified if the blank concentration is 10% or greater of the sample concentration.		

Qualifiers for Individual Parameters Listed:

Qualifier	Description
A	Method Blank exceeds ALS DQO. Refer to narrative comments for further information.
DLB	Detection Limit Raised. Analyte detected at comparable level in Method Blank.
DLCI	Detection Limit Raised: Chromatographic Interference due to co-elution.
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.
G	QC result did not meet ALS DQO. Refer to narrative comments for further information.
J,B	The analyte was detected below the calibrated range but above the EDL, and was detected in the Method Blank at >10% of the sample

Reference Information

	concentration.
J,R	The analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M,J	A peak has been manually integrated, and the analyte was detected below the calibrated range but above the EDL.
M,J,R	A peak has been manually integrated, the analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M,U	A peak has been manually integrated, and the analyte was not detected above the EDL.
RM-H	Reference Material recovery was above ALS DQO. Non-detected sample results are considered reliable. Other results, if reported, have been qualified.
[J]	The analyte was detected below the calibrated range but above the EDL.
[U]	The analyte was not detected above the EDL.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BR-LEACH-IC-VA	Soil	Bromide leach (1:10) by IC	APHA 4110 IC
		Leachable Anions in Sediment/Soil Method analysis is carried out using a leaching procedure which involves the gentle tumbling of the sample in a specified leaching solution (typically deionized water) for a specific length of time. The resulting extract is then analysed anions by ion chromatography with conductivity or UV detection. The method is applicable to the following anions: fluoride, chloride, phosphate, bromide, nitrate, sulphate.	
C-TIC-PCT-SK	Soil	Total Inorganic Carbon in Soil	CSSS (2008) P216-217
		A known quantity of acetic acid is consumed by reaction with carbonates in the soil. The pH of the resulting solution is measured and compared against a standard curve relating pH to weight of carbonate.	
C-TOC-CALC-SK	Soil	Total Organic Carbon Calculation	CSSS (2008) 21.2
		Total Organic Carbon (TOC) is calculated by the difference between total carbon (TC) and total inorganic carbon. (TIC)	
C-TOT-LECO-SK	Soil	Total Carbon by combustion method	CSSS (2008) 21.2
		The sample is ignited in a combustion analyzer where carbon in the reduced CO ₂ gas is determined using a thermal conductivity detector.	
CL-LEACH-IC-VA	Soil	Chloride leach (1:10) by IC	APHA 4110 IC
		Leachable Anions in Sediment/Soil Method analysis is carried out using a leaching procedure which involves the gentle tumbling of the sample in a specified leaching solution (typically deionized water) for a specific length of time. The resulting extract is then analysed anions by ion chromatography with conductivity or UV detection. The method is applicable to the following anions: fluoride, chloride, phosphate, bromide, nitrate, sulphate.	
CL-PASTE-IC-VA	Soil	Chloride in Soil (Paste) by IC	Carter-CSSS / EPA 300.1 (modified)
		A soil extract produced by the saturated paste extraction procedure is analyzed for chloride by Ion Chromatography with conductivity detection.	
CLPHEN-TMB-MS-VA	Soil	Chlorinated Phenols by Tumbler/GCMS	EPA 3570, 8270D, Knapp(1979)
		A subsample of the soil/sediment is rotary extracted by solvent, derivitized, and analysed by GC/MS.	
DX-1613B-HRMS-BU	Soil	Dioxins and Furans HR 1613B	USEPA 1613B
		Samples are extracted by Soxhlet. The extracts are prepared using column chromatography, reduced in volume and analyzed by isotope-dilution GC/HRMS	
EPH-TUMB-FID-VA	Soil	EPH in Solids by Tumbler and GCFID	BC MOE EPH GCFID
		Analysis is in accordance with BC MOE Lab Manual method "Extractable Petroleum Hydrocarbons in Solids by GC/FID", v2.1, July 1999. Soil samples are extracted with a 1:1 mixture of hexane and acetone using a rotary extraction technique modified from EPA 3570 prior to gas chromatography with flame ionization detection (GC-FID). EPH results include Polycyclic Aromatic Hydrocarbons (PAH) and are therefore not equivalent to Light and Heavy Extractable Petroleum Hydrocarbons (LEPH/HEPH).	
F-1:5-DI-SIE-VA	Soil	Fluoride leach (1:5) by SIE	BCMOE/APHA Method 4500-F Fluoride
		This analysis is carried out using procedures from the Method: "Fluoride in Soils by 5:1 Aqueous Extraction", BC Ministry of Environment, 22 January 2008, and procedures adapted from APHA Method 4500-F "Fluoride". The procedure involves mixing the dried (at <60 C) and sieved (2mm) sample with deionized/distilled water at a 1:5 ratio of soil to water. Fluoride is determined using a selective ion electrode	
HG-200.2-CVAF-VA	Soil	Mercury in Soil by CVAFS	EPA 200.2/1631E (mod)
		Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CVAFS.	

Reference Information

IC-CACO3-CALC-SK	Soil	Inorganic Carbon as CaCO ₃ Equivalent	Calculation
LEPH/HEPH-CALC-VA	Soil	LEPHs and HEPHs	BC MOE LABORATORY MANUAL (2005)
<p>Light and Heavy Extractable Petroleum Hydrocarbons in Solids. These results are determined according to the British Columbia Ministry of Environment, Lands, and Parks Analytical Method for Contaminated Sites "Calculation of Light and Heavy Extractable Petroleum Hydrocarbons in Solids or Water". According to this method, LEPH and HEPH are calculated by subtracting selected Polycyclic Aromatic Hydrocarbon results from Extractable Petroleum Hydrocarbon results. To calculate LEPH, the individual results for Naphthalene and Phenanthrene are subtracted from EPH(C10-19). To calculate HEPH, the individual results for Benz(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Dibenz(a,h)anthracene, Indeno(1,2,3-c,d)pyrene, and Pyrene are subtracted from EPH(C19-32). Analysis of Extractable Petroleum Hydrocarbons adheres to all prescribed elements of the BCMELP method "Extractable Petroleum Hydrocarbons in Solids by GC/FID" (Version 2.1, July 20, 1999).</p>			
MET-200.2-CCMS-VA	Soil	Metals in Soil by CRC ICPMS	EPA 200.2/6020A (mod)
<p>Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CRC ICPMS.</p>			
<p>Method Limitation: This method is not a total digestion technique. It is a very strong acid digestion that is intended to dissolve those metals that may be environmentally available. This method does not dissolve all silicate materials and may result in a partial extraction. depending on the sample matrix, for some metals, including, but not limited to Al, Ba, Be, Cr, Sr, Ti, Tl, and V.</p>			
MET-PASTE-ICP-VA	Soil	Metals in Soil (Paste) by ICPOES	Carter-CSSS / EPA 6010B (modified)
<p>A soil extract produced by the saturated paste extraction procedure is analyzed for Sodium, Calcium, and Magnesium by ICPOES as per "Soil Sampling and Methods of Analysis" by M. Carter.</p>			
MOISTURE-BU	Soil	% Moisture	ASTM METHOD D2974-00
MOISTURE-VA	Soil	Moisture content	CWS for PHC in Soil - Tier 1
<p>This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of six hours.</p>			
NO2-LEACH-IC-VA	Soil	Nitrite leach (1:10) by IC	APHA 4110 IC
<p>Leachable Anions in Sediment/Soil Method analysis is carried out using a leaching procedure which involves the gentle tumbling of the sample in a specified leaching solution (typically deionized water) for a specific length of time. The resulting extract is then analysed anions by ion chromatography with conductivity or UV detection. The method is applicable to the following anions: fluoride, chloride, phosphate, bromide, nitrate, sulphate.</p>			
NO3-LEACH-IC-VA	Soil	Nitrate leach (1:10) by IC	APHA 4110 IC
<p>Leachable Anions in Sediment/Soil Method analysis is carried out using a leaching procedure which involves the gentle tumbling of the sample in a specified leaching solution (typically deionized water) for a specific length of time. The resulting extract is then analysed anions by ion chromatography with conductivity or UV detection. The method is applicable to the following anions: fluoride, chloride, phosphate, bromide, nitrate, sulphate.</p>			
PAH-TMB-H/A-MS-VA	Soil	PAH - Rotary Extraction (Hexane/Acetone)	EPA 3570/8270
<p>This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Methods 3570 & 8270, published by the United States Environmental Protection Agency (EPA). The procedure uses a mechanical shaking technique to extract a subsample of the sediment/soil with a 1:1 mixture of hexane and acetone. The extract is then solvent exchanged to toluene. The final extract is analysed by capillary column gas chromatography with mass spectrometric detection (GC/MS). Surrogate recoveries may not be reported in cases where interferences from the sample matrix prevent accurate quantitation. Because the two isomers cannot be readily chromatographically separated, benzo(j)fluoranthene is reported as part of the benzo(b)fluoranthene parameter.</p>			
PCB-CSR-SUM-CALC-VA	Soil	Total PCB (BC CSR) in soil	BC Contaminated Sites Regulation
<p>Calculation of Total PCB to meet BC Contaminated Sites Regulation. Total PCB (BC CSR) is the sum of the concentrations of PCB aroclors 1242, 1248, 1254 and 1260. Results below detection limit (DL) are treated as zero. The Total PCB detection limit is equal to the highest of the aroclor detection limits used in the sum.</p>			
PCB-SE-ECD-VA	Soil	PCB by Extraction with GCECD	EPA8082, 3630
<p>This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Methods 3500, 3620, 3630, 3660, 3665 & 8082, published by the United States Environmental Protection Agency (EPA). The procedure involves a solid-liquid extraction of a subsample of the sediment/soil using a mixture of hexane and acetone. Water is added to the extract and the resulting hexane extract undergoes one or more of the following clean-up procedures (if required): florisil clean-up, silica gel clean-up, sulphur clean-up and/or sulphuric acid clean-up. The final extract is analysed by capillary column gas chromatography with electron capture detection (GC/ECD).</p>			
PCB-SUM-CALC-VA	Soil	Total PCBs in soil	CALCULATION
<p>Calculation of Total PCB. Total PCB is the sum of the concentrations of PCB aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260, 1262, and 1268. Results below detection limit (DL) are treated as zero. The Total PCB detection limit is equal to the highest of the aroclor detection limits used in the sum.</p>			
PH-1:2-VA	Soil	pH in Soil (1:2 Soil:Water Extraction)	BC WLAP METHOD: PH, ELECTROMETRIC, SOIL
<p>This analysis is carried out in accordance with procedures described in the pH, Electrometric in Soil and Sediment method - Section B Physical/Inorganic and Misc. Constituents, BC Environmental Laboratory Manual 2007. The procedure involves mixing the dried (at <60 C) and sieved (No. 10 / 2mm) sample with deionized/distilled water at a 1:2 ratio of sediment to water. The pH of the solution is then measured using a standard pH probe.</p>			
PHEN-TMB-MS-VA	Soil	Phenolics by Tumbler/GC-MS	EPA 3570, 8270D, Knapp(1979)

Reference Information

A subsample of the soil/sediment is rotary extracted by solvent, derivitized, and analysed by GC/MS.

PSA-PIPET+GRAVEL-SK Soil Particle size - Sieve and Pipette SSIR-51 METHOD 3.2.1

Particle size distribution is determined by a combination of techniques. Dry sieving is performed for coarse particles, wet sieving for sand particles and the pipette sedimentation method for clay particles.

Reference:

Burt, R. (2009). Soil Survey Field and Laboratory Methods Manual. Soil Survey Investigations Report No. 5. Method 3.2.1.2.2. United States Department of Agriculture Natural Resources Conservation Service.

SAT-PCNT-VA Soil Saturation Percentage Carter-CSSS

Saturation Percentage (SP) is the total volume of water present in a saturated paste (in mL) divided by the dry weight of the sample (in grams), expressed as a percentage, as described in "Soil Sampling and Methods of Analysis" by M. Carter.

SO4-LEACH-IC-VA Soil Sulfate leach (1:10) by IC EPA 300.1 (mod)

Leachable Anions in Sediment/Soil Method analysis is carried out using a leaching procedure which involves the gentle tumbling of the sample in a specified leaching solution (typically deionized water) for a specific length of time. The resulting extract is then analysed anions by ion chromatography with conductivity or UV detection. The method is applicable to the following anions: fluoride, chloride, phosphate, bromide, nitrate, sulfate.

** ALS test methods may incorporate modifications from specified 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
SK	ALS ENVIRONMENTAL - SASKATOON, SASKATCHEWAN, CANADA
BU	ALS ENVIRONMENTAL - BURLINGTON, ONTARIO, CANADA
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

02052 02053

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

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 of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

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.



Quality Control Report

Workorder: L1891783

Report Date: 16-MAR-17

Page 1 of 19

Client: GOLDER ASSOCIATES LTD.
200-2920 Virtual Way
Vancouver BC V5M 0C4

Contact: Jim Laidlaw

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BR-LEACH-IC-VA								
	Soil							
Batch	R3662334							
WG2485090-4	DUP	L1891783-4						
Bromide (Br)		<0.50	<0.50	RPD-NA	mg/kg	N/A	30	25-FEB-17
WG2485090-2	LCS		95.2		%		70-130	25-FEB-17
Bromide (Br)								
WG2485090-1	MB		<0.50		mg/kg		0.5	25-FEB-17
Bromide (Br)								
CL-LEACH-IC-VA								
	Soil							
Batch	R3662334							
WG2485090-4	DUP	L1891783-4						
Chloride (Cl)		<5.0	<5.0	RPD-NA	mg/kg	N/A	30	25-FEB-17
WG2485090-2	LCS		98.4		%		70-130	25-FEB-17
Chloride (Cl)								
WG2485090-1	MB		<5.0		mg/kg		5	25-FEB-17
Chloride (Cl)								
CL-PASTE-IC-VA								
	Soil							
Batch	R3663384							
WG2484332-2	LCS		90.1		%		70-130	27-FEB-17
Chloride (Cl)								
WG2484332-5	MB		<1.0		mg/kg		1	27-FEB-17
Chloride (Cl)								
CLPHEN-TMB-MS-VA								
	Soil							
Batch	R3664527							
WG2484117-3	CRM	CRM 143						
2,4,5-Trichlorophenol			122.1		%		60-130	28-FEB-17
2,4,6-Trichlorophenol			125.5		%		60-130	28-FEB-17
Pentachlorophenol			136.9	RM-H	%		60-130	28-FEB-17
WG2484117-4	DUP	L1891783-9						
2,3,4,5-Tetrachlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	28-FEB-17
2,3,4,6-Tetrachlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	28-FEB-17
2,3,4-Trichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	28-FEB-17
2,3,5,6-Tetrachlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	28-FEB-17
2,3,5-Trichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	28-FEB-17
2,3,6-Trichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	28-FEB-17
2,4,5-Trichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	28-FEB-17
2,4,6-Trichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	28-FEB-17
3,4,5-Trichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	28-FEB-17
Pentachlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	28-FEB-17



Quality Control Report

Workorder: L1891783

Report Date: 16-MAR-17

Page 2 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CLPHEN-TMB-MS-VA								
	Soil							
Batch	R3664527							
WG2484117-2	LCS							
2,3,4,5-Tetrachlorophenol			91.9		%		60-130	28-FEB-17
2,3,4,6-Tetrachlorophenol			99.1		%		60-130	28-FEB-17
2,3,4-Trichlorophenol			92.8		%		60-130	28-FEB-17
2,3,5,6-Tetrachlorophenol			87.9		%		60-130	28-FEB-17
2,3,5-Trichlorophenol			94.3		%		60-130	28-FEB-17
2,3,6-Trichlorophenol			92.9		%		60-130	28-FEB-17
2,4,5-Trichlorophenol			93.8		%		60-130	28-FEB-17
2,4,6-Trichlorophenol			92.9		%		60-130	28-FEB-17
3,4,5-Trichlorophenol			93.1		%		60-130	28-FEB-17
Pentachlorophenol			92.3		%		60-130	28-FEB-17
WG2484117-1	MB							
2,3,4,5-Tetrachlorophenol			<0.020		mg/kg		0.02	28-FEB-17
2,3,4,6-Tetrachlorophenol			<0.020		mg/kg		0.02	28-FEB-17
2,3,4-Trichlorophenol			<0.020		mg/kg		0.02	28-FEB-17
2,3,5,6-Tetrachlorophenol			<0.020		mg/kg		0.02	28-FEB-17
2,3,5-Trichlorophenol			<0.020		mg/kg		0.02	28-FEB-17
2,3,6-Trichlorophenol			<0.020		mg/kg		0.02	28-FEB-17
2,4,5-Trichlorophenol			<0.020		mg/kg		0.02	28-FEB-17
2,4,6-Trichlorophenol			<0.020		mg/kg		0.02	28-FEB-17
3,4,5-Trichlorophenol			<0.020		mg/kg		0.02	28-FEB-17
Pentachlorophenol			<0.020		mg/kg		0.02	28-FEB-17
DX-1613B-HRMS-BU								
	Soil							
Batch	R3674460							
WG2486014-4	DUP	L1891783-3						
2,3,7,8-TCDD		<0.063	<0.050	RPD-NA	pg/g	N/A	50	12-MAR-17
1,2,3,7,8-PeCDD		<0.048	<0.068	RPD-NA	pg/g	N/A	50	12-MAR-17
1,2,3,4,7,8-HxCDD		<0.072	<0.051	RPD-NA	pg/g	N/A	50	12-MAR-17
1,2,3,6,7,8-HxCDD		<0.070	<0.050	RPD-NA	pg/g	N/A	50	12-MAR-17
1,2,3,7,8,9-HxCDD		0.098	<0.052	RPD-NA	pg/g	N/A	50	12-MAR-17
1,2,3,4,6,7,8-HpCDD		0.360	0.380		pg/g	5.4	50	12-MAR-17
OCDD		2.20	2.49		pg/g	12	50	12-MAR-17
2,3,7,8-TCDF		<0.028	<0.037	RPD-NA	pg/g	N/A	50	12-MAR-17
1,2,3,7,8-PeCDF		0.042	<0.019	G	pg/g	N/A	50	12-MAR-17
2,3,4,7,8-PeCDF		0.047	<0.017	G	pg/g	N/A	50	12-MAR-17



Quality Control Report

Workorder: L1891783

Report Date: 16-MAR-17

Page 3 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU								
Soil								
Batch	R3674460							
WG2486014-4	DUP	L1891783-3						
1,2,3,4,7,8-HxCDF		0.055	<0.031	RPD-NA	pg/g	N/A	50	12-MAR-17
1,2,3,6,7,8-HxCDF		<0.042	<0.031	RPD-NA	pg/g	N/A	50	12-MAR-17
2,3,4,6,7,8-HxCDF		<0.041	<0.031	RPD-NA	pg/g	N/A	50	12-MAR-17
1,2,3,7,8,9-HxCDF		<0.060	<0.044	RPD-NA	pg/g	N/A	50	12-MAR-17
1,2,3,4,6,7,8-HpCDF		0.081	0.110		pg/g	30	50	12-MAR-17
1,2,3,4,7,8,9-HpCDF		<0.038	<0.074	RPD-NA	pg/g	N/A	50	12-MAR-17
OCDF		0.42	0.27		pg/g	44	50	12-MAR-17
Total-TCDD		0.289	0.390		pg/g	30	50	12-MAR-17
Total-PeCDD		<0.048	<0.068	RPD-NA	pg/g	N/A	50	12-MAR-17
Total-HxCDD		0.098	0.222	J	pg/g	0.124	0.148	12-MAR-17
Total-HpCDD		<0.084	<0.051	RPD-NA	pg/g	N/A	50	12-MAR-17
Total-TCDF		<0.028	<0.037	RPD-NA	pg/g	N/A	50	12-MAR-17
Total-PeCDF		<0.020	<0.019	RPD-NA	pg/g	N/A	50	12-MAR-17
Total-HxCDF		<0.060	<0.044	RPD-NA	pg/g	N/A	50	12-MAR-17
Total-HpCDF		0.050	0.107	RPD-NA	pg/g	N/A	50	12-MAR-17

COMMENTS: The sample has some non-positive detects that are not found in the duplicate.

WG2486014-2	LCS							
2,3,7,8-TCDD			106.0		%		67-158	11-MAR-17
1,2,3,7,8-PeCDD			110.0		%		70-142	11-MAR-17
1,2,3,4,7,8-HxCDD			93.0		%		70-164	11-MAR-17
1,2,3,6,7,8-HxCDD			96.0		%		76-134	11-MAR-17
1,2,3,7,8,9-HxCDD			108.0		%		64-162	11-MAR-17
1,2,3,4,6,7,8-HpCDD			99.0		%		70-140	11-MAR-17
OCDD			98.0		%		78-144	11-MAR-17
2,3,7,8-TCDF			99.0		%		75-158	11-MAR-17
1,2,3,7,8-PeCDF			96.0		%		80-134	11-MAR-17
2,3,4,7,8-PeCDF			91.0		%		68-160	11-MAR-17
1,2,3,4,7,8-HxCDF			99.0		%		72-134	11-MAR-17
1,2,3,6,7,8-HxCDF			104.0		%		84-130	11-MAR-17
2,3,4,6,7,8-HxCDF			95.0		%		78-130	11-MAR-17
1,2,3,7,8,9-HxCDF			101.0		%		70-156	11-MAR-17
1,2,3,4,6,7,8-HpCDF			102.0		%		82-122	11-MAR-17
1,2,3,4,7,8,9-HpCDF			98.0		%		78-138	11-MAR-17
OCDF			94.0		%		63-170	11-MAR-17

WG2486014-1



Quality Control Report

Workorder: L1891783

Report Date: 16-MAR-17

Page 4 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU	Soil							
Batch	R3674460							
WG2486014-1 MB								
2,3,7,8-TCDD			<0.024	[U]	pg/g		0.024	12-MAR-17
1,2,3,7,8-PeCDD			0.057	M,J	pg/g		0.056	12-MAR-17
1,2,3,4,7,8-HxCDD			<0.033	[U]	pg/g		0.033	12-MAR-17
1,2,3,6,7,8-HxCDD			<0.033	[U]	pg/g		0.033	12-MAR-17
1,2,3,7,8,9-HxCDD			<0.034	[U]	pg/g		0.034	12-MAR-17
1,2,3,4,6,7,8-HpCDD			<0.033	[U]	pg/g		0.033	12-MAR-17
OCDD			0.303	M,J	pg/g		0.064	12-MAR-17
2,3,7,8-TCDF			<0.011	[U]	pg/g		0.011	12-MAR-17
1,2,3,7,8-PeCDF			0.037	M,J,R	pg/g		0.027	12-MAR-17
2,3,4,7,8-PeCDF			<0.024	[U]	pg/g		0.024	12-MAR-17
1,2,3,4,7,8-HxCDF			<0.033	[U]	pg/g		0.033	12-MAR-17
1,2,3,6,7,8-HxCDF			<0.034	M,U	pg/g		0.034	12-MAR-17
2,3,4,6,7,8-HxCDF			<0.033	[U]	pg/g		0.033	12-MAR-17
1,2,3,7,8,9-HxCDF			0.069	M,J,R	pg/g		0.049	12-MAR-17
1,2,3,4,6,7,8-HpCDF			0.065	M,J,R	pg/g		0.031	12-MAR-17
1,2,3,4,7,8,9-HpCDF			<0.050	[U]	pg/g		0.05	12-MAR-17
OCDF			0.064	M,J,R	pg/g		0.058	12-MAR-17
Total-TCDD			<0.024	[U]	pg/g		0.024	12-MAR-17
Total-PeCDD			0.057	A	pg/g		0.056	12-MAR-17
Total-HxCDD			<0.034	[U]	pg/g		0.034	12-MAR-17
Total-HpCDD			<0.033	[U]	pg/g		0.033	12-MAR-17
Total-TCDF			<0.011	[U]	pg/g		0.011	12-MAR-17
Total-PeCDF			<0.027	[U]	pg/g		0.027	12-MAR-17
Total-HxCDF			<0.049	[U]	pg/g		0.049	12-MAR-17
Total-HpCDF			<0.050	[U]	pg/g		0.05	12-MAR-17
Surrogate: 13C12-2,3,7,8-TCDD			71.0		%		25-164	12-MAR-17
Surrogate: 13C12-1,2,3,7,8-PeCDD			74.0		%		25-181	12-MAR-17
Surrogate: 13C12-1,2,3,4,7,8-HxCDD			79.0		%		32-141	12-MAR-17
Surrogate: 13C12-1,2,3,6,7,8-HxCDD			74.0		%		28-130	12-MAR-17
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD			77.0		%		23-140	12-MAR-17
Surrogate: 13C12-OCDD			57.0		%		17-157	12-MAR-17
Surrogate: 13C12-2,3,7,8-TCDF			77.0		%		24-169	12-MAR-17
Surrogate: 13C12-1,2,3,7,8-PeCDF			74.0		%		24-185	12-MAR-17
Surrogate: 13C12-2,3,4,7,8-PeCDF			74.0		%		21-178	12-MAR-17



Quality Control Report

Workorder: L1891783

Report Date: 16-MAR-17

Page 5 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU		Soil						
Batch R3674460								
WG2486014-1 MB								
Surrogate: 13C12-1,2,3,4,7,8-HxCDF			69.0		%		26-152	12-MAR-17
Surrogate: 13C12-1,2,3,6,7,8-HxCDF			72.0		%		26-123	12-MAR-17
Surrogate: 13C12-2,3,4,6,7,8-HxCDF			77.0		%		29-147	12-MAR-17
Surrogate: 13C12-1,2,3,7,8,9-HxCDF			68.0		%		28-136	12-MAR-17
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF			68.0		%		28-143	12-MAR-17
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF			66.0		%		26-138	12-MAR-17
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)			74.0		%		35-197	12-MAR-17
COMMENTS: The Method Blank contained positively detected 12378-PeCDD, but at levels within the method acceptance limits. Samples are qualified if the blank concentration is 10% or greater of the sample concentration.								
EPH-TUMB-FID-VA		Soil						
Batch R3661918								
WG2484548-4 DUP		L1891783-1						
EPH10-19		<200	<200	RPD-NA	mg/kg	N/A	40	26-FEB-17
EPH19-32		<200	<200	RPD-NA	mg/kg	N/A	40	26-FEB-17
WG2484548-3 IRM		ALS PHC2 RM						
EPH10-19			86.3		%		70-130	26-FEB-17
EPH19-32			91.9		%		70-130	26-FEB-17
WG2484548-1 MB								
EPH10-19			<200		mg/kg		200	26-FEB-17
EPH19-32			<200		mg/kg		200	26-FEB-17
Batch R3663333								
WG2485382-4 DUP		L1891783-1						
EPH10-19		<200	<200	RPD-NA	mg/kg	N/A	40	28-FEB-17
EPH19-32		<200	<200	RPD-NA	mg/kg	N/A	40	28-FEB-17
WG2485382-3 IRM		ALS PHC2 RM						
EPH10-19			80.9		%		70-130	28-FEB-17
EPH19-32			88.8		%		70-130	28-FEB-17
WG2485382-1 MB								
EPH10-19			<200		mg/kg		200	28-FEB-17
EPH19-32			<200		mg/kg		200	28-FEB-17
F-1:5-DI-SIE-VA		Soil						
Batch R3662206								
WG2484257-4 DUP		L1891783-4						
Fluoride (F)		0.39	0.38		mg/kg	2.3	30	27-FEB-17
WG2484257-1 MB								
Fluoride (F)			<0.20		mg/kg		0.2	27-FEB-17



Quality Control Report

Workorder: L1891783

Report Date: 16-MAR-17

Page 6 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F-1:5-DI-SIE-VA								
Soil								
Batch R3662206								
WG2484257-5	MS	L1891783-10						
Fluoride (F)			98.4		%		60-140	27-FEB-17
HG-200.2-CVAF-VA								
Soil								
Batch R3661916								
WG2484541-4	CRM	VA-NRC-STSD-3						
Mercury (Hg)			86.7		%		70-130	26-FEB-17
WG2484541-3	LCS							
Mercury (Hg)			104.5		%		70-130	26-FEB-17
WG2484541-1	MB							
Mercury (Hg)			<0.0050		mg/kg		0.005	26-FEB-17
Batch R3662291								
WG2485161-4	CRM	VA-NRC-STSD-3						
Mercury (Hg)			82.0		%		70-130	27-FEB-17
WG2485161-2	DUP	L1891783-16						
Mercury (Hg)		<0.050	<0.050	RPD-NA	mg/kg	N/A	40	27-FEB-17
WG2485161-3	LCS							
Mercury (Hg)			94.7		%		70-130	27-FEB-17
WG2485161-1	MB							
Mercury (Hg)			<0.0050		mg/kg		0.005	27-FEB-17
MET-200.2-CCMS-VA								
Soil								
Batch R3662126								
WG2484541-4	CRM	VA-NRC-STSD-3						
Antimony (Sb)			99.9		%		70-130	26-FEB-17
Arsenic (As)			87.9		%		70-130	26-FEB-17
Barium (Ba)			93.8		%		70-130	26-FEB-17
Beryllium (Be)			107.5		%		70-130	26-FEB-17
Cadmium (Cd)			109.5		%		70-130	26-FEB-17
Chromium (Cr)			99.1		%		70-130	26-FEB-17
Cobalt (Co)			96.9		%		70-130	26-FEB-17
Copper (Cu)			92.0		%		70-130	26-FEB-17
Lead (Pb)			102.4		%		70-130	26-FEB-17
Molybdenum (Mo)			101.6		%		70-130	26-FEB-17
Nickel (Ni)			90.1		%		70-130	26-FEB-17
Selenium (Se)			105.1		%		70-130	26-FEB-17
Silver (Ag)			99.2		%		70-130	26-FEB-17
Thallium (Tl)			108.0		%		70-130	26-FEB-17



Quality Control Report

Workorder: L1891783

Report Date: 16-MAR-17

Page 7 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA		Soil						
Batch	R3662126							
WG2484541-4	CRM	VA-NRC-STSD-3						
Uranium (U)			104.1		%		70-130	26-FEB-17
Vanadium (V)			103.2		%		70-130	26-FEB-17
Zinc (Zn)			93.3		%		70-130	26-FEB-17
WG2484541-3	LCS							
Antimony (Sb)			101.0		%		80-120	26-FEB-17
Arsenic (As)			99.8		%		80-120	26-FEB-17
Barium (Ba)			99.4		%		80-120	26-FEB-17
Beryllium (Be)			98.5		%		80-120	26-FEB-17
Cadmium (Cd)			98.1		%		80-120	26-FEB-17
Chromium (Cr)			95.7		%		80-120	26-FEB-17
Cobalt (Co)			97.5		%		80-120	26-FEB-17
Copper (Cu)			95.5		%		80-120	26-FEB-17
Lead (Pb)			101.1		%		80-120	26-FEB-17
Molybdenum (Mo)			100.7		%		80-120	26-FEB-17
Nickel (Ni)			94.4		%		80-120	26-FEB-17
Selenium (Se)			101.2		%		80-120	26-FEB-17
Silver (Ag)			99.9		%		80-120	26-FEB-17
Thallium (Tl)			99.3		%		80-120	26-FEB-17
Tin (Sn)			98.8		%		80-120	26-FEB-17
Uranium (U)			104.7		%		80-120	26-FEB-17
Vanadium (V)			98.9		%		80-120	26-FEB-17
Zinc (Zn)			95.4		%		80-120	26-FEB-17
WG2484541-1	MB							
Antimony (Sb)			<0.10		mg/kg		0.1	26-FEB-17
Arsenic (As)			<0.10		mg/kg		0.1	26-FEB-17
Barium (Ba)			<0.50		mg/kg		0.5	26-FEB-17
Beryllium (Be)			<0.10		mg/kg		0.1	26-FEB-17
Cadmium (Cd)			<0.020		mg/kg		0.02	26-FEB-17
Chromium (Cr)			<0.50		mg/kg		0.5	26-FEB-17
Cobalt (Co)			<0.10		mg/kg		0.1	26-FEB-17
Copper (Cu)			<0.50		mg/kg		0.5	26-FEB-17
Lead (Pb)			<0.50		mg/kg		0.5	26-FEB-17
Molybdenum (Mo)			<0.10		mg/kg		0.1	26-FEB-17
Nickel (Ni)			<0.50		mg/kg		0.5	26-FEB-17
Selenium (Se)			<0.20		mg/kg		0.2	26-FEB-17



Quality Control Report

Workorder: L1891783

Report Date: 16-MAR-17

Page 8 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA		Soil						
Batch	R3662126							
WG2484541-1	MB							
Silver (Ag)			<0.10		mg/kg		0.1	26-FEB-17
Thallium (Tl)			<0.050		mg/kg		0.05	26-FEB-17
Tin (Sn)			<2.0		mg/kg		2	26-FEB-17
Uranium (U)			<0.050		mg/kg		0.05	26-FEB-17
Vanadium (V)			<0.20		mg/kg		0.2	26-FEB-17
Zinc (Zn)			<2.0		mg/kg		2	26-FEB-17
Batch	R3662465							
WG2485161-4	CRM	VA-NRC-STSD-3						
Antimony (Sb)			101.7		%		70-130	27-FEB-17
Arsenic (As)			87.1		%		70-130	27-FEB-17
Barium (Ba)			94.1		%		70-130	27-FEB-17
Beryllium (Be)			104.5		%		70-130	27-FEB-17
Cadmium (Cd)			112.2		%		70-130	27-FEB-17
Chromium (Cr)			99.9		%		70-130	27-FEB-17
Cobalt (Co)			96.3		%		70-130	27-FEB-17
Copper (Cu)			89.6		%		70-130	27-FEB-17
Lead (Pb)			100.5		%		70-130	27-FEB-17
Molybdenum (Mo)			102.2		%		70-130	27-FEB-17
Nickel (Ni)			90.9		%		70-130	27-FEB-17
Selenium (Se)			103.9		%		70-130	27-FEB-17
Silver (Ag)			101.1		%		70-130	27-FEB-17
Thallium (Tl)			105.1		%		70-130	27-FEB-17
Uranium (U)			100.9		%		70-130	27-FEB-17
Vanadium (V)			101.1		%		70-130	27-FEB-17
Zinc (Zn)			90.9		%		70-130	27-FEB-17
WG2485161-2	DUP	L1891783-16						
Antimony (Sb)			0.24	0.24	mg/kg	1.1	30	27-FEB-17
Arsenic (As)			2.06	2.03	mg/kg	1.4	30	27-FEB-17
Barium (Ba)			60.0	63.9	mg/kg	6.3	40	27-FEB-17
Beryllium (Be)			0.21	0.21	mg/kg	1.4	30	27-FEB-17
Cadmium (Cd)			0.160	0.168	mg/kg	4.7	30	27-FEB-17
Chromium (Cr)			31.2	31.0	mg/kg	0.6	30	27-FEB-17
Cobalt (Co)			7.96	7.97	mg/kg	0.1	30	27-FEB-17
Copper (Cu)			14.7	15.8	mg/kg	7.4	30	27-FEB-17
Lead (Pb)			2.42	2.52	mg/kg	4.0	40	27-FEB-17



Quality Control Report

Workorder: L1891783

Report Date: 16-MAR-17

Page 9 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA								
	Soil							
Batch	R3662465							
WG2485161-2	DUP	L1891783-16						
Molybdenum (Mo)		0.23	0.26		mg/kg	9.9	40	27-FEB-17
Nickel (Ni)		34.2	32.8		mg/kg	4.1	30	27-FEB-17
Selenium (Se)		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	27-FEB-17
Silver (Ag)		<0.10	<0.10	RPD-NA	mg/kg	N/A	40	27-FEB-17
Thallium (Tl)		0.054	<0.050	RPD-NA	mg/kg	N/A	30	27-FEB-17
Tin (Sn)		<2.0	<2.0	RPD-NA	mg/kg	N/A	40	27-FEB-17
Uranium (U)		0.283	0.278		mg/kg	1.9	30	27-FEB-17
Vanadium (V)		45.5	46.3		mg/kg	1.9	30	27-FEB-17
Zinc (Zn)		37.9	38.8		mg/kg	2.3	30	27-FEB-17
WG2485161-3	LCS							
Antimony (Sb)			102.9		%		80-120	27-FEB-17
Arsenic (As)			96.7		%		80-120	27-FEB-17
Barium (Ba)			101.7		%		80-120	27-FEB-17
Beryllium (Be)			103.1		%		80-120	27-FEB-17
Cadmium (Cd)			99.0		%		80-120	27-FEB-17
Chromium (Cr)			94.9		%		80-120	27-FEB-17
Cobalt (Co)			95.8		%		80-120	27-FEB-17
Copper (Cu)			93.0		%		80-120	27-FEB-17
Lead (Pb)			100.5		%		80-120	27-FEB-17
Molybdenum (Mo)			102.6		%		80-120	27-FEB-17
Nickel (Ni)			95.6		%		80-120	27-FEB-17
Selenium (Se)			102.6		%		80-120	27-FEB-17
Silver (Ag)			101.5		%		80-120	27-FEB-17
Thallium (Tl)			97.3		%		80-120	27-FEB-17
Tin (Sn)			100.7		%		80-120	27-FEB-17
Uranium (U)			101.9		%		80-120	27-FEB-17
Vanadium (V)			97.2		%		80-120	27-FEB-17
Zinc (Zn)			91.3		%		80-120	27-FEB-17
WG2485161-1	MB							
Antimony (Sb)			<0.10		mg/kg		0.1	27-FEB-17
Arsenic (As)			<0.10		mg/kg		0.1	27-FEB-17
Barium (Ba)			<0.50		mg/kg		0.5	27-FEB-17
Beryllium (Be)			<0.10		mg/kg		0.1	27-FEB-17
Cadmium (Cd)			<0.020		mg/kg		0.02	27-FEB-17
Chromium (Cr)			<0.50		mg/kg		0.5	27-FEB-17



Quality Control Report

Workorder: L1891783

Report Date: 16-MAR-17

Page 10 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA								
	Soil							
Batch	R3662465							
WG2485161-1	MB							
Cobalt (Co)			<0.10		mg/kg		0.1	27-FEB-17
Copper (Cu)			<0.50		mg/kg		0.5	27-FEB-17
Lead (Pb)			<0.50		mg/kg		0.5	27-FEB-17
Molybdenum (Mo)			<0.10		mg/kg		0.1	27-FEB-17
Nickel (Ni)			<0.50		mg/kg		0.5	27-FEB-17
Selenium (Se)			<0.20		mg/kg		0.2	27-FEB-17
Silver (Ag)			<0.10		mg/kg		0.1	27-FEB-17
Thallium (Tl)			<0.050		mg/kg		0.05	27-FEB-17
Tin (Sn)			<2.0		mg/kg		2	27-FEB-17
Uranium (U)			<0.050		mg/kg		0.05	27-FEB-17
Vanadium (V)			<0.20		mg/kg		0.2	27-FEB-17
Zinc (Zn)			<2.0		mg/kg		2	27-FEB-17
MET-PASTE-ICP-VA								
	Soil							
Batch	R3663691							
WG2484332-2	LCS							
Sodium (Na)			89.0		%		80-120	27-FEB-17
WG2484332-5	MB							
Sodium (Na)			<0.50		mg/kg		0.5	27-FEB-17
MOISTURE-BU								
	Soil							
Batch	R3672973							
WG2486018-3	DUP	L1891783-3						
% Moisture		4.03	4.03		%	0.0	50	09-MAR-17
WG2486018-2	LCS							
% Moisture			100.5		%		50-150	09-MAR-17
WG2486018-1	MB							
% Moisture			<0.10		%		0.1	09-MAR-17
MOISTURE-VA								
	Soil							
Batch	R3661108							
WG2484516-2	LCS							
Moisture			99.3		%		90-110	24-FEB-17
WG2484516-6	LCS							
Moisture			99.3		%		90-110	24-FEB-17
WG2484516-1	MB							
Moisture			<0.25		%		0.25	24-FEB-17
WG2484516-5	MB							
Moisture			<0.25		%		0.25	24-FEB-17



Quality Control Report

Workorder: L1891783

Report Date: 16-MAR-17

Page 11 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-VA		Soil						
Batch	R3661289							
WG2484549-4	DUP	L1891783-6						
Moisture		23.4	23.7		%	1.4	20	23-FEB-17
WG2484549-2	LCS							
Moisture			99.0		%		90-110	23-FEB-17
WG2484549-6	LCS							
Moisture			99.2		%		90-110	23-FEB-17
WG2484549-1	MB							
Moisture			<0.25		%		0.25	23-FEB-17
WG2484549-5	MB							
Moisture			<0.25		%		0.25	23-FEB-17
Batch	R3661805							
WG2485375-4	DUP	L1891783-16						
Moisture		20.2	20.5		%	1.4	20	25-FEB-17
WG2485375-2	LCS							
Moisture			99.6		%		90-110	25-FEB-17
WG2485375-6	LCS							
Moisture			99.7		%		90-110	25-FEB-17
WG2485375-1	MB							
Moisture			<0.25		%		0.25	25-FEB-17
WG2485375-5	MB							
Moisture			<0.25		%		0.25	25-FEB-17
NO2-LEACH-IC-VA		Soil						
Batch	R3662334							
WG2485090-4	DUP	L1891783-4						
Nitrite (as N)		<0.010	<0.010	RPD-NA	mg/kg	N/A	30	25-FEB-17
WG2485090-2	LCS							
Nitrite (as N)			97.0		%		70-130	25-FEB-17
WG2485090-1	MB							
Nitrite (as N)			<0.010		mg/kg		0.01	25-FEB-17
NO3-LEACH-IC-VA		Soil						
Batch	R3662334							
WG2485090-4	DUP	L1891783-4						
Nitrate (as N)		0.756	0.775		mg/kg	2.5	30	25-FEB-17
WG2485090-2	LCS							
Nitrate (as N)			99.0		%		70-130	25-FEB-17
WG2485090-1	MB							
Nitrate (as N)			<0.050		mg/kg		0.05	25-FEB-17
PAH-TMB-H/A-MS-VA		Soil						

Quality Control Report

Workorder: L1891783

Report Date: 16-MAR-17

Page 12 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-TMB-H/A-MS-VA		Soil						
Batch	R3661507							
WG2484548-2	LCS							
Acenaphthene			104.5		%		60-130	25-FEB-17
Acenaphthylene			100.9		%		60-130	25-FEB-17
Anthracene			95.4		%		60-130	25-FEB-17
Benz(a)anthracene			111.6		%		60-130	25-FEB-17
Benzo(a)pyrene			109.6		%		60-130	25-FEB-17
Benzo(b)fluoranthene			110.8		%		60-130	25-FEB-17
Benzo(g,h,i)perylene			107.9		%		60-130	25-FEB-17
Benzo(k)fluoranthene			112.8		%		60-130	25-FEB-17
Chrysene			107.3		%		60-130	25-FEB-17
Dibenz(a,h)anthracene			107.3		%		60-130	25-FEB-17
Fluoranthene			109.1		%		60-130	25-FEB-17
Fluorene			101.6		%		60-130	25-FEB-17
Indeno(1,2,3-c,d)pyrene			104.4		%		60-130	25-FEB-17
2-Methylnaphthalene			92.5		%		60-130	25-FEB-17
Naphthalene			105.0		%		50-130	25-FEB-17
Phenanthrene			103.4		%		60-130	25-FEB-17
Pyrene			108.8		%		60-130	25-FEB-17
WG2484548-1	MB							
Acenaphthene			<0.0050		mg/kg		0.005	25-FEB-17
Acenaphthylene			<0.0050		mg/kg		0.005	25-FEB-17
Anthracene			<0.0040		mg/kg		0.004	25-FEB-17
Benz(a)anthracene			<0.010		mg/kg		0.01	25-FEB-17
Benzo(a)pyrene			<0.010		mg/kg		0.01	25-FEB-17
Benzo(b)fluoranthene			<0.010		mg/kg		0.01	25-FEB-17
Benzo(g,h,i)perylene			<0.010		mg/kg		0.01	25-FEB-17
Benzo(k)fluoranthene			<0.010		mg/kg		0.01	25-FEB-17
Chrysene			<0.010		mg/kg		0.01	25-FEB-17
Dibenz(a,h)anthracene			<0.0050		mg/kg		0.005	25-FEB-17
Fluoranthene			<0.010		mg/kg		0.01	25-FEB-17
Fluorene			<0.010		mg/kg		0.01	25-FEB-17
Indeno(1,2,3-c,d)pyrene			<0.010		mg/kg		0.01	25-FEB-17
2-Methylnaphthalene			<0.010		mg/kg		0.01	25-FEB-17
Naphthalene			<0.010		mg/kg		0.01	25-FEB-17
Phenanthrene			<0.010		mg/kg		0.01	25-FEB-17



Quality Control Report

Workorder: L1891783

Report Date: 16-MAR-17

Page 13 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-TMB-H/A-MS-VA		Soil						
Batch R3661507								
WG2484548-1 MB								
Pyrene			<0.010		mg/kg		0.01	25-FEB-17
Surrogate: Naphthalene d8			83.3		%		50-130	25-FEB-17
Surrogate: Acenaphthene d10			84.3		%		60-130	25-FEB-17
Surrogate: Phenanthrene d10			80.3		%		60-130	25-FEB-17
Surrogate: Chrysene d12			93.1		%		60-130	25-FEB-17
Batch R3662444								
WG2485382-4 DUP		L1891783-1						
Acenaphthene		<0.050	<0.050	RPD-NA	mg/kg	N/A	50	28-FEB-17
Acenaphthylene		<0.050	<0.050	RPD-NA	mg/kg	N/A	50	28-FEB-17
Anthracene		<0.050	<0.050	RPD-NA	mg/kg	N/A	50	28-FEB-17
Benz(a)anthracene		0.078	0.108		mg/kg	32	50	28-FEB-17
Benzo(a)pyrene		0.083	0.116		mg/kg	33	50	28-FEB-17
Benzo(b)fluoranthene		0.094	0.141		mg/kg	40	50	28-FEB-17
Benzo(g,h,i)perylene		0.087	0.093		mg/kg	7.3	50	28-FEB-17
Benzo(k)fluoranthene		0.074	0.083		mg/kg	13	50	28-FEB-17
Chrysene		0.123	0.156		mg/kg	24	50	28-FEB-17
Dibenz(a,h)anthracene		<0.050	<0.050	RPD-NA	mg/kg	N/A	50	28-FEB-17
Fluoranthene		0.206	0.258		mg/kg	22	50	28-FEB-17
Fluorene		<0.050	<0.050	RPD-NA	mg/kg	N/A	50	28-FEB-17
Indeno(1,2,3-c,d)pyrene		0.084	0.086		mg/kg	2.8	50	28-FEB-17
2-Methylnaphthalene		<0.050	<0.050	RPD-NA	mg/kg	N/A	50	28-FEB-17
Naphthalene		<0.050	<0.050	RPD-NA	mg/kg	N/A	50	28-FEB-17
Phenanthrene		0.087	0.108		mg/kg	22	50	28-FEB-17
Pyrene		0.239	0.280		mg/kg	16	50	28-FEB-17
WG2485382-2 LCS								
Acenaphthene			89.7		%		60-130	28-FEB-17
Acenaphthylene			88.5		%		60-130	28-FEB-17
Anthracene			83.0		%		60-130	28-FEB-17
Benz(a)anthracene			86.1		%		60-130	28-FEB-17
Benzo(a)pyrene			94.2		%		60-130	28-FEB-17
Benzo(b)fluoranthene			94.0		%		60-130	28-FEB-17
Benzo(g,h,i)perylene			98.6		%		60-130	28-FEB-17
Benzo(k)fluoranthene			110.1		%		60-130	28-FEB-17
Chrysene			95.3		%		60-130	28-FEB-17
Dibenz(a,h)anthracene			96.0		%		60-130	28-FEB-17



Quality Control Report

Workorder: L1891783

Report Date: 16-MAR-17

Page 14 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-TMB-H/A-MS-VA								
	Soil							
Batch	R3662444							
WG2485382-2	LCS							
Fluoranthene			99.9		%		60-130	28-FEB-17
Fluorene			89.3		%		60-130	28-FEB-17
Indeno(1,2,3-c,d)pyrene			92.6		%		60-130	28-FEB-17
2-Methylnaphthalene			77.8		%		60-130	28-FEB-17
Naphthalene			90.2		%		50-130	28-FEB-17
Phenanthrene			89.2		%		60-130	28-FEB-17
Pyrene			99.2		%		60-130	28-FEB-17
WG2485382-1	MB							
Acenaphthene			<0.0050		mg/kg		0.005	28-FEB-17
Acenaphthylene			<0.0050		mg/kg		0.005	28-FEB-17
Anthracene			<0.0040		mg/kg		0.004	28-FEB-17
Benz(a)anthracene			<0.010		mg/kg		0.01	28-FEB-17
Benzo(a)pyrene			<0.010		mg/kg		0.01	28-FEB-17
Benzo(b)fluoranthene			<0.010		mg/kg		0.01	28-FEB-17
Benzo(g,h,i)perylene			<0.010		mg/kg		0.01	28-FEB-17
Benzo(k)fluoranthene			<0.010		mg/kg		0.01	28-FEB-17
Chrysene			<0.010		mg/kg		0.01	28-FEB-17
Dibenz(a,h)anthracene			<0.0050		mg/kg		0.005	28-FEB-17
Fluoranthene			<0.010		mg/kg		0.01	28-FEB-17
Fluorene			<0.010		mg/kg		0.01	28-FEB-17
Indeno(1,2,3-c,d)pyrene			<0.010		mg/kg		0.01	28-FEB-17
2-Methylnaphthalene			<0.010		mg/kg		0.01	28-FEB-17
Naphthalene			<0.010		mg/kg		0.01	28-FEB-17
Phenanthrene			<0.010		mg/kg		0.01	28-FEB-17
Pyrene			<0.010		mg/kg		0.01	28-FEB-17
Surrogate: Naphthalene d8			79.9		%		50-130	28-FEB-17
Surrogate: Acenaphthene d10			81.7		%		60-130	28-FEB-17
Surrogate: Phenanthrene d10			75.2		%		60-130	28-FEB-17
Surrogate: Chrysene d12			90.4		%		60-130	28-FEB-17
PCB-SE-ECD-VA								
	Soil							
Batch	R3656136							
WG2483332-2	CRM	VA-CRM911-050						
PCB-1254			94.2		%		65-130	22-FEB-17
WG2483332-1	MB							
PCB-1016			<0.020		mg/kg		0.02	22-FEB-17

Quality Control Report

Workorder: L1891783

Report Date: 16-MAR-17

Page 15 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-SE-ECD-VA		Soil						
Batch	R3656136							
WG2483332-1	MB							
PCB-1221			<0.020		mg/kg		0.02	22-FEB-17
PCB-1232			<0.020		mg/kg		0.02	22-FEB-17
PCB-1242			<0.020		mg/kg		0.02	22-FEB-17
PCB-1248			<0.020		mg/kg		0.02	22-FEB-17
PCB-1254			<0.020		mg/kg		0.02	22-FEB-17
PCB-1260			<0.020		mg/kg		0.02	22-FEB-17
PCB-1262			<0.020		mg/kg		0.02	22-FEB-17
PCB-1268			<0.020		mg/kg		0.02	22-FEB-17
PH-1:2-VA		Soil						
Batch	R3661882							
WG2485161-2	DUP	L1891783-16						
pH (1:2 soil:water)		7.24	7.30	J	pH	0.06	0.2	26-FEB-17
WG2485161-5	IRM	VA-ALP-SRS1507						
pH (1:2 soil:water)			6.45		pH		6.2-6.8	26-FEB-17
Batch	R3661884							
WG2484541-5	IRM	VA-ALP-SRS1507						
pH (1:2 soil:water)			6.51		pH		6.2-6.8	26-FEB-17
PHEN-TMB-MS-VA		Soil						
Batch	R3664527							
WG2484117-3	CRM	CRM 143						
4-Chloro-3-methylphenol			124.0		%		60-130	28-FEB-17
2-Chlorophenol			129.5		%		60-130	28-FEB-17
2,4 & 2,5-Dichlorophenol			134.5	RM-H	%		60-130	28-FEB-17
p-Cresol			113.7		%		60-130	28-FEB-17
Phenol			106.2		%		60-130	28-FEB-17
WG2484117-4	DUP	L1891783-9						
4-Chloro-3-methylphenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	28-FEB-17
2-Chlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	28-FEB-17
3-Chlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	28-FEB-17
4-Chlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	28-FEB-17
2,3-Dichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	28-FEB-17
2,4 & 2,5-Dichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	28-FEB-17
2,6-Dichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	28-FEB-17
3,4-Dichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	28-FEB-17

Quality Control Report

Workorder: L1891783

Report Date: 16-MAR-17

Page 16 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PHEN-TMB-MS-VA								
	Soil							
Batch	R3664527							
WG2484117-4	DUP	L1891783-9						
3,5-Dichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	28-FEB-17
2,4-Dimethylphenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	28-FEB-17
o-Cresol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	28-FEB-17
m-Cresol		<0.020	<0.080	RPD-NA	mg/kg	N/A	50	28-FEB-17
p-Cresol		<0.030	<0.020	RPD-NA	mg/kg	N/A	50	28-FEB-17
Phenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	28-FEB-17
WG2484117-2	LCS							
4-Chloro-3-methylphenol			93.5		%		60-130	28-FEB-17
2-Chlorophenol			88.6		%		60-130	28-FEB-17
3-Chlorophenol			92.4		%		60-130	28-FEB-17
4-Chlorophenol			92.9		%		60-130	28-FEB-17
2,3-Dichlorophenol			91.0		%		60-130	28-FEB-17
2,4 & 2,5-Dichlorophenol			91.8		%		60-130	28-FEB-17
2,6-Dichlorophenol			91.6		%		60-130	28-FEB-17
3,4-Dichlorophenol			92.6		%		60-130	28-FEB-17
3,5-Dichlorophenol			94.0		%		60-130	28-FEB-17
2,4-Dimethylphenol			98.9		%		30-130	28-FEB-17
o-Cresol			92.7		%		50-130	28-FEB-17
m-Cresol			96.8		%		50-130	28-FEB-17
p-Cresol			91.3		%		50-130	28-FEB-17
Phenol			93.0		%		50-130	28-FEB-17
WG2484117-1	MB							
4-Chloro-3-methylphenol			<0.020		mg/kg		0.02	28-FEB-17
2-Chlorophenol			<0.020		mg/kg		0.02	28-FEB-17
3-Chlorophenol			<0.020		mg/kg		0.02	28-FEB-17
4-Chlorophenol			<0.020		mg/kg		0.02	28-FEB-17
2,3-Dichlorophenol			<0.020		mg/kg		0.02	28-FEB-17
2,4 & 2,5-Dichlorophenol			<0.020		mg/kg		0.02	28-FEB-17
2,6-Dichlorophenol			<0.020		mg/kg		0.02	28-FEB-17
3,4-Dichlorophenol			<0.020		mg/kg		0.02	28-FEB-17
3,5-Dichlorophenol			<0.020		mg/kg		0.02	28-FEB-17
2,4-Dimethylphenol			<0.020		mg/kg		0.02	28-FEB-17
o-Cresol			<0.020		mg/kg		0.02	28-FEB-17
m-Cresol			<0.020		mg/kg		0.02	28-FEB-17
p-Cresol			<0.020		mg/kg		0.02	28-FEB-17

Quality Control Report

Workorder: L1891783

Report Date: 16-MAR-17

Page 17 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PHEN-TMB-MS-VA Soil								
Batch	R3664527							
WG2484117-1	MB							
Phenol			<0.020		mg/kg		0.02	28-FEB-17
PSA-PIPET+GRAVEL-SK Soil								
Batch	R3661472							
WG2483169-2	IRM	10-105						
% Sand (2.0mm - 0.063mm)			38.2		%		30-40	24-FEB-17
% Silt (0.063mm - 4um)			47.6		%		45-55	24-FEB-17
% Clay (<4um)			14.2		%		10-20	24-FEB-17
SAT-PCNT-VA Soil								
Batch	R3662147							
WG2484332-3	IRM	VA-ALP-SRS1507						
% Saturation			99.9		%		80-120	26-FEB-17
WG2484332-5	MB							
% Saturation			50.0		%		50	26-FEB-17
SO4-LEACH-IC-VA Soil								
Batch	R3662334							
WG2485090-4	DUP	L1891783-4						
Sulfate (SO4)		<10	<10	RPD-NA	mg/kg	N/A	20	25-FEB-17
WG2485090-2	LCS							
Sulfate (SO4)			101.3		%		70-130	25-FEB-17
WG2485090-1	MB							
Sulfate (SO4)			<10		mg/kg		10	25-FEB-17

Quality Control Report

Workorder: L1891783

Report Date: 16-MAR-17

Page 18 of 19

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
A	Method Blank exceeds ALS DQO. Refer to narrative comments for further information.
G	QC result did not meet ALS DQO. Refer to narrative comments for further information.
J	Duplicate results and limits are expressed in terms of absolute difference.
M,J	A peak has been manually integrated, and the analyte was detected below the calibrated range but above the EDL.
M,J,R	A peak has been manually integrated, the analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M,U	A peak has been manually integrated, and the analyte was not detected above the EDL.
RM-H	Reference Material recovery was above ALS DQO. Non-detected sample results are considered reliable. Other results, if reported, have been qualified.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.
[U]	The analyte was not detected above the EDL.

Quality Control Report

Workorder: L1891783

Report Date: 16-MAR-17

Page 19 of 19

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Leachable Anions & Nutrients							
Nitrate leach (1:10) by IC							
	1	16-FEB-17	24-FEB-17 16:27	3	8	days	EHT
	4	16-FEB-17	24-FEB-17 16:27	3	8	days	EHT
	10	16-FEB-17	24-FEB-17 16:27	3	8	days	EHT
	12	16-FEB-17	24-FEB-17 16:27	3	8	days	EHT
	15	16-FEB-17	24-FEB-17 16:27	3	8	days	EHT
	17	16-FEB-17	24-FEB-17 16:27	3	8	days	EHT
	21	16-FEB-17	24-FEB-17 16:27	3	8	days	EHT
Nitrite leach (1:10) by IC							
	1	16-FEB-17	24-FEB-17 16:27	3	8	days	EHT
	4	16-FEB-17	24-FEB-17 16:27	3	8	days	EHT
	10	16-FEB-17	24-FEB-17 16:27	3	8	days	EHT
	12	16-FEB-17	24-FEB-17 16:27	3	8	days	EHT
	15	16-FEB-17	24-FEB-17 16:27	3	8	days	EHT
	17	16-FEB-17	24-FEB-17 16:27	3	8	days	EHT
	21	16-FEB-17	24-FEB-17 16:27	3	8	days	EHT

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 L1891783 were received on 16-FEB-17 18:20.

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.

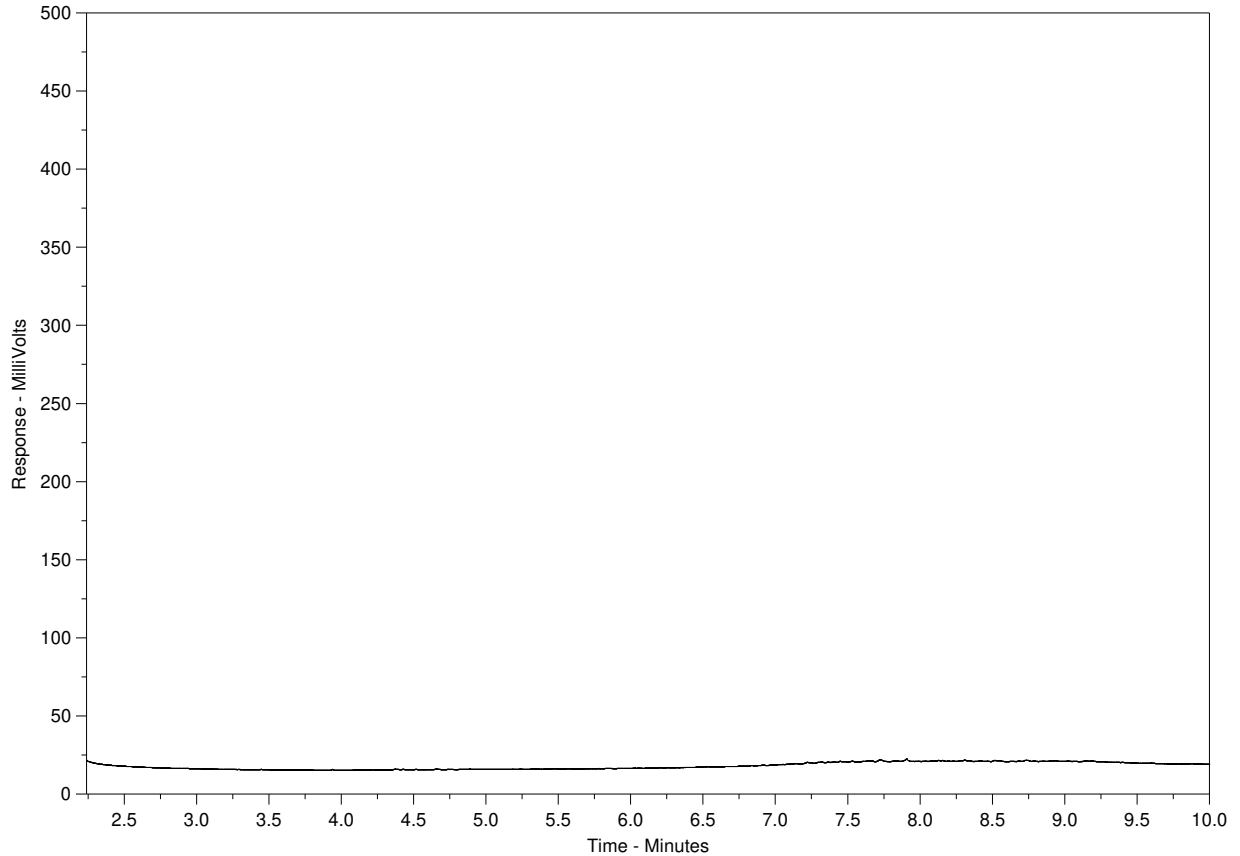
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide 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.

Hydrocarbon Distribution Report



ALS Sample ID: L1891783-1
 Client Sample ID: 02052-01



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →		← Diesel / Jet Fuels →
← Motor Oils / Lube Oils / Grease →		

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

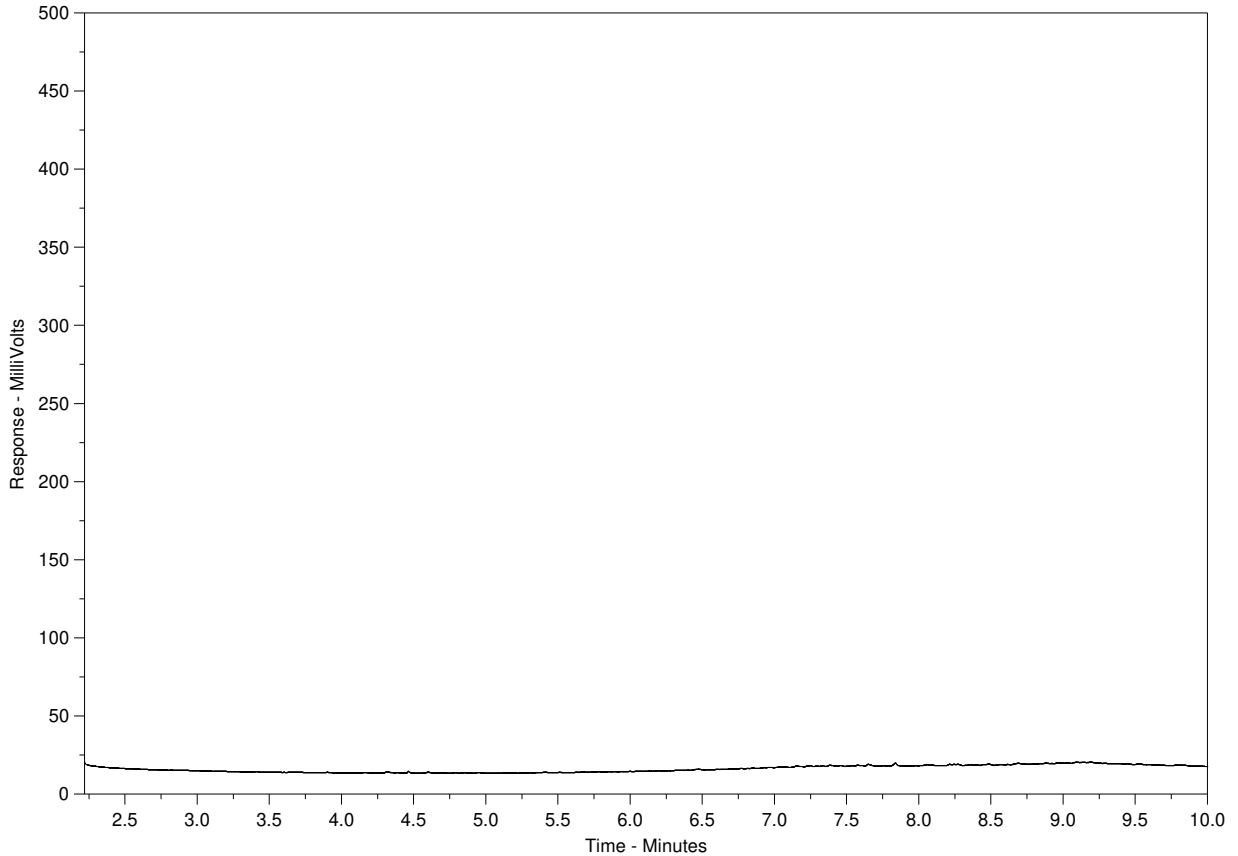
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Hydrocarbon Distribution Report



ALS Sample ID: WG2485382-4#L1891783-1
Client Sample ID: 02052-01



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →	← Diesel / Jet Fuels →	← Motor Oils / Lube Oils / Grease →

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

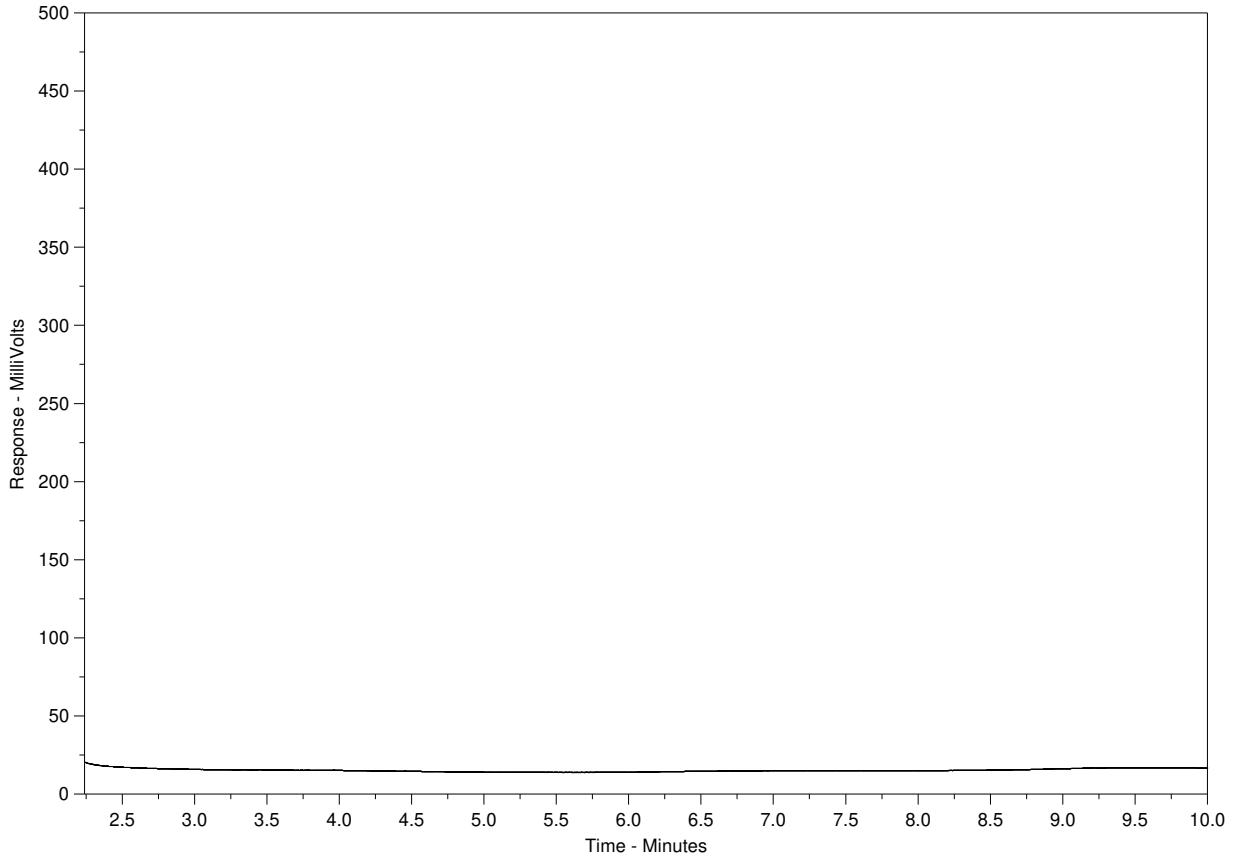
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Hydrocarbon Distribution Report



ALS Sample ID: L1891783-3
 Client Sample ID: 02052-03



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

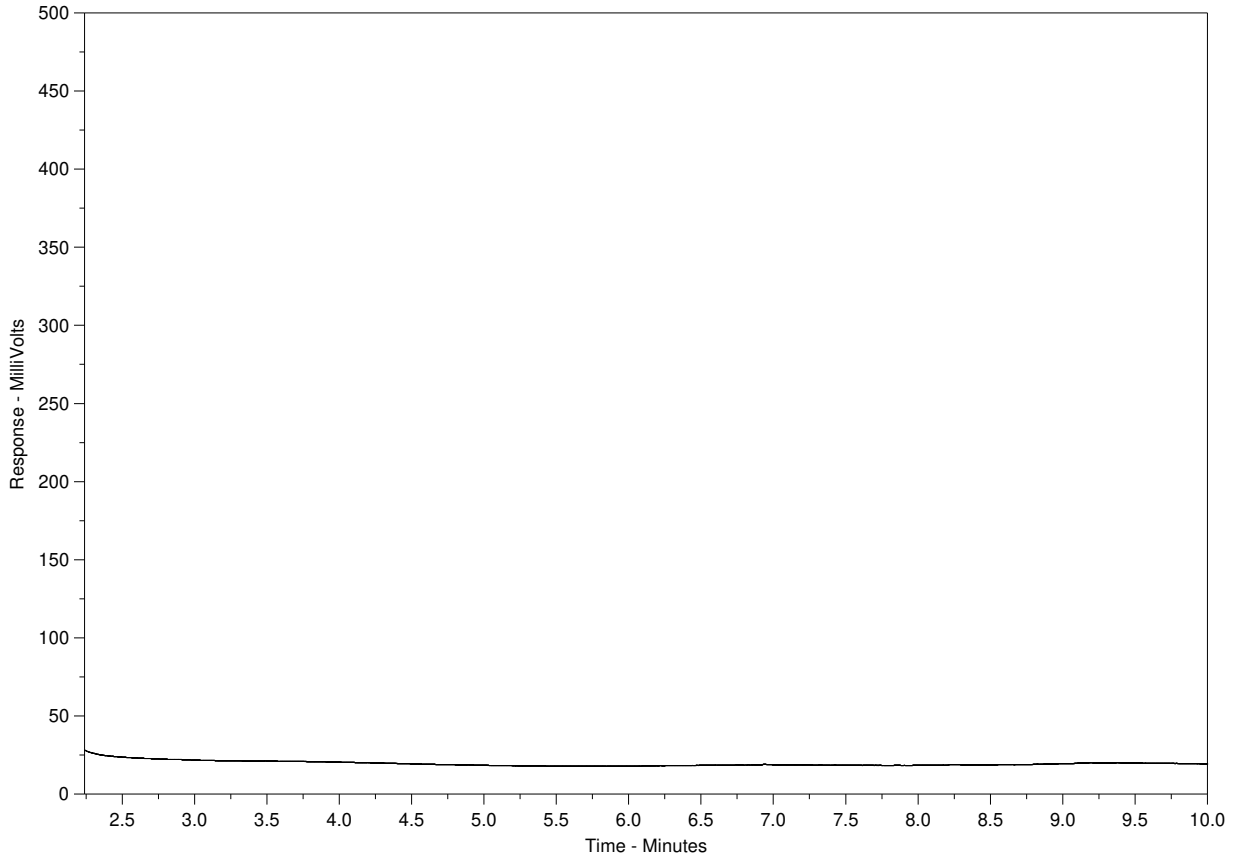
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Hydrocarbon Distribution Report



ALS Sample ID: L1891783-6
Client Sample ID: 02052-06



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →		
← Diesel / Jet Fuels →		
← Motor Oils / Lube Oils / Grease →		

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

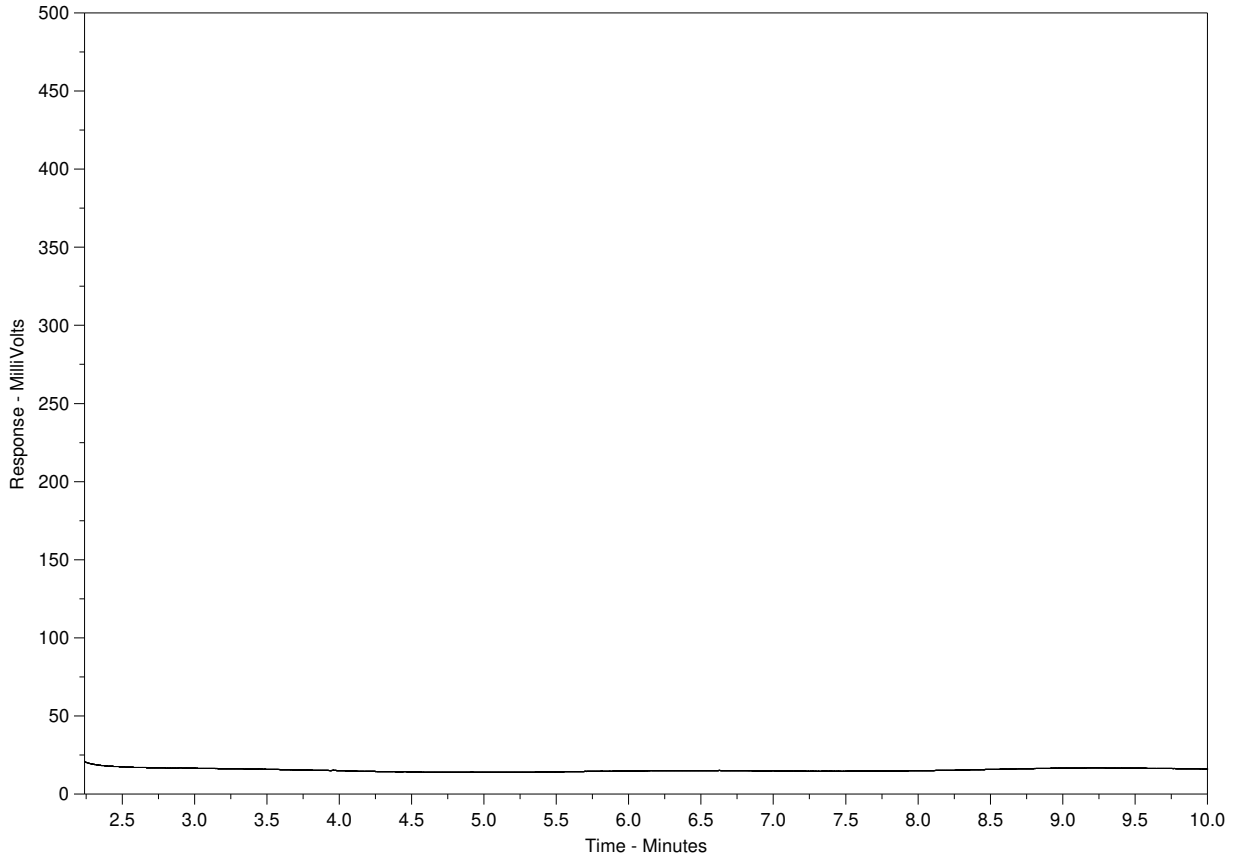
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Hydrocarbon Distribution Report



ALS Sample ID: L1891783-9
Client Sample ID: 02052-09



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →		
← Diesel / Jet Fuels →		
← Motor Oils / Lube Oils / Grease →		

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

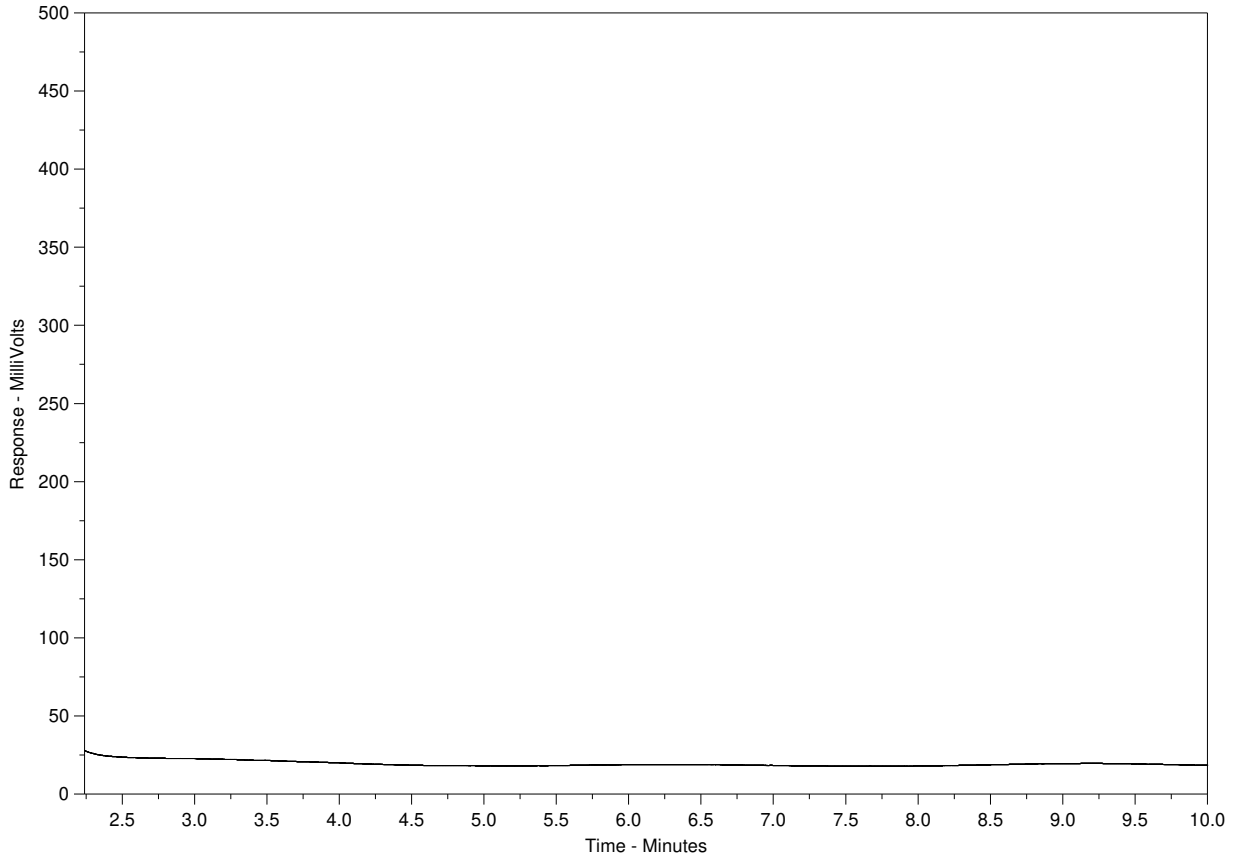
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Hydrocarbon Distribution Report



ALS Sample ID: L1891783-12
Client Sample ID: 02052-12



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →		
← Diesel / Jet Fuels →		
← Motor Oils / Lube Oils / Grease →		

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

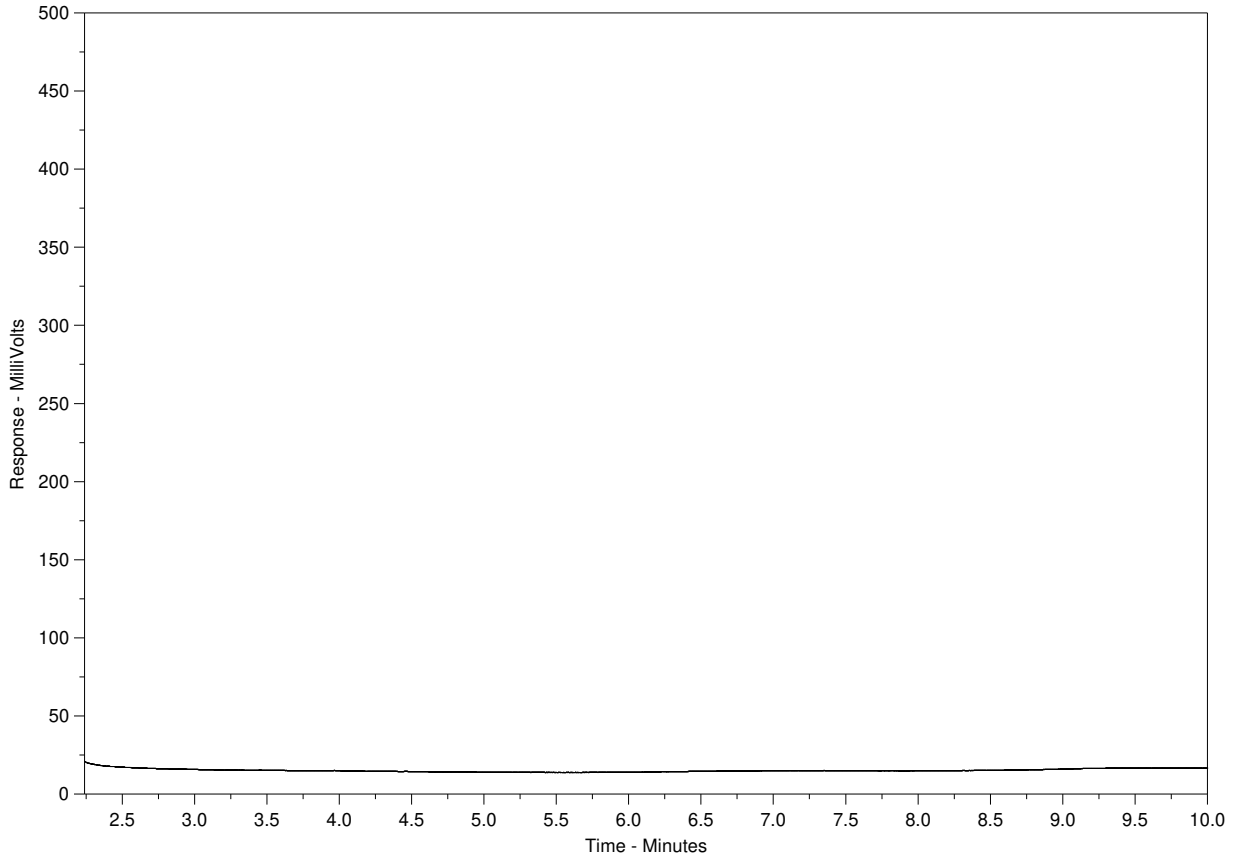
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Hydrocarbon Distribution Report



ALS Sample ID: L1891783-13
 Client Sample ID: 02053-01



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

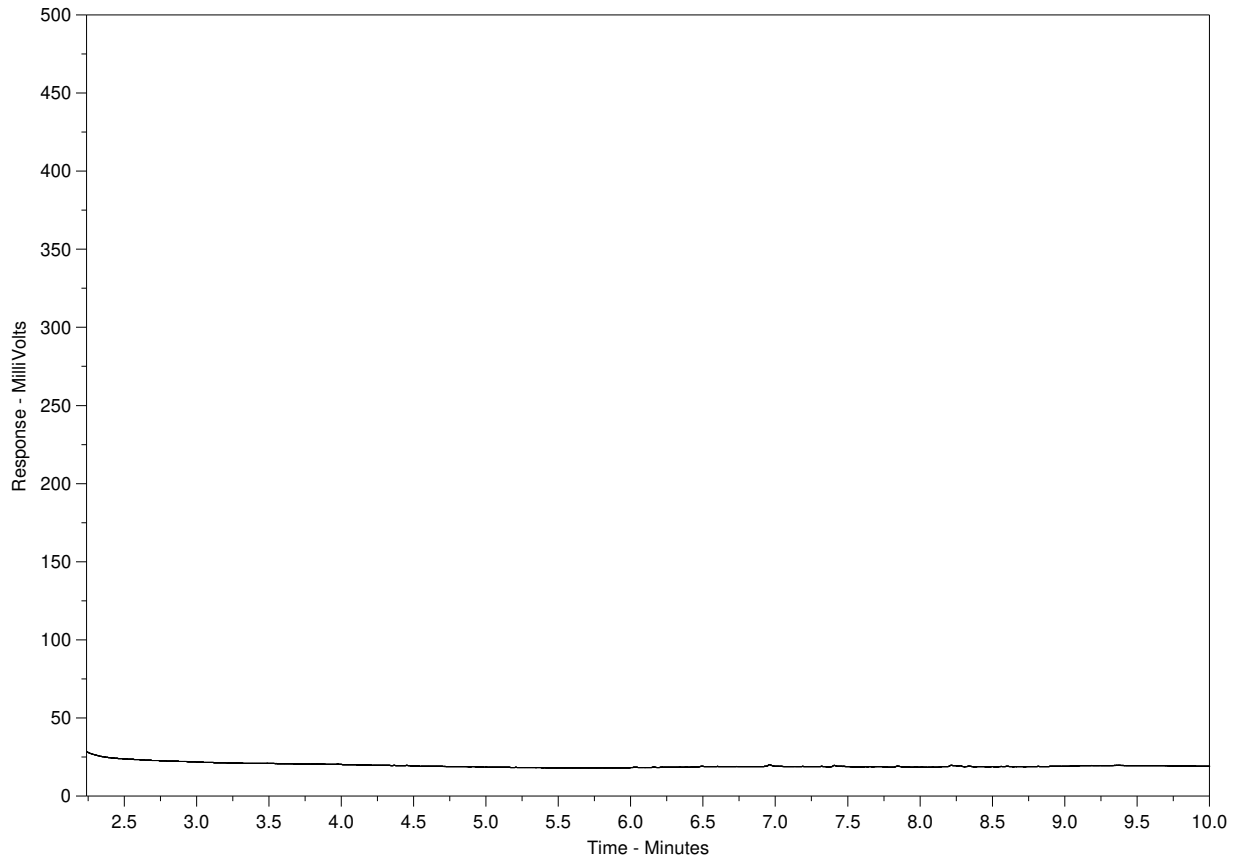
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Hydrocarbon Distribution Report



ALS Sample ID: L1891783-17
Client Sample ID: 02053-05



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →		
← Diesel / Jet Fuels →		
← Motor Oils / Lube Oils / Grease →		

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

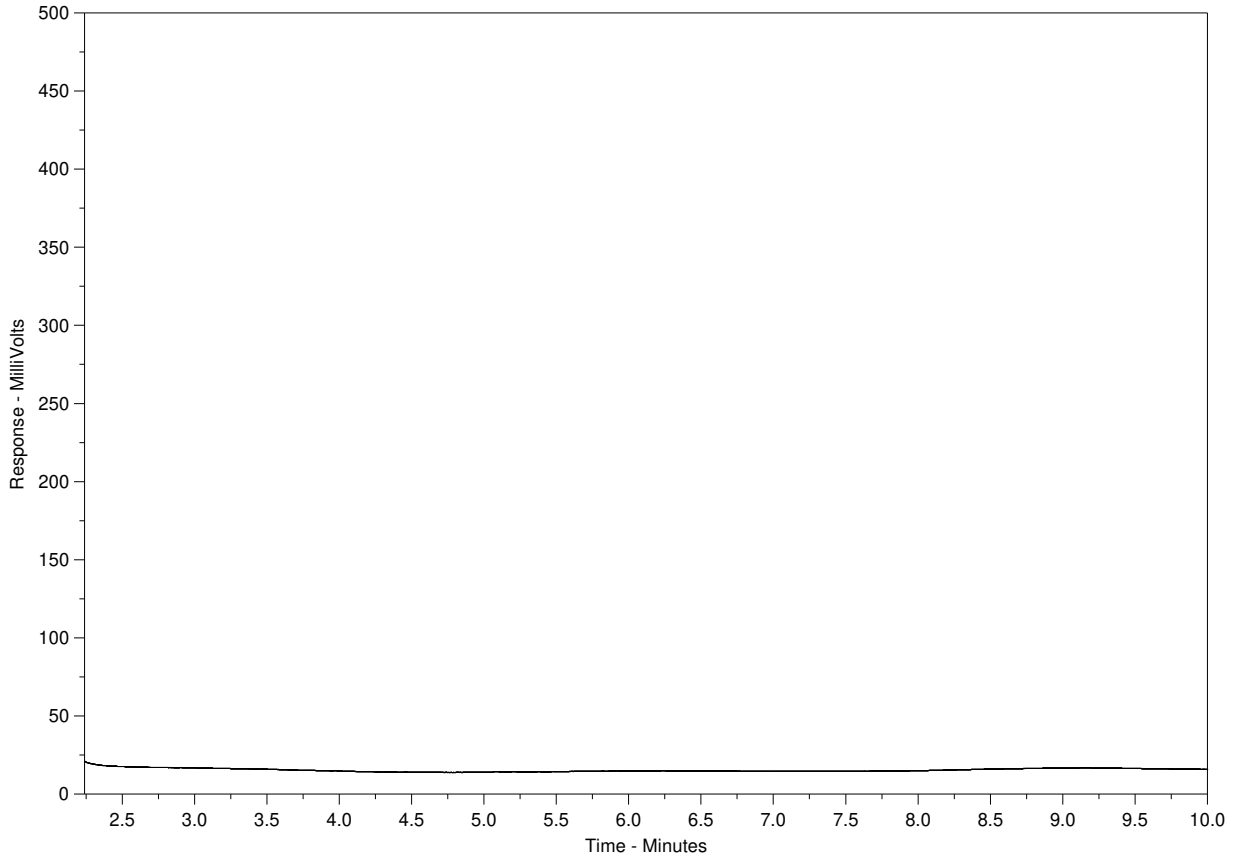
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Hydrocarbon Distribution Report



ALS Sample ID: L1891783-18
 Client Sample ID: 02053-06



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

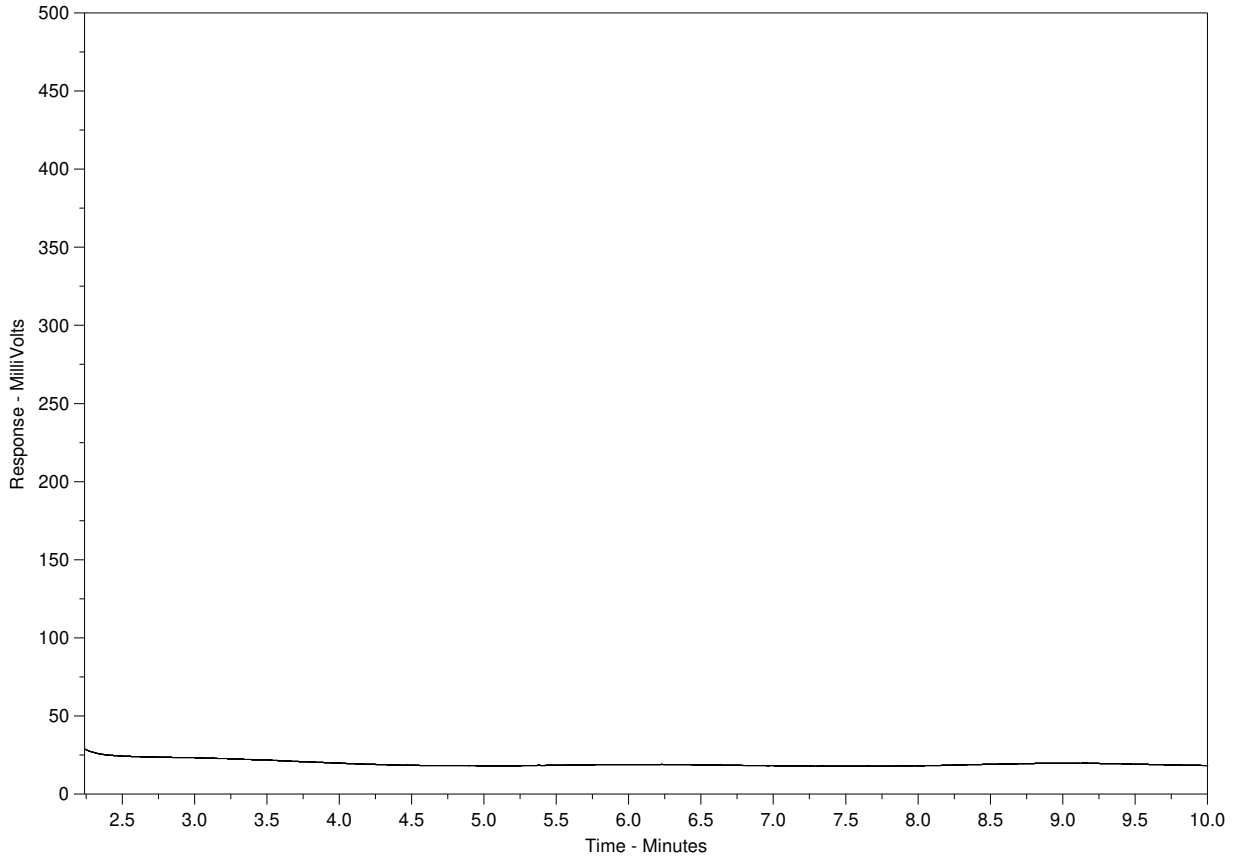
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Hydrocarbon Distribution Report



ALS Sample ID: L1891783-20
 Client Sample ID: 02053-08



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline → ← Diesel / Jet Fuels → ← Motor Oils / Lube Oils / Grease →		

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

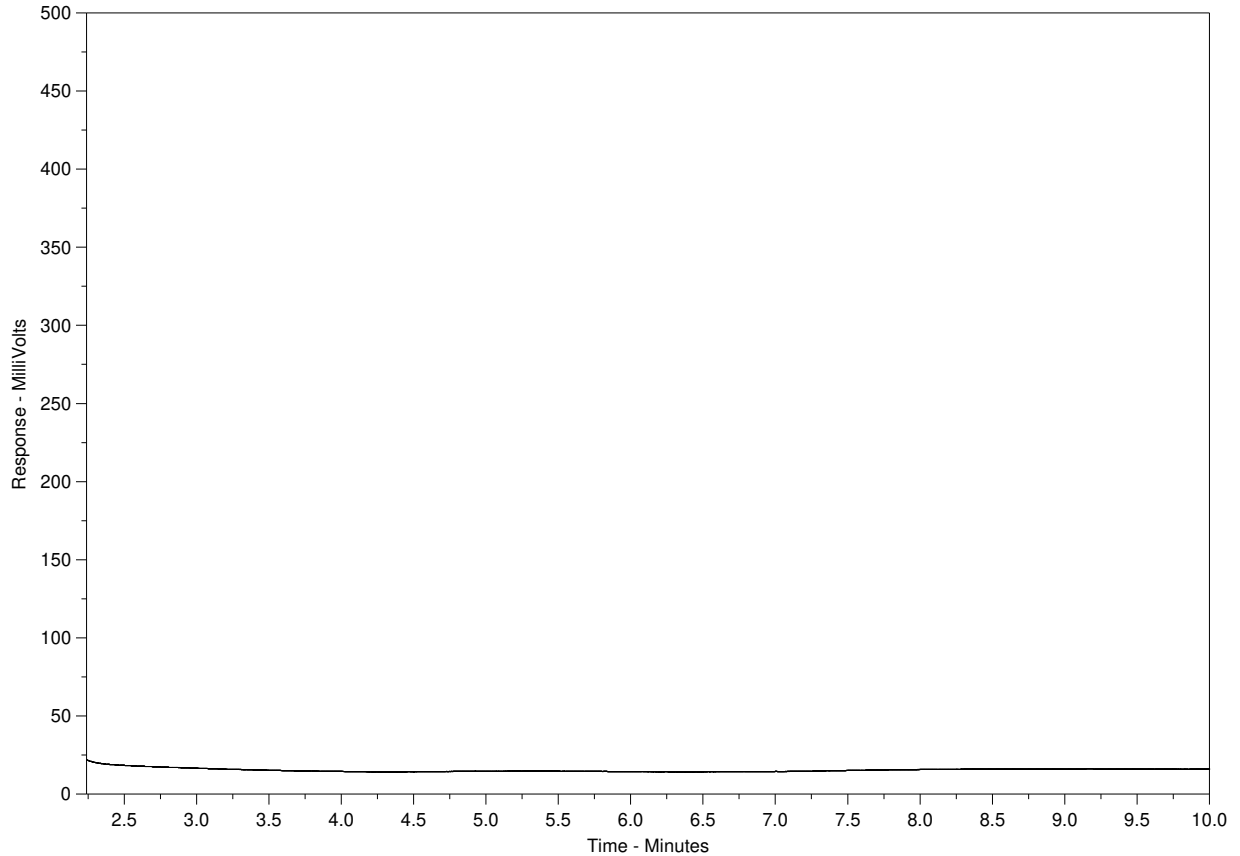
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Hydrocarbon Distribution Report



ALS Sample ID: L1891783-21
Client Sample ID: 02053-09



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →	← Diesel / Jet Fuels →	← Motor Oils / Lube Oils / Grease →

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

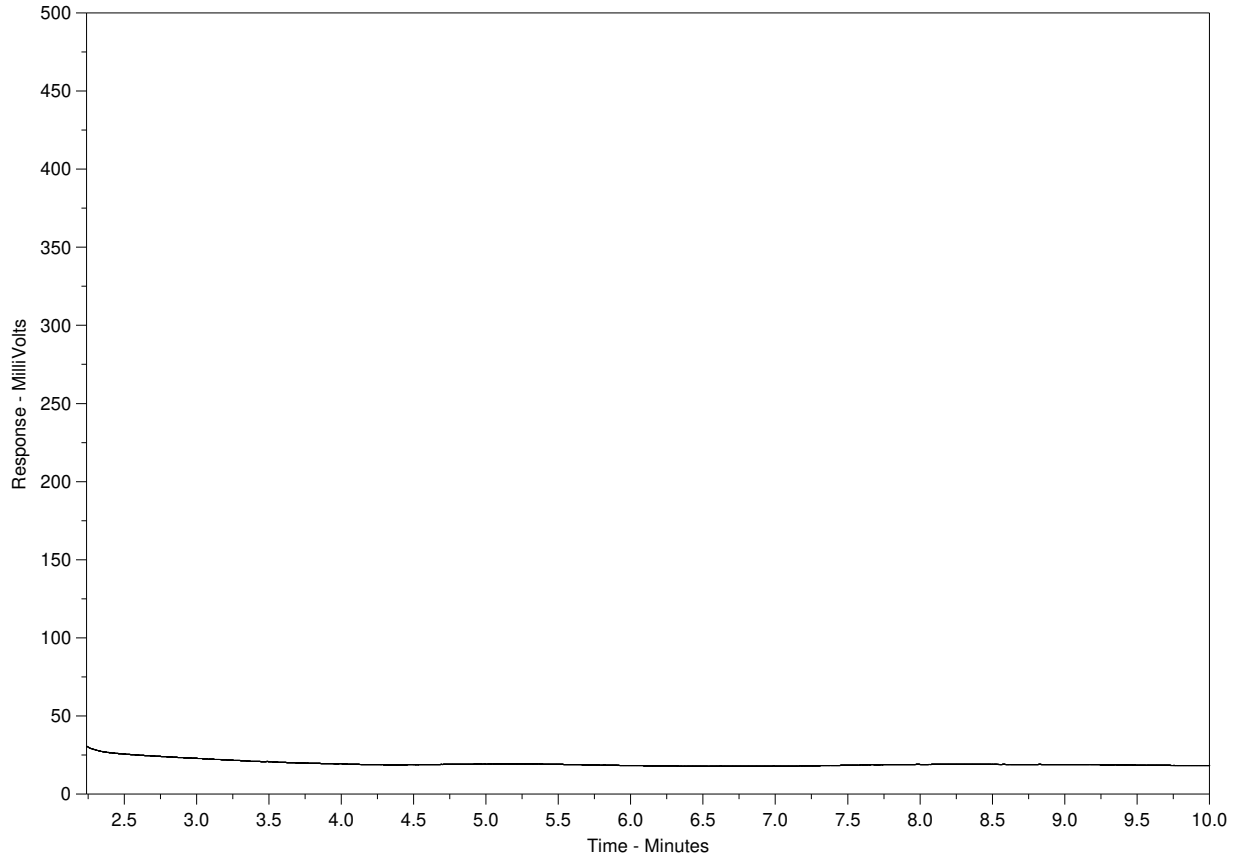
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Hydrocarbon Distribution Report



ALS Sample ID: L1891783-23
Client Sample ID: 02053-11



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →	← Diesel / Jet Fuels →	← Motor Oils / Lube Oils / Grease →

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

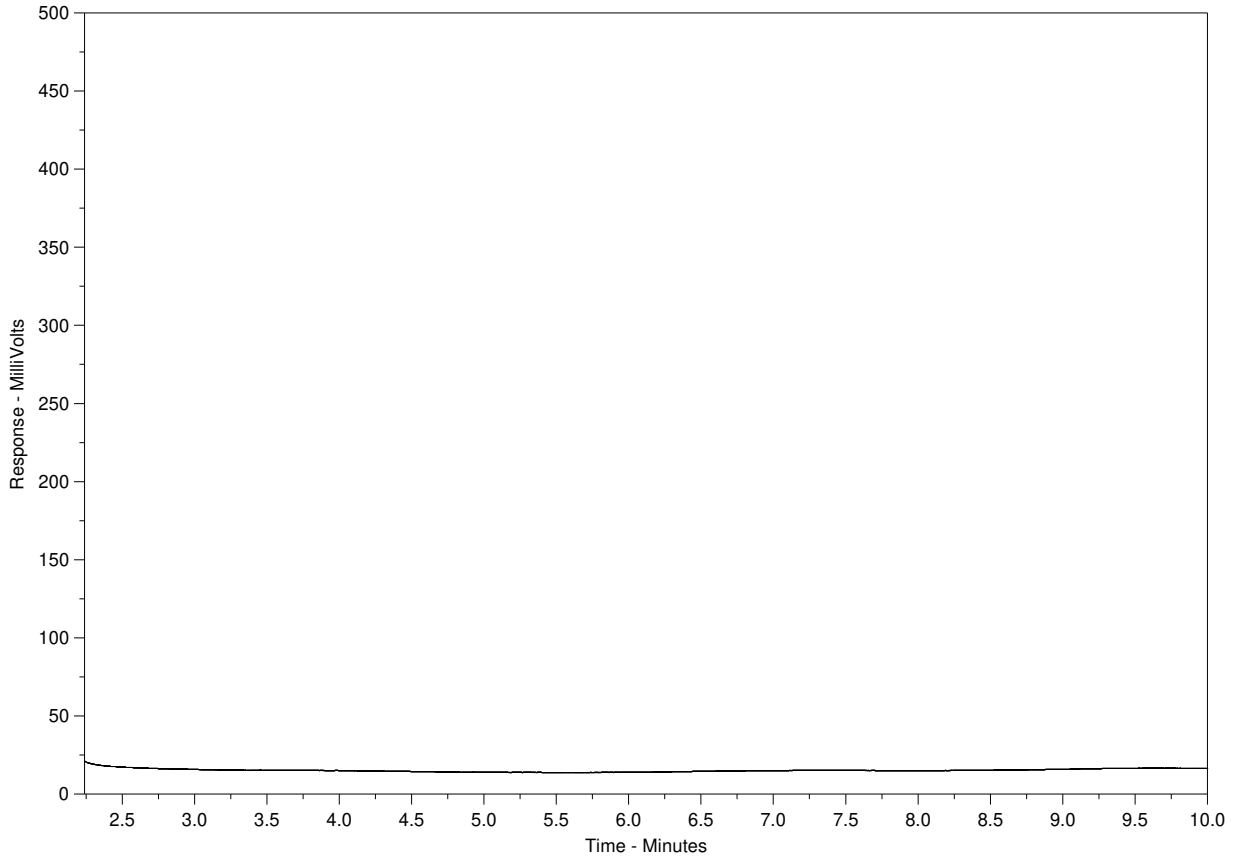
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Hydrocarbon Distribution Report



ALS Sample ID: L1891783-24
Client Sample ID: 02053-12



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →		
← Diesel / Jet Fuels →		
← Motor Oils / Lube Oils / Grease →		

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

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

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

L1891783

CHAIN OF CUSTODY RECORD/ANALYSIS REQUEST

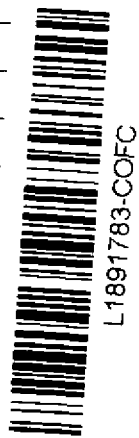
No. 02052 page 1 of 2



200 - 2920 Virtual Way
 Vancouver, British Columbia, Canada V5M 0C4
 Telephone (604) 296-4200 Fax (604) 298-5253

Project Number: 1525010/3300/3300-2		Laboratory Name: ALS	
Short Title: ANADAKS ISLAND WWTTP		Golder Contact: TIM LAIDLAW	Address: 8081 Lougheed Highway
Golder E-mail Address 1: j.laidlaw@golder.com	Golder E-mail Address 2: agarrudo@golder.com	Telephone/Fax:	Contact: AMBER SPRINGER

Office Name: VANCOUVER			EQUIS Facility Code: 41098320			Analyses Required																	
Turnaround Time: <input type="checkbox"/> 24 hr <input type="checkbox"/> 48 hr <input type="checkbox"/> 72 hr <input checked="" type="checkbox"/> Regular (5 Days)			Criteria: <input checked="" type="checkbox"/> CSR <input type="checkbox"/> CCME <input type="checkbox"/> BC Water Quality <input type="checkbox"/> Other																				
Note: Final Reports to be issued by e-mail			Quote No.:																				
Sample Control Number (SCN)	Sample Location	Sa. #	Sample Depth (m) Feet	Sample Matrix (over)	Date Sampled (D/M/Y)	Time Sampled (HH:MM)	Sample Type (over)	QAQC Code (over)	Related SCN (over)	Number of Containers	CSP Metals	LEPH/HEPH/PAHS	NON CHL PHOS	CHLOROPHENS	ANIONS	SALINITY	PCBS	GRAIN SIZE	TOC	Dioxins + Furans	HOLD*	RUSH (Select TAT above)	Remarks (over)
02052-01	Effluent Shaft		1-2'	Soil	16/2/17		Dicarb			2	X	X	X	X	X	X	X	X	X	X	X	X	* PM will contact the lab with analysis requests.
-02			3-4'								X	X	X	X	X	X	X	X	X	X	X	X	
-03			6-7'								X	X	X	X	X	X	X	X	X	X	X	X	
-04			8-9'								X	X	X	X	X	X	X	X	X	X	X	X	
-05			11-12'								X	X	X	X	X	X	X	X	X	X	X	X	
-06			14-15'								X	X	X	X	X	X	X	X	X	X	X	X	
-07			17-18'								X	X	X	X	X	X	X	X	X	X	X	X	
-08			20-21'								X	X	X	X	X	X	X	X	X	X	X	X	
-09			24-25'								X	X	X	X	X	X	X	X	X	X	X	X	
-10			27-28'								X	X	X	X	X	X	X	X	X	X	X	X	
-11			30-31'								X	X	X	X	X	X	X	X	X	X	X	X	
-12			34-35'								X	X	X	X	X	X	X	X	X	X	X	X	



Sampler's Signature: ALAN GAUARD	Relinquished by: Signature	Company: GOLDER	Date: 15-FEB-2017	Time:	Received by: Signature	Company:
Comments:	Method of Shipment:	Waybill No.:	Received for Lab by: PAUL	Date: FEB 16	Time: 18:20	
	Shipped by:	Shipment Condition:	Temp (°C): 14.7/15.7	Cooler opened by:	Date:	Time:
		Seal Intact:				

WHITE: Golder Copy YELLOW: Lab Copy



200 - 2920 Virtual Way
 Vancouver, British Columbia, Canada V5M 0C4
 Telephone (604) 296-4200 Fax (604) 298-5253

CHAIN OF CUSTODY RECORD/ANALYSIS REQUEST

No. 02053 page 2 of 2

Project Number: 1525010/3300/3300-2		Laboratory Name: ALS	
Short Title: ANNACOS ISLAND WWTP		Golder Contact: JIM LAIDLAW	
Golder E-mail Address 1: j.laidlaw@golder.com		Golder E-mail Address 2: adam@...@golder.com	
Address: 8081 Lougheed Highway		Telephone/Fax:	
		Contact: AMBER SUTNER	

Office Name: VAN COUVER		EQUIS Facility Code: 41098320		EQUIS upload: <input checked="" type="checkbox"/>		Analyses Required																							
Turnaround Time: <input type="checkbox"/> 24 hr <input type="checkbox"/> 48 hr <input type="checkbox"/> 72 hr <input checked="" type="checkbox"/> Regular (5 Days)		Criteria: <input checked="" type="checkbox"/> CSR <input type="checkbox"/> CCME <input type="checkbox"/> BC Water Quality <input type="checkbox"/> Other		Quote No.:		Sample Control Number (SCN)	Sample Location	Sa. #	Sample Depth (m)	Sample Matrix (over)	Date Sampled (D/M/Y)	Time Sampled (HH:MM)	Sample Type (over)	QAQC Code (over)	Related SCN (over)	Number of Containers	CSR Metals	LEP/H/HE PH/PANS	NON CHLOR. PESTICIDES	CHLOROPESTICIDES	ANIONS	SALINITY	PCB'S	Grain Size	TOC	Dioxins + Furans	HOLD	RUSH (Select TAT above)	Remarks (over)
0205301	Effluent Shaft	37-38'	Soil	K/2/A													Diab	FDA 02053-02	2	X	X	X				X	X	X	
-02		37-38'					FD 02053-01	2																					
-03		40-41'						2					X	X	X														
-04		44-45'						2	X				X	X															
-05		48-49'						2					X	X															
-06	SH 16-07	1-2'						2	X	X					X														
-07		3-4'						2																					
-08		5-6'						2	X	X					X	X	X												
-09	SH 16-05	1-2'						2	X	X	X																		
-10		3-4'						2																					
-11		6-7'						2							X	X	X												
-12		6-7'						2							X	X	X												

Sampler's Signature: ALVARO CRUZ		Relinquished by: Signature		Company: GOLDER		Date: 16-FEB-2017		Time:		Received by: Signature: PAUL		Company:	
Comments:		Method of Shipment:		Waybill No.:		Received for Lab by:		Date: FEB 16		Time: 18:20			
				Shipment Condition:		Temp (°C): 14.7/5.3		Cooler opened by:		Date:		Time:	
				Seal Intact:									



L1891783-COFC

WHITE: Golder Copy YELLOW: Lab Copy



GOLDER ASSOCIATES LTD.
ATTN: Jm Laidlaw
200- 2920 Virtual Way
Vancouver BC V5M 0C4

Date Received: 23- NOV- 16
Report Date: 03- JAN- 17 16:01 (MT)
Version: FINAL

Client Phone: 604- 298- 6623

Certificate of Analysis

Lab Work Order #: L1861784

Project P.O. #: NOT SUBMITTED
Job Reference: 1525010/3300/33003
C of C Numbers: 02042, 02043, 03020
Legal Site Desc:

Amber Springer, B.Sc
Account Manager

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

ADDRESS: 8081 Lougheed Hwy, Suite 100, Burnaby, BC V5A 1W9 Canada | Phone: +1 604 253 4188 | Fax: +1 604 253 6700
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1861784-1	L1861784-2	L1861784-5	L1861784-6	L1861784-10
		Description	Soil	Soil	Soil	Soil	Soil
		Sampled Date	23-NOV-16	23-NOV-16	23-NOV-16	23-NOV-16	23-NOV-16
		Sampled Time					
		Client ID	03020-01	03020-02	03020-05	03020-06	03020-10
Grouping	Analyte						
SOIL							
Physical Tests	Moisture (%)		19.8	50.0	18.5	16.5	18.1
	pH (1:2 soil:water) (pH)		7.54	6.10	6.51		
Particle Size	General Texture Class						Coarse
	MUST PSA % > 75um (%)						96.5 ^{PSAL}
Leachable Anions & Nutrients	Bromide (Br) (mg/kg)		<0.50		<0.50		
	Chloride (Cl) (mg/kg)		<5.0		8.0		
	Fluoride (F) (mg/kg)		2.09		0.29		
	Nitrate (as N) (mg/kg)		0.234		<0.050		
	Nitrite (as N) (mg/kg)		<0.010		<0.010		
	Sulfate (SO4) (mg/kg)		<10		<10		
Organic / Inorganic Carbon	Total Organic Carbon (%)				0.145		
Saturated Paste Extractables	Chloride (Cl) (mg/kg)			13.0		3.28	
	% Saturation (%)			132		31.4	
	Sodium (Na) (mg/kg)			11.3		3.0	
Metals	Antimony (Sb) (mg/kg)		0.22	0.60	0.24		
	Arsenic (As) (mg/kg)		2.72	6.04	2.69		
	Barium (Ba) (mg/kg)		53.8	148	44.4		
	Beryllium (Be) (mg/kg)		0.18	0.39	0.21		
	Cadmium (Cd) (mg/kg)		0.109	0.449	0.128		
	Chromium (Cr) (mg/kg)		25.0	42.5	33.8		
	Cobalt (Co) (mg/kg)		6.88	11.8	9.75		
	Copper (Cu) (mg/kg)		13.2	36.3	15.9		
	Lead (Pb) (mg/kg)		2.30	12.4	2.52		
	Mercury (Hg) (mg/kg)		0.0296	0.0778	0.0259		
	Molybdenum (Mo) (mg/kg)		0.49	1.61	0.25		
	Nickel (Ni) (mg/kg)		29.8	44.9	43.1		
	Selenium (Se) (mg/kg)		<0.20	0.55	<0.20		
	Silver (Ag) (mg/kg)		<0.10	0.10	<0.10		
	Thallium (Tl) (mg/kg)		<0.050	0.155	<0.050		
	Tin (Sn) (mg/kg)		<2.0	<2.0	<2.0		
	Uranium (U) (mg/kg)		0.284	1.08	0.271		
	Vanadium (V) (mg/kg)		39.5	48.8	42.7		
	Zinc (Zn) (mg/kg)		34.7	60.2	41.5		
Hydrocarbons	EPH10-19 (mg/kg)		<200	<200	<200		
	EPH19-32 (mg/kg)		<200	<200	<200		
	LEPH (mg/kg)		<200	<200	<200		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1861784-11 Soil 23-NOV-16 03020-11	L1861784-12 Soil 23-NOV-16 03020-12	L1861784-14 Soil 23-NOV-16 02042-02	L1861784-15 Soil 23-NOV-16 02042-03	L1861784-18 Soil 23-NOV-16 02042-06
Grouping	Analyte					
SOIL						
Physical Tests	Moisture (%)	16.6	18.1	22.7	19.3	23.5
	pH (1:2 soil:water) (pH)	6.90	7.22	7.36		6.43
Particle Size	General Texture Class				Coarse	
	MUST PSA % > 75um (%)				98.6 ^{PSAL}	
Leachable Anions & Nutrients	Bromide (Br) (mg/kg)			<0.50		
	Chloride (Cl) (mg/kg)			<5.0		
	Fluoride (F) (mg/kg)			<0.20		
	Nitrate (as N) (mg/kg)			<0.050		
	Nitrite (as N) (mg/kg)			<0.010		
	Sulfate (SO4) (mg/kg)			<10		
Organic / Inorganic Carbon	Total Organic Carbon (%)	0.074	0.068	0.235		0.125
Saturated Paste Extractables	Chloride (Cl) (mg/kg)	3.00	3.06	2.56		1.78
	% Saturation (%)	32.1	31.9	31.6		33.9
	Sodium (Na) (mg/kg)	4.5	4.7	5.0		4.1
Metals	Antimony (Sb) (mg/kg)	0.22	0.22	0.36		0.20
	Arsenic (As) (mg/kg)	1.60	1.51	3.15		1.91
	Barium (Ba) (mg/kg)	65.4	52.4	94.3		52.7
	Beryllium (Be) (mg/kg)	0.19	0.21	0.27		0.20
	Cadmium (Cd) (mg/kg)	0.156	0.155	0.183		0.116
	Chromium (Cr) (mg/kg)	32.1	36.7	34.3		30.4
	Cobalt (Co) (mg/kg)	8.20	7.81	10.8		7.81
	Copper (Cu) (mg/kg)	15.2	13.8	20.3		13.9
	Lead (Pb) (mg/kg)	2.25	2.22	3.67		2.11
	Mercury (Hg) (mg/kg)	0.0200	0.0213	0.0275		0.0158
	Molybdenum (Mo) (mg/kg)	0.25	0.24	0.96		0.23
	Nickel (Ni) (mg/kg)	37.9	36.5	40.5		32.0
	Selenium (Se) (mg/kg)	<0.20	<0.20	0.20		<0.20
	Silver (Ag) (mg/kg)	<0.10	<0.10	<0.10		<0.10
	Thallium (Tl) (mg/kg)	<0.050	<0.050	0.062		<0.050
	Tin (Sn) (mg/kg)	<2.0	<2.0	<2.0		<2.0
	Uranium (U) (mg/kg)	0.286	0.288	0.479		0.241
	Vanadium (V) (mg/kg)	49.3	51.1	50.4		44.3
	Zinc (Zn) (mg/kg)	38.6	37.6	50.8		37.8
	Hydrocarbons	EPH10-19 (mg/kg)	<200	<200		
EPH19-32 (mg/kg)		<200	<200			
LEPH (mg/kg)		<200	<200			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1861784-19 Soil 23-NOV-16 02042-07	L1861784-22 Soil 23-NOV-16 02042-10	L1861784-23 Soil 23-NOV-16 02042-11	L1861784-27 Soil 23-NOV-16 02043-03	L1861784-28 Soil 23-NOV-16 02043-04
Grouping	Analyte					
SOIL						
Physical Tests	Moisture (%)	19.6	22.8	23.5	20.9	20.8
	pH (1:2 soil:water) (pH)			7.05	8.18	8.36
Particle Size	General Texture Class					Coarse
	MUST PSA % > 75um (%)					95.4 ^{PSAL}
Leachable Anions & Nutrients	Bromide (Br) (mg/kg)			<0.50		<0.50
	Chloride (Cl) (mg/kg)			34.9		75.0
	Fluoride (F) (mg/kg)			<0.20		<0.20
	Nitrate (as N) (mg/kg)			<0.050		<0.050
	Nitrite (as N) (mg/kg)			<0.010		<0.010
	Sulfate (SO4) (mg/kg)			<10		<10
Organic / Inorganic Carbon	Total Organic Carbon (%)			0.140	0.23	0.138
Saturated Paste Extractables	Chloride (Cl) (mg/kg)		13.0		68.2	73.1
	% Saturation (%)		36.3		35.3	34.9
	Sodium (Na) (mg/kg)		16.4		4.1	3.0
Metals	Antimony (Sb) (mg/kg)			0.22	0.34	0.26
	Arsenic (As) (mg/kg)			2.20	2.59	2.18
	Barium (Ba) (mg/kg)			52.4	76.7	48.5
	Beryllium (Be) (mg/kg)			0.20	0.23	0.22
	Cadmium (Cd) (mg/kg)			0.095	0.123	0.087
	Chromium (Cr) (mg/kg)			29.6	30.9	34.7
	Cobalt (Co) (mg/kg)			7.91	9.31	8.37
	Copper (Cu) (mg/kg)			14.3	18.3	15.6
	Lead (Pb) (mg/kg)			2.16	3.06	2.33
	Mercury (Hg) (mg/kg)			0.0191	0.0197	0.0161
	Molybdenum (Mo) (mg/kg)			0.27	0.29	0.26
	Nickel (Ni) (mg/kg)			33.1	35.5	36.0
	Selenium (Se) (mg/kg)			<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)			<0.10	<0.10	<0.10
	Thallium (Tl) (mg/kg)			<0.050	<0.050	<0.050
	Tin (Sn) (mg/kg)			<2.0	<2.0	<2.0
	Uranium (U) (mg/kg)			0.290	0.404	0.255
	Vanadium (V) (mg/kg)			47.8	48.1	52.1
Zinc (Zn) (mg/kg)			38.1	43.2	38.3	
Hydrocarbons	EPH10-19 (mg/kg)					
	EPH19-32 (mg/kg)					
	LEPH (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1861784-1	L1861784-2	L1861784-5	L1861784-6	L1861784-10
		Description	Soil	Soil	Soil	Soil	Soil
		Sampled Date	23-NOV-16	23-NOV-16	23-NOV-16	23-NOV-16	23-NOV-16
		Sampled Time					
		Client ID	03020-01	03020-02	03020-05	03020-06	03020-10
Grouping	Analyte						
SOIL							
Hydrocarbons	HEPH (mg/kg)	<200	<200	<200			
	F2 (C10-C16) (mg/kg)			<30			
	F3 (C16-C34) (mg/kg)			<50			
	F4 (C34-C50) (mg/kg)			<50			
	F4G-SG (mg/kg)						
	Chrom. to baseline at nC50					YES	
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)	<0.0050	0.0086	<0.0050			
	Acenaphthylene (mg/kg)	<0.0050	0.0212	<0.0050			
	Anthracene (mg/kg)	<0.0040	0.0332	<0.0040			
	Benz(a)anthracene (mg/kg)	<0.010	0.075	<0.010			
	Benzo(a)pyrene (mg/kg)	<0.010	0.059	<0.010			
	Benzo(b)fluoranthene (mg/kg)	<0.010	0.095	<0.010			
	Benzo(b+j+k)fluoranthene (mg/kg)	<0.015	0.135	<0.015			
	Benzo(g,h,i)perylene (mg/kg)	<0.010	0.033	<0.010			
	Benzo(k)fluoranthene (mg/kg)	<0.010	0.041	<0.010			
	Chrysene (mg/kg)	<0.010	0.065	<0.010			
	Dibenz(a,h)anthracene (mg/kg)	<0.0050	0.0082	<0.0050			
	Fluoranthene (mg/kg)	<0.010	0.168	<0.010			
	Fluorene (mg/kg)	<0.010	<0.030 ^{DLQ}	<0.010			
	Indeno(1,2,3-c,d)pyrene (mg/kg)	<0.010	0.040	<0.010			
	2-Methylnaphthalene (mg/kg)	<0.010	<0.010	<0.010			
	Naphthalene (mg/kg)	<0.010	0.016	<0.010			
	Phenanthrene (mg/kg)	<0.010	0.090	<0.010			
	Pyrene (mg/kg)	<0.010	0.142	<0.010			
	Surrogate: Acenaphthene d10 (%)	81.3	85.4	81.2			
	Surrogate: Chrysene d12 (%)	89.1	104.3	89.1			
	Surrogate: Naphthalene d8 (%)	83.0	77.9	80.5			
	Surrogate: Phenanthrene d10 (%)	91.2	91.8	84.1			
	B(a)P Total Potency Equivalent (mg/kg)	<0.020	0.094	<0.020			
IACR (CCME) (mg/kg)	<0.15	1.32	<0.15				
Phenolics	4-Chloro-3-methylphenol (mg/kg)			<0.020			
	2-Chlorophenol (mg/kg)			<0.020			
	3-Chlorophenol (mg/kg)			<0.020			
	4-Chlorophenol (mg/kg)			<0.020			
	2,3-Dichlorophenol (mg/kg)			<0.020			
	2,4 & 2,5-Dichlorophenol (mg/kg)			<0.020			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1861784-11	L1861784-12	L1861784-14	L1861784-15	L1861784-18
		Description	Soil	Soil	Soil	Soil	Soil
		Sampled Date	23-NOV-16	23-NOV-16	23-NOV-16	23-NOV-16	23-NOV-16
		Sampled Time					
		Client ID	03020-11	03020-12	02042-02	02042-03	02042-06
Grouping	Analyte						
SOIL							
Hydrocarbons	HEPH (mg/kg)	<200	<200				
	F2 (C10-C16) (mg/kg)	<30	<30	<30			185
	F3 (C16-C34) (mg/kg)	<50	<50	<50			84
	F4 (C34-C50) (mg/kg)	<50	<50	<50			<50
	F4G-SG (mg/kg)						<500
	Chrom. to baseline at nC50	YES	YES	YES			NO
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)	<0.0050	<0.0050	<0.0050			<0.0050
	Acenaphthylene (mg/kg)	<0.0050	<0.0050	<0.0050			<0.0050
	Anthracene (mg/kg)	<0.0040	<0.0040	<0.0040			<0.0040
	Benz(a)anthracene (mg/kg)	<0.010	<0.010	<0.010			<0.010
	Benzo(a)pyrene (mg/kg)	<0.010	<0.010	<0.010			<0.010
	Benzo(b)fluoranthene (mg/kg)	<0.010	<0.010	<0.010			<0.010
	Benzo(b+j+k)fluoranthene (mg/kg)	<0.015	<0.015	<0.015			<0.015
	Benzo(g,h,i)perylene (mg/kg)	<0.010	<0.010	<0.010			<0.010
	Benzo(k)fluoranthene (mg/kg)	<0.010	<0.010	<0.010			<0.010
	Chrysene (mg/kg)	<0.010	<0.010	<0.010			<0.010
	Dibenz(a,h)anthracene (mg/kg)	<0.0050	<0.0050	<0.0050			<0.0050
	Fluoranthene (mg/kg)	<0.010	<0.010	<0.010			<0.010
	Fluorene (mg/kg)	<0.010	<0.010	<0.010			<0.010
	Indeno(1,2,3-c,d)pyrene (mg/kg)	<0.010	<0.010	<0.010			<0.010
	2-Methylnaphthalene (mg/kg)	<0.010	<0.010	<0.010			<0.010
	Naphthalene (mg/kg)	<0.010	<0.010	<0.010			<0.010
	Phenanthrene (mg/kg)	<0.010	<0.010	<0.010			<0.010
	Pyrene (mg/kg)	<0.010	<0.010	<0.010			<0.010
	Surrogate: Acenaphthene d10 (%)	75.2	74.1	81.2			70.1
	Surrogate: Chrysene d12 (%)	95.1	89.4	101.1			85.3
	Surrogate: Naphthalene d8 (%)	72.7	72.2	77.1			70.6
	Surrogate: Phenanthrene d10 (%)	83.1	83.3	86.5			85.5
	B(a)P Total Potency Equivalent (mg/kg)	<0.020	<0.020	<0.020			<0.020
IACR (CCME) (mg/kg)	<0.15	<0.15	<0.15			<0.15	
Phenolics	4-Chloro-3-methylphenol (mg/kg)	<0.020	<0.020			<0.020	
	2-Chlorophenol (mg/kg)	<0.020	<0.020			<2.1 ^{DLQ}	
	3-Chlorophenol (mg/kg)	<0.020	<0.020			<0.020	
	4-Chlorophenol (mg/kg)	<0.020	<0.020			<0.020	
	2,3-Dichlorophenol (mg/kg)	<0.020	<0.020			<0.020	
	2,4 & 2,5-Dichlorophenol (mg/kg)	<0.020	<0.020			<0.020	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1861784-19 Soil 23-NOV-16 02042-07	L1861784-22 Soil 23-NOV-16 02042-10	L1861784-23 Soil 23-NOV-16 02042-11	L1861784-27 Soil 23-NOV-16 02043-03	L1861784-28 Soil 23-NOV-16 02043-04
Grouping	Analyte					
SOIL						
Hydrocarbons	HEPH (mg/kg)					
	F2 (C10-C16) (mg/kg)			175	<30	<30
	F3 (C16-C34) (mg/kg)			73	<50	<50
	F4 (C34-C50) (mg/kg)			<50	<50	<50
	F4G-SG (mg/kg)					
	Chrom. to baseline at nC50			YES	YES	YES
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)			<0.0050	<0.0050	<0.0050
	Acenaphthylene (mg/kg)			<0.0050	<0.0050	<0.0050
	Anthracene (mg/kg)			<0.0040	<0.0040	<0.0040
	Benz(a)anthracene (mg/kg)			<0.010	<0.010	<0.010
	Benzo(a)pyrene (mg/kg)			<0.010	<0.010	<0.010
	Benzo(b)fluoranthene (mg/kg)			<0.010	<0.010	<0.010
	Benzo(b+j+k)fluoranthene (mg/kg)			<0.015	<0.015	<0.015
	Benzo(g,h,i)perylene (mg/kg)			<0.010	<0.010	<0.010
	Benzo(k)fluoranthene (mg/kg)			<0.010	<0.010	<0.010
	Chrysene (mg/kg)			<0.010	<0.010	<0.010
	Dibenz(a,h)anthracene (mg/kg)			<0.0050	<0.0050	<0.0050
	Fluoranthene (mg/kg)			<0.010	<0.010	<0.010
	Fluorene (mg/kg)			<0.010	<0.010	<0.010
	Indeno(1,2,3-c,d)pyrene (mg/kg)			<0.010	<0.010	<0.010
	2-Methylnaphthalene (mg/kg)			<0.010	<0.010	<0.010
	Naphthalene (mg/kg)			<0.010	<0.010	<0.010
	Phenanthrene (mg/kg)			<0.010	<0.010	<0.010
	Pyrene (mg/kg)			<0.010	<0.010	<0.010
	Surrogate: Acenaphthene d10 (%)			80.7	71.4	75.1
	Surrogate: Chrysene d12 (%)			80.1	83.2	85.9
	Surrogate: Naphthalene d8 (%)			78.5	78.2	77.8
	Surrogate: Phenanthrene d10 (%)			93.3	81.4	78.0
	B(a)P Total Potency Equivalent (mg/kg)			<0.020	<0.020	<0.020
	IACR (CCME) (mg/kg)			<0.15	<0.15	<0.15
Phenolics	4-Chloro-3-methylphenol (mg/kg)				<0.020	<0.020
	2-Chlorophenol (mg/kg)				<0.020	<0.020
	3-Chlorophenol (mg/kg)				<0.020	<0.020
	4-Chlorophenol (mg/kg)				<0.020	<0.020
	2,3-Dichlorophenol (mg/kg)				<0.020	<0.020
	2,4 & 2,5-Dichlorophenol (mg/kg)				<0.020	<0.020

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1861784-1	L1861784-2	L1861784-5	L1861784-6	L1861784-10
		Description	Soil	Soil	Soil	Soil	Soil
		Sampled Date	23-NOV-16	23-NOV-16	23-NOV-16	23-NOV-16	23-NOV-16
		Sampled Time					
		Client ID	03020-01	03020-02	03020-05	03020-06	03020-10
Grouping	Analyte						
SOIL							
Phenolics	2,6-Dichlorophenol (mg/kg)				<0.020		
	3,4-Dichlorophenol (mg/kg)				<0.020		
	3,5-Dichlorophenol (mg/kg)				<0.020		
	2,4-Dimethylphenol (mg/kg)			<0.020	<0.020		
	o-Cresol (mg/kg)			<0.050 ^{DLQ}	<0.030 ^{DLQ}		
	m-Cresol (mg/kg)			<0.090 ^{DLQ}	<0.020		
	p-Cresol (mg/kg)			<0.10 ^{DLQ}	<0.080 ^{DLQ}		
	Pentachlorophenol (mg/kg)				<0.020		
	Phenol (mg/kg)			<0.030 ^{DLQ}	<0.020		
	2,3,4,5-Tetrachlorophenol (mg/kg)				<0.020		
	2,3,4,6-Tetrachlorophenol (mg/kg)				<0.020		
	2,3,5,6-Tetrachlorophenol (mg/kg)				<0.020		
	2,3,4-Trichlorophenol (mg/kg)				<0.020		
	2,3,5-Trichlorophenol (mg/kg)				<0.020		
	2,3,6-Trichlorophenol (mg/kg)				<0.020		
	2,4,5-Trichlorophenol (mg/kg)				<0.020		
	2,4,6-Trichlorophenol (mg/kg)				<0.020		
	3,4,5-Trichlorophenol (mg/kg)				<0.020		
Polychlorinated Biphenyls	PCB-1016 (mg/kg)					<0.020	<0.020
	PCB-1221 (mg/kg)					<0.020	<0.020
	PCB-1232 (mg/kg)					<0.020	<0.020
	PCB-1242 (mg/kg)					<0.020	<0.020
	PCB-1248 (mg/kg)					<0.020	<0.020
	PCB-1254 (mg/kg)					<0.020	<0.020
	PCB-1260 (mg/kg)					<0.020	<0.020
	PCB-1262 (mg/kg)					<0.020	<0.020
	PCB-1268 (mg/kg)					<0.020	<0.020
	Total PCB (BC CSR) (mg/kg)					<0.020	<0.020
Total Polychlorinated Biphenyls (mg/kg)					<0.020	<0.020	
Dioxins and Furans	2,3,7,8-TCDD (pg/g)					>0.70 ^[U]	<0.064 ^[U]
	1,2,3,7,8-PeCDD (pg/g)					<0.19 ^[U]	<0.031 ^[U]
	1,2,3,4,7,8-HxCDD (pg/g)					<0.14 ^[U]	<0.045 ^{M,U}
	1,2,3,6,7,8-HxCDD (pg/g)					<0.12 ^[U]	0.065 ^{M,J}
	1,2,3,7,8,9-HxCDD (pg/g)					<0.13 ^{M,U}	0.130 ^{M,J,R}
	1,2,3,4,6,7,8-HpCDD (pg/g)					0.21 ^{M,J,R}	0.584 ^[J]
OCDD (pg/g)					1.68 ^[J]	4.93 ^[J]	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1861784-11	L1861784-12	L1861784-14	L1861784-15	L1861784-18
		Description	Soil	Soil	Soil	Soil	Soil
		Sampled Date	23-NOV-16	23-NOV-16	23-NOV-16	23-NOV-16	23-NOV-16
		Sampled Time					
		Client ID	03020-11	03020-12	02042-02	02042-03	02042-06
Grouping	Analyte						
SOIL							
Phenolics	2,6-Dichlorophenol (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
	3,4-Dichlorophenol (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
	3,5-Dichlorophenol (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
	2,4-Dimethylphenol (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
	o-Cresol (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
	m-Cresol (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
	p-Cresol (mg/kg)	<0.090 ^{DLQ}	<0.10 ^{DLQ}	<0.060 ^{DLQ}	<0.060 ^{DLQ}	<0.060 ^{DLQ}	<0.060 ^{DLQ}
	Pentachlorophenol (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
	Phenol (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
	2,3,4,5-Tetrachlorophenol (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
	2,3,4,6-Tetrachlorophenol (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
	2,3,5,6-Tetrachlorophenol (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
	2,3,4-Trichlorophenol (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
	2,3,5-Trichlorophenol (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
	2,3,6-Trichlorophenol (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
	2,4,5-Trichlorophenol (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
	2,4,6-Trichlorophenol (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
	3,4,5-Trichlorophenol (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
	Polychlorinated Biphenyls	PCB-1016 (mg/kg)				<0.020	<0.020
PCB-1221 (mg/kg)					<0.020	<0.020	<0.020
PCB-1232 (mg/kg)					<0.020	<0.020	<0.020
PCB-1242 (mg/kg)					<0.020	<0.020	<0.020
PCB-1248 (mg/kg)					<0.020	<0.020	<0.020
PCB-1254 (mg/kg)					<0.020	<0.020	<0.020
PCB-1260 (mg/kg)					<0.020	<0.020	<0.020
PCB-1262 (mg/kg)					<0.020	<0.020	<0.020
PCB-1268 (mg/kg)					<0.020	<0.020	<0.020
Total PCB (BC CSR) (mg/kg)					<0.020	<0.020	<0.020
Total Polychlorinated Biphenyls (mg/kg)				<0.020	<0.020	<0.020	
Dioxins and Furans	2,3,7,8-TCDD (pg/g)				<0.067 ^[U]	<0.067 ^[U]	<0.067 ^[U]
	1,2,3,7,8-PeCDD (pg/g)				<0.050 ^[U]	<0.050 ^[U]	<0.050 ^[U]
	1,2,3,4,7,8-HxCDD (pg/g)				<0.043 ^[U]	<0.043 ^[U]	<0.043 ^[U]
	1,2,3,6,7,8-HxCDD (pg/g)				<0.042 ^[U]	<0.042 ^[U]	<0.042 ^[U]
	1,2,3,7,8,9-HxCDD (pg/g)				<0.045 ^{M,U}	<0.045 ^{M,U}	<0.045 ^{M,U}
	1,2,3,4,6,7,8-HpCDD (pg/g)				0.270 ^{M,J,R}	0.270 ^{M,J,R}	0.270 ^{M,J,R}
OCDD (pg/g)				2.00 ^[J]	2.00 ^[J]	2.00 ^[J]	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1861784-19 Soil 23-NOV-16 02042-07	L1861784-22 Soil 23-NOV-16 02042-10	L1861784-23 Soil 23-NOV-16 02042-11	L1861784-27 Soil 23-NOV-16 02043-03	L1861784-28 Soil 23-NOV-16 02043-04
Grouping	Analyte					
SOIL						
Phenolics	2,6-Dichlorophenol (mg/kg)				<0.020	<0.020
	3,4-Dichlorophenol (mg/kg)				<0.020	<0.020
	3,5-Dichlorophenol (mg/kg)				<0.020	<0.020
	2,4-Dimethylphenol (mg/kg)				<0.020	<0.020
	o-Cresol (mg/kg)				<0.020	<0.020
	m-Cresol (mg/kg)				<0.020	<0.020
	p-Cresol (mg/kg)				<0.040 ^{DLQ}	<0.040 ^{DLQ}
	Pentachlorophenol (mg/kg)				<0.020	<0.020
	Phenol (mg/kg)				<0.020	<0.020
	2,3,4,5-Tetrachlorophenol (mg/kg)				<0.020	<0.020
	2,3,4,6-Tetrachlorophenol (mg/kg)				<0.020	<0.020
	2,3,5,6-Tetrachlorophenol (mg/kg)				<0.020	<0.020
	2,3,4-Trichlorophenol (mg/kg)				<0.020	<0.020
	2,3,5-Trichlorophenol (mg/kg)				<0.020	<0.020
	2,3,6-Trichlorophenol (mg/kg)				<0.020	<0.020
	2,4,5-Trichlorophenol (mg/kg)				<0.020	<0.020
	2,4,6-Trichlorophenol (mg/kg)				<0.020	<0.020
	3,4,5-Trichlorophenol (mg/kg)				<0.020	<0.020
Polychlorinated Biphenyls	PCB-1016 (mg/kg)	<0.020	<0.020		<0.020	<0.020
	PCB-1221 (mg/kg)	<0.020	<0.020		<0.020	<0.020
	PCB-1232 (mg/kg)	<0.020	<0.020		<0.020	<0.020
	PCB-1242 (mg/kg)	<0.020	<0.020		<0.020	<0.020
	PCB-1248 (mg/kg)	<0.020	<0.020		<0.020	<0.020
	PCB-1254 (mg/kg)	<0.020	<0.020		<0.020	<0.020
	PCB-1260 (mg/kg)	<0.020	<0.020		<0.020	<0.020
	PCB-1262 (mg/kg)	<0.020	<0.020		<0.020	<0.020
	PCB-1268 (mg/kg)	<0.020	<0.020		<0.020	<0.020
	Total PCB (BC CSR) (mg/kg)	<0.020	<0.020		<0.020	<0.020
	Total Polychlorinated Biphenyls (mg/kg)	<0.020	<0.020		<0.020	<0.020
Dioxins and Furans	2,3,7,8-TCDD (pg/g)		<0.059 ^[U]			<0.056 ^[U]
	1,2,3,7,8-PeCDD (pg/g)		0.070 ^{M,U}			<0.030 ^{M,U}
	1,2,3,4,7,8-HxCDD (pg/g)		<0.073 ^[U]			<0.048 ^[U]
	1,2,3,6,7,8-HxCDD (pg/g)		<0.069 ^[U]			<0.043 ^[U]
	1,2,3,7,8,9-HxCDD (pg/g)		0.140 ^{M,U}			<0.047 ^[U]
	1,2,3,4,6,7,8-HpCDD (pg/g)		0.817 ^{M,U}			0.238 ^[J]
OCDD (pg/g)		6.13 ^[J]			2.30 ^{M,U}	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1861784-1	L1861784-2	L1861784-5	L1861784-6	L1861784-10
		Description	Soil	Soil	Soil	Soil	Soil
		Sampled Date	23-NOV-16	23-NOV-16	23-NOV-16	23-NOV-16	23-NOV-16
		Sampled Time					
		Client ID	03020-01	03020-02	03020-05	03020-06	03020-10
Grouping	Analyte						
SOIL							
Dioxins and Furans	Total-TCDD (pg/g)					<0.70 ^[U]	0.318
	Total TCDD # Homologues					0	1
	Total-PeCDD (pg/g)					<0.19 ^[U]	0.201
	Total PeCDD # Homologues					0	2
	Total-HxCDD (pg/g)					<0.14 ^[U]	0.429
	Total HxCDD # Homologues					0	3
	Total-HpCDD (pg/g)					<0.13 ^[U]	0.584
	Total HpCDD # Homologues					0	1
	2,3,7,8-TCDF (pg/g)					<0.76 ^[U]	<0.046 ^{M,U}
	1,2,3,7,8-PeCDF (pg/g)					<0.20 ^[U]	<0.025 ^[U]
	2,3,4,7,8-PeCDF (pg/g)					<0.14 ^[U]	<0.022 ^[U]
	1,2,3,4,7,8-HxCDF (pg/g)					<0.19 ^[U]	<0.023 ^[U]
	1,2,3,6,7,8-HxCDF (pg/g)					<0.14 ^[U]	<0.020 ^[U]
	1,2,3,7,8,9-HxCDF (pg/g)					<0.17 ^[U]	<0.033 ^{M,U}
	2,3,4,6,7,8-HxCDF (pg/g)					<0.11 ^[U]	<0.023 ^[U]
	1,2,3,4,6,7,8-HpCDF (pg/g)					<0.067 ^[U]	<0.023 ^{M,U}
	1,2,3,4,7,8,9-HpCDF (pg/g)					<0.11 ^[U]	<0.033 ^[U]
	OCDF (pg/g)					<0.10 ^[U]	0.143 ^{M,J}
	Total-TCDF (pg/g)					<0.76 ^[U]	<0.046 ^[U]
	Total TCDF # Homologues					0	0
	Total-PeCDF (pg/g)					<0.20 ^[U]	<0.025 ^[U]
	Total PeCDF # Homologues					0	0
	Total-HxCDF (pg/g)					<0.19 ^[U]	<0.033 ^[U]
	Total HxCDF # Homologues					0	0
	Total-HpCDF (pg/g)					<0.11 ^[U]	<0.033 ^[U]
	Total HpCDF # Homologues					0	0
	Surrogate: 13C12-2,3,7,8-TCDD (%)					13.0 ^G	83.0
	Surrogate: 13C12-1,2,3,7,8-PeCDD (%)					28.0	90.0
	Surrogate: 13C12-1,2,3,4,7,8-HxCDD (%)					24.0 ^G	73.0
	Surrogate: 13C12-1,2,3,6,7,8-HxCDD (%)					42.0	93.0
	Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD (%)					50.0	86.0
	Surrogate: 13C12-OCDD (%)					57.0	79.0
	Surrogate: 13C12-2,3,7,8-TCDF (%)					10.0 ^G	87.0
	Surrogate: 13C12-1,2,3,7,8-PeCDF (%)					22.0 ^G	89.0
	Surrogate: 13C12-2,3,4,7,8-PeCDF (%)					25.0	88.0
	Surrogate: 13C12-1,2,3,4,7,8-HxCDF (%)					21.0 ^G	71.0
Surrogate: 13C12-1,2,3,6,7,8-HxCDF (%)					39.0	92.0	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1861784-11 Soil 23-NOV-16 03020-11	L1861784-12 Soil 23-NOV-16 03020-12	L1861784-14 Soil 23-NOV-16 02042-02	L1861784-15 Soil 23-NOV-16 02042-03	L1861784-18 Soil 23-NOV-16 02042-06
Grouping	Analyte					
SOIL						
Dioxins and Furans	Total-TCDD (pg/g)				<0.067 ^[U]	
	Total TCDD # Homologues				0	
	Total-PeCDD (pg/g)				0.062	
	Total PeCDD # Homologues				1	
	Total-HxCDD (pg/g)				0.224	
	Total HxCDD # Homologues				1	
	Total-HpCDD (pg/g)				<0.042 ^[U]	
	Total HpCDD # Homologues				0	
	2,3,7,8-TCDF (pg/g)				0.079 ^{M,J,R}	
	1,2,3,7,8-PeCDF (pg/g)				<0.025 ^[U]	
	2,3,4,7,8-PeCDF (pg/g)				<0.021 ^[U]	
	1,2,3,4,7,8-HxCDF (pg/g)				<0.021 ^[U]	
	1,2,3,6,7,8-HxCDF (pg/g)				<0.020 ^[U]	
	1,2,3,7,8,9-HxCDF (pg/g)				<0.030 ^{M,U}	
	2,3,4,6,7,8-HxCDF (pg/g)				<0.020 ^[U]	
	1,2,3,4,6,7,8-HpCDF (pg/g)				<0.023 ^[U]	
	1,2,3,4,7,8,9-HpCDF (pg/g)				<0.033 ^[U]	
	OCDF (pg/g)				0.093 ^{M,J}	
	Total-TCDF (pg/g)				<0.050 ^[U]	
	Total TCDF # Homologues				0	
	Total-PeCDF (pg/g)				<0.025 ^[U]	
	Total PeCDF # Homologues				0	
	Total-HxCDF (pg/g)				<0.030 ^[U]	
	Total HxCDF # Homologues				0	
	Total-HpCDF (pg/g)				<0.033 ^[U]	
	Total HpCDF # Homologues				0	
	Surrogate: 13C12-2,3,7,8-TCDD (%)				64.0	
	Surrogate: 13C12-1,2,3,7,8-PeCDD (%)				80.0	
	Surrogate: 13C12-1,2,3,4,7,8-HxCDD (%)				73.0	
	Surrogate: 13C12-1,2,3,6,7,8-HxCDD (%)				82.0	
	Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD (%)				83.0	
	Surrogate: 13C12-OCDD (%)				82.0	
	Surrogate: 13C12-2,3,7,8-TCDF (%)				63.0	
	Surrogate: 13C12-1,2,3,7,8-PeCDF (%)				76.0	
	Surrogate: 13C12-2,3,4,7,8-PeCDF (%)				79.0	
Surrogate: 13C12-1,2,3,4,7,8-HxCDF (%)				64.0		
Surrogate: 13C12-1,2,3,6,7,8-HxCDF (%)				87.0		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1861784-19	L1861784-22	L1861784-23	L1861784-27	L1861784-28
		Description	Soil	Soil	Soil	Soil	Soil
		Sampled Date	23-NOV-16	23-NOV-16	23-NOV-16	23-NOV-16	23-NOV-16
		Sampled Time					
		Client ID	02042-07	02042-10	02042-11	02043-03	02043-04
Grouping	Analyte						
SOIL							
Dioxins and Furans	Total-TCDD (pg/g)			0.438			<0.056 ^[U]
	Total TCDD # Homologues			1			0
	Total-PeCDD (pg/g)			0.358			<0.030 ^[U]
	Total PeCDD # Homologues			3			0
	Total-HxCDD (pg/g)			0.749			<0.048 ^[U]
	Total HxCDD # Homologues			2			0
	Total-HpCDD (pg/g)			2.00			0.728
	Total HpCDD # Homologues			2			2
	2,3,7,8-TCDF (pg/g)			0.225 ^{M,J}			0.105 ^{M,J}
	1,2,3,7,8-PeCDF (pg/g)			<0.025 ^[U]			<0.026 ^[U]
	2,3,4,7,8-PeCDF (pg/g)			<0.021 ^[U]			<0.021 ^[U]
	1,2,3,4,7,8-HxCDF (pg/g)			<0.027 ^[U]			<0.021 ^[U]
	1,2,3,6,7,8-HxCDF (pg/g)			<0.024 ^[U]			<0.020 ^[U]
	1,2,3,7,8,9-HxCDF (pg/g)			0.066 ^{M,J}			<0.030 ^{M,U}
	2,3,4,6,7,8-HxCDF (pg/g)			<0.026 ^[U]			<0.020 ^[U]
	1,2,3,4,6,7,8-HpCDF (pg/g)			0.027 ^{M,J,R}			<0.019 ^[U]
	1,2,3,4,7,8,9-HpCDF (pg/g)			<0.026 ^[U]			<0.026 ^[U]
	OCDF (pg/g)			0.088 ^{M,J}			0.054 ^{M,J}
	Total-TCDF (pg/g)			0.366			0.229
	Total TCDF # Homologues			2			2
	Total-PeCDF (pg/g)			<0.025 ^[U]			<0.026 ^[U]
	Total PeCDF # Homologues			0			0
	Total-HxCDF (pg/g)			0.066			<0.030 ^[U]
	Total HxCDF # Homologues			1			0
	Total-HpCDF (pg/g)			<0.026 ^[U]			<0.026 ^[U]
	Total HpCDF # Homologues			0			0
	Surrogate: 13C12-2,3,7,8-TCDD (%)			77.0			74.0
	Surrogate: 13C12-1,2,3,7,8-PeCDD (%)			84.0			78.0
	Surrogate: 13C12-1,2,3,4,7,8-HxCDD (%)			71.0			68.0
	Surrogate: 13C12-1,2,3,6,7,8-HxCDD (%)			82.0			85.0
	Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD (%)			77.0			77.0
	Surrogate: 13C12-OCDD (%)			75.0			78.0
	Surrogate: 13C12-2,3,7,8-TCDF (%)			82.0			77.0
Surrogate: 13C12-1,2,3,7,8-PeCDF (%)			85.0			80.0	
Surrogate: 13C12-2,3,4,7,8-PeCDF (%)			85.0			78.0	
Surrogate: 13C12-1,2,3,4,7,8-HxCDF (%)			62.0			66.0	
Surrogate: 13C12-1,2,3,6,7,8-HxCDF (%)			88.0			84.0	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1861784-1	L1861784-2	L1861784-5	L1861784-6	L1861784-10
		Description	Soil	Soil	Soil	Soil	Soil
		Sampled Date	23-NOV-16	23-NOV-16	23-NOV-16	23-NOV-16	23-NOV-16
		Sampled Time					
		Client ID	03020-01	03020-02	03020-05	03020-06	03020-10
Grouping	Analyte						
SOIL							
Dioxins and Furans	Surrogate: 13C12-2,3,4,6,7,8-HxCDF (%)					45.0	81.0
	Surrogate: 13C12-1,2,3,7,8,9-HxCDF (%)					38.0	78.0
	Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF (%)					44.0	75.0
	Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF (%)					39.0	77.0
	Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup) (%)					12.0 ^G	83.0
Toxic Equivalency	Lower Bound PCDD/F TEQ (WHO 2005) (pg/g)					0.000504	0.0139
	Mid Point PCDD/F TEQ (WHO 2005) (pg/g)					0.561	0.0878
	Upper Bound PCDD/F TEQ (WHO 2005) (pg/g)					1.12	0.149

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1861784-11 Soil 23-NOV-16 03020-11	L1861784-12 Soil 23-NOV-16 03020-12	L1861784-14 Soil 23-NOV-16 02042-02	L1861784-15 Soil 23-NOV-16 02042-03	L1861784-18 Soil 23-NOV-16 02042-06
Grouping	Analyte					
SOIL						
Dioxins and Furans	Surrogate: 13C12-2,3,4,6,7,8-HxCDF (%)				80.0	
	Surrogate: 13C12-1,2,3,7,8,9-HxCDF (%)				77.0	
	Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF (%)				72.0	
	Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF (%)				76.0	
	Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup) (%)				60.0	
Toxic Equivalency	Lower Bound PCDD/F TEQ (WHO 2005) (pg/g)				0.000628	
	Mid Point PCDD/F TEQ (WHO 2005) (pg/g)				0.0846	
	Upper Bound PCDD/F TEQ (WHO 2005) (pg/g)				0.158	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1861784-19	L1861784-22	L1861784-23	L1861784-27	L1861784-28
		Description	Soil	Soil	Soil	Soil	Soil
		Sampled Date	23-NOV-16	23-NOV-16	23-NOV-16	23-NOV-16	23-NOV-16
		Sampled Time					
		Client ID	02042-07	02042-10	02042-11	02043-03	02043-04
Grouping	Analyte						
SOIL							
Dioxins and Furans	Surrogate: 13C12-2,3,4,6,7,8-HxCDF (%)			76.0			76.0
	Surrogate: 13C12-1,2,3,7,8,9-HxCDF (%)			74.0			74.0
	Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF (%)			71.0			71.0
	Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF (%)			73.0			72.0
	Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup) (%)			77.0			75.0
Toxic Equivalency	Lower Bound PCDD/F TEQ (WHO 2005) (pg/g)			0.123			0.0136
	Mid Point PCDD/F TEQ (WHO 2005) (pg/g)			0.168			0.0718
	Upper Bound PCDD/F TEQ (WHO 2005) (pg/g)			0.212			0.130

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

Additional Comments for Sample Listed:

Samplenum	Matrix	Report Remarks	Sample Comment:
L1861784-6	Soil	Note: Sample has multiple Extraction Standards below method recovery criteria. Results quantified using isotope dilution are inherently recovery corrected, therefore no impact to data quality is expected. Results confirmed by sample duplicate. Duplicate Extraction Standard recoveries meet criteria.	

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Duplicate	Barium (Ba)	DUP-H	L1861784-27, -28
Duplicate	Copper (Cu)	DUP-H	L1861784-27, -28
Duplicate	Nickel (Ni)	DUP-H	L1861784-27, -28
Duplicate	Total-HpCDD	G	L1861784-10, -15, -22, -28, -6
Comments:	Sample and duplicate RPD criteria outside method limits for select low level targets. It is expected that relative uncertainty increases with compounds detected at levels below the Lower Quantification Limit.		
Duplicate	Total-HxCDD	G	L1861784-10, -15, -22, -28, -6
Comments:	Sample and duplicate RPD criteria outside method limits for select low level targets. It is expected that relative uncertainty increases with compounds detected at levels below the Lower Quantification Limit.		
Method Blank	1,2,3,4,6,7,8-HpCDF	M,U	L1861784-10, -15, -22, -28, -6
Method Blank	OCDD	M,U	L1861784-10, -15, -22, -28, -6
Certified Reference Material	2,4 & 2,5-Dichlorophenol	RM-ND	L1861784-11, -12, -18, -27, -28, -5
Method Blank	1,2,3,4,6,7,8-HpCDD	[U]	L1861784-10, -15, -22, -28, -6
Method Blank	1,2,3,4,7,8,9-HpCDF	[U]	L1861784-10, -15, -22, -28, -6
Method Blank	1,2,3,4,7,8-HxCDD	[U]	L1861784-10, -15, -22, -28, -6
Method Blank	1,2,3,4,7,8-HxCDF	[U]	L1861784-10, -15, -22, -28, -6
Method Blank	1,2,3,6,7,8-HxCDD	[U]	L1861784-10, -15, -22, -28, -6
Method Blank	1,2,3,6,7,8-HxCDF	[U]	L1861784-10, -15, -22, -28, -6
Method Blank	1,2,3,7,8,9-HxCDD	[U]	L1861784-10, -15, -22, -28, -6
Method Blank	1,2,3,7,8,9-HxCDF	[U]	L1861784-10, -15, -22, -28, -6
Method Blank	1,2,3,7,8-PeCDD	[U]	L1861784-10, -15, -22, -28, -6
Method Blank	1,2,3,7,8-PeCDF	[U]	L1861784-10, -15, -22, -28, -6
Method Blank	2,3,4,6,7,8-HxCDF	[U]	L1861784-10, -15, -22, -28, -6
Method Blank	2,3,4,7,8-PeCDF	[U]	L1861784-10, -15, -22, -28, -6
Method Blank	2,3,7,8-TCDD	[U]	L1861784-10, -15, -22, -28, -6
Method Blank	2,3,7,8-TCDF	[U]	L1861784-10, -15, -22, -28, -6
Method Blank	OCDF	[U]	L1861784-10, -15, -22, -28, -6
Method Blank	Total-HpCDD	[U]	L1861784-10, -15, -22, -28, -6
Method Blank	Total-HpCDF	[U]	L1861784-10, -15, -22, -28, -6
Method Blank	Total-HxCDD	[U]	L1861784-10, -15, -22, -28, -6
Method Blank	Total-HxCDF	[U]	L1861784-10, -15, -22, -28, -6
Method Blank	Total-PeCDD	[U]	L1861784-10, -15, -22, -28, -6
Method Blank	Total-PeCDF	[U]	L1861784-10, -15, -22, -28, -6
Method Blank	Total-TCDD	[U]	L1861784-10, -15, -22, -28, -6
Method Blank	Total-TCDF	[U]	L1861784-10, -15, -22, -28, -6

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLQ	Detection Limit raised due to co-eluting interference. GCMS qualifier ion ratio did not meet acceptance criteria.
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.
G	QC result did not meet ALS DQO. Refer to narrative comments for further information.
M,J	A peak has been manually integrated, and the analyte was detected below the calibrated range but above the EDL.
M,J,R	A peak has been manually integrated, the analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M,U	A peak has been manually integrated, and the analyte was not detected above the EDL.

Reference Information

PSAL	Limited sample was available for PSA (100g minimum is standard). Measurement Uncertainty for PSA results may be higher than usual.
RM-ND	Reference Material recovery was slightly outside ALS DQO. Reported non-detect results for associated samples were unaffected.
[J]	The analyte was detected below the calibrated range but above the EDL.
[U]	The analyte was not detected above the EDL.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BR-LEACH-IC-VA	Soil	Bromide leach (1:10) by IC	APHA 4110 IC
		Leachable Anions in Sediment/Soil Method analysis is carried out using a leaching procedure which involves the gentle tumbling of the sample in a specified leaching solution (typically deionized water) for a specific length of time. The resulting extract is then analysed anions by ion chromatography with conductivity or UV detection. The method is applicable to the following anions: fluoride, chloride, phosphate, bromide, nitrate, sulphate.	
C-TIC-PCT-SK	Soil	Total Inorganic Carbon in Soil	CSSS (2008) P216-217
		A known quantity of acetic acid is consumed by reaction with carbonates in the soil. The pH of the resulting solution is measured and compared against a standard curve relating pH to weight of carbonate.	
C-TOC-CALC-SK	Soil	Total Organic Carbon Calculation	CSSS (2008) 21.2
		Total Organic Carbon (TOC) is calculated by the difference between total carbon (TC) and total inorganic carbon. (TIC)	
C-TOT-LECO-SK	Soil	Total Carbon by combustion method	SSSA (1996) P. 973-974
		The sample is ignited in a combustion analyzer where carbon in the reduced CO ₂ gas is determined using a thermal conductivity detector.	
CL-LEACH-IC-VA	Soil	Chloride leach (1:10) by IC	APHA 4110 IC
		Leachable Anions in Sediment/Soil Method analysis is carried out using a leaching procedure which involves the gentle tumbling of the sample in a specified leaching solution (typically deionized water) for a specific length of time. The resulting extract is then analysed anions by ion chromatography with conductivity or UV detection. The method is applicable to the following anions: fluoride, chloride, phosphate, bromide, nitrate, sulphate.	
CL-PASTE-IC-VA	Soil	Chloride in Soil (Paste) by IC	Carter-CSSS / EPA 300.1 (modified)
		A soil extract produced by the saturated paste extraction procedure is analyzed for chloride by Ion Chromatography with conductivity detection.	
CLPHEN-TMB-MS-VA	Soil	Chlorinated Phenols by Tumbler/GCMS	EPA 3570, 8270D, Knapp(1979)
		A subsample of the soil/sediment is rotary extracted by solvent, derivitized, and analysed by GC/MS.	
DX-1613B-HRMS-BU	Soil	Dioxins and Furans HR 1613B	USEPA 1613B
		Samples are extracted by Soxhlet. The extracts are prepared using column chromatography, reduced in volume and analyzed by isotope-dilution GC/HRMS	
EPH-TUMB-FID-VA	Soil	EPH in Solids by Tumbler and GCFID	BC MOE EPH GCFID
		Analysis is in accordance with BC MOE Lab Manual method "Extractable Petroleum Hydrocarbons in Solids by GC/FID", v2.1, July 1999. Soil samples are extracted with a 1:1 mixture of hexane and acetone using a rotary extraction technique modified from EPA 3570 prior to gas chromatography with flame ionization detection (GC-FID). EPH results include Polycyclic Aromatic Hydrocarbons (PAH) and are therefore not equivalent to Light and Heavy Extractable Petroleum Hydrocarbons (LEPH/HEPH).	
F-1:5-DI-SIE-VA	Soil	Fluoride leach (1:5) by SIE	BCMoe/APHA Method 4500-F Fluoride
		This analysis is carried out using procedures from the Method: "Fluoride in Soils by 5:1 Aqueous Extraction", BC Ministry of Environment, 22 January 2008, and procedures adapted from APHA Method 4500-F "Fluoride". The procedure involves mixing the dried (at <60 C) and sieved (2mm) sample with deionized/distilled water at a 1:5 ratio of soil to water. Fluoride is determined using a selective ion electrode	
F2F4-TUMB-H/A-FID-VA	Soil	CWS F2-F4 Hydrocarbons by Tumbler GCFID	CCME PETROLEUM HYDROCARBONS
		This analysis is carried out in accordance with the "Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil - Tier 1 Method, Canadian Council of Ministers of the Environment, December 2000." For C10 to C50 hydrocarbons (F2, F3, F4) and gravimetric heavy hydrocarbons (F4G-sg), a subsample of the sediment/soil is extracted with 1:1 hexane:acetone using a rotary extractor. The extract undergoes a silica-gel clean-up to remove polar compounds. F2, F3 & F4 are analyzed by on-column GC/FID, and F4G-sg is analyzed gravimetrically.	

Notes:

1. F2 (C10-C16): Sum of all hydrocarbons that elute between nC10 and nC16.
2. F3 (C16-C34): Sum of all hydrocarbons that elute between nC16 and nC34.
3. F4 (C34-C50): Sum of all hydrocarbons that elute between nC34 and nC50.

Reference Information

4. F4G: Gravimetric Heavy Hydrocarbons
5. F4G-sg: Gravimetric Heavy Hydrocarbons (F4G) after silica gel treatment.
6. Where F4 (C34-C50) and F4G-sg results are reported for a sample, the larger of the reported values is used for comparison against the relevant CCME standard for F4.
7. The gravimetric heavy hydrocarbon results (F4G-sg), cannot be added to the C6 to C50 hydrocarbon results.
8. This method is validated for use.
9. Data from analysis of quality control samples is available upon request.
10. Reported results are expressed as milligrams per dry kilogram.

HG-200.2-CVAF-VA Soil Mercury in Soil by CVAFS EPA 200.2/1631E (mod)
 Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CVAFS.

IC-CACO3-CALC-SK Soil Inorganic Carbon as CaCO3 Equivalent Calculation

LEPH/HEPH-CALC-VA Soil LEPHs and HEPHs BC MOE LABORATORY MANUAL (2005)

Light and Heavy Extractable Petroleum Hydrocarbons in Solids. These results are determined according to the British Columbia Ministry of Environment, Lands, and Parks Analytical Method for Contaminated Sites "Calculation of Light and Heavy Extractable Petroleum Hydrocarbons in Solids or Water". According to this method, LEPH and HEPH are calculated by subtracting selected Polycyclic Aromatic Hydrocarbon results from Extractable Petroleum Hydrocarbon results. To calculate LEPH, the individual results for Naphthalene and Phenanthrene are subtracted from EPH(C10-19). To calculate HEPH, the individual results for Benz(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Dibenz(a,h)anthracene, Indeno(1,2,3-c,d)pyrene, and Pyrene are subtracted from EPH(C19-32). Analysis of Extractable Petroleum Hydrocarbons adheres to all prescribed elements of the BCMELP method "Extractable Petroleum Hydrocarbons in Solids by GC/FID" (Version 2.1, July 20, 1999).

MET-200.2-CCMS-VA Soil Metals in Soil by CRC ICPMS EPA 200.2/6020A (mod)
 Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CRC ICPMS.

Method Limitation: This method is not a total digestion technique. It is a very strong acid digestion that is intended to dissolve those metals that may be environmentally available. This method does not dissolve all silicate materials and may result in a partial extraction, depending on the sample matrix, for some metals, including, but not limited to Al, Ba, Be, Cr, Sr, Ti, Tl, and V.

MET-PASTE-ICP-VA Soil Metals in Soil (Paste) by ICPOES Carter-CSSS / EPA 6010B (modified)

A soil extract produced by the saturated paste extraction procedure is analyzed for Sodium, Calcium, and Magnesium by ICPOES as per "Soil Sampling and Methods of Analysis" by M. Carter.

MOISTURE-VA Soil Moisture content ASTM D2974-00 Method A

This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of six hours.

NO2-LEACH-IC-VA Soil Nitrite leach (1:10) by IC APHA 4110 IC

Leachable Anions in Sediment/Soil Method analysis is carried out using a leaching procedure which involves the gentle tumbling of the sample in a specified leaching solution (typically deionized water) for a specific length of time. The resulting extract is then analysed anions by ion chromatography with conductivity or UV detection. The method is applicable to the following anions: fluoride, chloride, phosphate, bromide, nitrate, sulphate.

NO3-LEACH-IC-VA Soil Nitrate leach (1:10) by IC APHA 4110 IC

Leachable Anions in Sediment/Soil Method analysis is carried out using a leaching procedure which involves the gentle tumbling of the sample in a specified leaching solution (typically deionized water) for a specific length of time. The resulting extract is then analysed anions by ion chromatography with conductivity or UV detection. The method is applicable to the following anions: fluoride, chloride, phosphate, bromide, nitrate, sulphate.

OGG-F4G-TUMB-SG-VA Soil CWS F4G with Silica Gel CCME PETROLEUM HYDROCARBONS-
 GRAVIMETRIC

This analysis is carried out in accordance with the "Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil - Tier 1 Method, Canadian Council of Ministers of the Environment, December 2000." For gravimetric heavy hydrocarbons (F4G-sg), a subsample of the sediment/soil is extracted with 1:1 hexane:acetone using a rotary extractor. The extract undergoes a silica-gel clean-up to remove polar compounds prior to gravimetric analysis.

Notes:

1. F4G-sg: Gravimetric Heavy Hydrocarbons (F4G) after silica gel treatment.
3. Where F4 (C34-C50) and F4G-sg results are reported for a sample, the larger of the reported values is used for comparison against the relevant CCME standard for F4.
4. The gravimetric heavy hydrocarbon (F4G-sg) result cannot be added to the C6 to C50 hydrocarbons results.
5. This method is validated for use.
6. Data from analysis of quality control samples is available upon request.
7. Reported results are expressed as milligrams per dry kilogram.

PAH-TMB-H/A-MS-VA Soil PAH - Rotary Extraction (Hexane/Acetone) EPA 3570/8270

This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Methods 3570 & 8270, published by the United States Environmental Protection Agency (EPA). The procedure uses a mechanical shaking technique to extract a subsample of the sediment/soil with a 1:1 mixture of hexane and acetone. The extract is then solvent exchanged to toluene. The final extract is analysed by capillary column gas chromatography with mass spectrometric detection (GC/MS). Surrogate recoveries may not be reported in cases where interferences from

Reference Information

the sample matrix prevent accurate quantitation. Because the two isomers cannot be readily chromatographically separated, benzo(j)fluoranthene is reported as part of the benzo(b)fluoranthene parameter.

PCB-CSR-SUM-CALC-VA Soil Total PCB (BC CSR) in soil BC Contaminated Sites Regulation

Calculation of Total PCB to meet BC Contaminated Sites Regulation. Total PCB (BC CSR) is the sum of the concentrations of PCB aroclors 1242, 1248, 1254 and 1260. Results below detection limit (DL) are treated as zero. The Total PCB detection limit is equal to the highest of the aroclor detection limits used in the sum.

PCB-SE-ECD-VA Soil PCB by Extraction with GCECD EPA8082, 3630

This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Methods 3500, 3620, 3630, 3660, 3665 & 8082, published by the United States Environmental Protection Agency (EPA). The procedure involves a solid-liquid extraction of a subsample of the sediment/soil using a mixture of hexane and acetone. Water is added to the extract and the resulting hexane extract undergoes one or more of the following clean-up procedures (if required): florisil clean-up, silica gel clean-up, sulphur clean-up and/or sulphuric acid clean-up. The final extract is analysed by capillary column gas chromatography with electron capture detection (GC/ECD).

PCB-SUM-CALC-VA Soil Total PCBs in soil CALCULATION

Calculation of Total PCB. Total PCB is the sum of the concentrations of PCB aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260, 1262, and 1268. Results below detection limit (DL) are treated as zero. The Total PCB detection limit is equal to the highest of the aroclor detection limits used in the sum.

PH-1:2-VA Soil pH in Soil (1:2 Soil:Water Extraction) BC WLAP METHOD: PH, ELECTROMETRIC, SOIL

This analysis is carried out in accordance with procedures described in the pH, Electrometric in Soil and Sediment method - Section B Physical/Inorganic and Misc. Constituents, BC Environmental Laboratory Manual 2007. The procedure involves mixing the dried (at <60 C) and sieved (No. 10 / 2mm) sample with deionized/distilled water at a 1:2 ratio of sediment to water. The pH of the solution is then measured using a standard pH probe.

PHEN-TMB-MS-VA Soil Phenolics by Tumbler/GC-MS EPA 3570, 8270D, Knapp(1979)

A subsample of the soil/sediment is rotary extracted by solvent, derivitized, and analysed by GC/MS.

PSA-MUST-SK Soil % Particles > 75um (Coarse/Fine) ASTM D422-63-SIEVE

An air-dried sample is reduced to < 2 mm size and mixed with a dispersing agent (Calgon solution). The sample is washed through a 200 mesh (75 m) sieve. The retained mass of sample is used to determine % sand fraction.

Reference: ASTM D422-63

SAT-PCNT-VA Soil Saturation Percentage Carter-CSSS

Saturation Percentage (SP) is the total volume of water present in a saturated paste (in mL) divided by the dry weight of the sample (in grams), expressed as a percentage, as described in "Soil Sampling and Methods of Analysis" by M. Carter.

SO4-LEACH-IC-VA Soil Sulfate leach (1:10) by IC EPA 300.1 (mod)

Leachable Anions in Sediment/Soil Method analysis is carried out using a leaching procedure which involves the gentle tumbling of the sample in a specified leaching solution (typically deionized water) for a specific length of time. The resulting extract is then analysed anions by ion chromatography with conductivity or UV detection. The method is applicable to the following anions: fluoride, chloride, phosphate, bromide, nitrate, sulfate.

** ALS test methods may incorporate modifications from specified 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
SK	ALS ENVIRONMENTAL - SASKATOON, SASKATCHEWAN, CANADA
BU	ALS ENVIRONMENTAL - BURLINGTON, ONTARIO, CANADA
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

02042	02043	03020
-------	-------	-------

Reference Information

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

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 of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

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.



Quality Control Report

Workorder: L1861784

Report Date: 03-JAN-17

Page 1 of 18

Client: GOLDER ASSOCIATES LTD.
 200-2920 Virtual Way
 Vancouver BC V5M 0C4

Contact: Jim Laidlaw

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BR-LEACH-IC-VA								
Soil								
Batch R3615526								
WG2449022-4	LCS							
Bromide (Br)			103.6		%		70-130	09-DEC-16
WG2449022-1	MB							
Bromide (Br)			<0.50		mg/kg		0.5	09-DEC-16
CL-LEACH-IC-VA								
Soil								
Batch R3615526								
WG2449022-4	LCS							
Chloride (Cl)			102.2		%		70-130	09-DEC-16
WG2449022-1	MB							
Chloride (Cl)			<5.0		mg/kg		5	09-DEC-16
CL-PASTE-IC-VA								
Soil								
Batch R3616173								
WG2448560-2	LCS							
Chloride (Cl)			97.1		%		70-130	12-DEC-16
WG2448560-1	MB							
Chloride (Cl)			<2.0		mg/L		2	12-DEC-16
CLPHEN-TMB-MS-VA								
Soil								
Batch R3608069								
WG2447443-3	CRM	CRM 143						
2,4,5-Trichlorophenol			122.4		%		60-130	12-DEC-16
2,4,6-Trichlorophenol			127.4		%		60-130	12-DEC-16
Pentachlorophenol			119.8		%		60-130	12-DEC-16
WG2447443-2	LCS							
2,3,4,5-Tetrachlorophenol			110.2		%		60-130	12-DEC-16
2,3,4,6-Tetrachlorophenol			118.2		%		60-130	12-DEC-16
2,3,4-Trichlorophenol			112.3		%		60-130	12-DEC-16
2,3,5,6-Tetrachlorophenol			113.6		%		60-130	12-DEC-16
2,3,5-Trichlorophenol			118.2		%		60-130	12-DEC-16
2,3,6-Trichlorophenol			118.7		%		60-130	12-DEC-16
2,4,5-Trichlorophenol			120.3		%		60-130	12-DEC-16
2,4,6-Trichlorophenol			109.1		%		60-130	12-DEC-16
3,4,5-Trichlorophenol			117.9		%		60-130	12-DEC-16
Pentachlorophenol			107.1		%		60-130	12-DEC-16
WG2447443-1	MB							
2,3,4,5-Tetrachlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,3,4,6-Tetrachlorophenol			<0.020		mg/kg		0.02	12-DEC-16



Quality Control Report

Workorder: L1861784

Report Date: 03-JAN-17

Page 2 of 18

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CLPHEN-TMB-MS-VA	Soil							
Batch R3608069								
WG2447443-1 MB								
2,3,4-Trichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,3,5,6-Tetrachlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,3,5-Trichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,3,6-Trichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,4,5-Trichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,4,6-Trichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
3,4,5-Trichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
Pentachlorophenol			<0.020		mg/kg		0.02	12-DEC-16
DX-1613B-HRMS-BU	Soil							
Batch R3626951								
WG2450443-4 DUP		L1861784-6						
2,3,7,8-TCDD		<0.70	<0.16	RPD-NA	pg/g	N/A	50	31-DEC-16
1,2,3,7,8-PeCDD		<0.19	<0.091	RPD-NA	pg/g	N/A	50	31-DEC-16
1,2,3,4,7,8-HxCDD		<0.14	<0.083	RPD-NA	pg/g	N/A	50	31-DEC-16
1,2,3,6,7,8-HxCDD		<0.12	<0.077	RPD-NA	pg/g	N/A	50	31-DEC-16
1,2,3,7,8,9-HxCDD		<0.13	<0.084	RPD-NA	pg/g	N/A	50	31-DEC-16
1,2,3,4,6,7,8-HpCDD		0.21	0.298		pg/g	35	50	31-DEC-16
OCDD		1.68	1.45		pg/g	15	50	31-DEC-16
2,3,7,8-TCDF		<0.76	<0.13	RPD-NA	pg/g	N/A	50	31-DEC-16
1,2,3,7,8-PeCDF		<0.20	<0.057	RPD-NA	pg/g	N/A	50	31-DEC-16
2,3,4,7,8-PeCDF		<0.14	<0.045	RPD-NA	pg/g	N/A	50	31-DEC-16
1,2,3,4,7,8-HxCDF		<0.19	<0.058	RPD-NA	pg/g	N/A	50	31-DEC-16
1,2,3,6,7,8-HxCDF		<0.14	<0.053	RPD-NA	pg/g	N/A	50	31-DEC-16
2,3,4,6,7,8-HxCDF		<0.11	<0.051	RPD-NA	pg/g	N/A	50	31-DEC-16
1,2,3,7,8,9-HxCDF		<0.17	<0.082	RPD-NA	pg/g	N/A	50	31-DEC-16
1,2,3,4,6,7,8-HpCDF		<0.067	<0.040	RPD-NA	pg/g	N/A	50	31-DEC-16
1,2,3,4,7,8,9-HpCDF		<0.11	<0.060	RPD-NA	pg/g	N/A	50	31-DEC-16
OCDF		<0.10	<0.094	RPD-NA	pg/g	N/A	50	31-DEC-16
Total-TCDD		<0.70	<0.16	RPD-NA	pg/g	N/A	50	31-DEC-16
Total-PeCDD		<0.19	<0.091	RPD-NA	pg/g	N/A	50	31-DEC-16
Total-HxCDD		<0.14	0.262	G	pg/g	N/A	50	31-DEC-16
Total-HpCDD		<0.13	0.298	G	pg/g	N/A	50	31-DEC-16
Total-TCDF		<0.76	<0.13	RPD-NA	pg/g	N/A	50	31-DEC-16
Total-PeCDF		<0.20	<0.057	RPD-NA	pg/g	N/A	50	31-DEC-16



Quality Control Report

Workorder: L1861784

Report Date: 03-JAN-17

Page 3 of 18

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU Soil								
Batch	R3626951							
WG2450443-4 DUP		L1861784-6						
Total-HxCDF		<0.19	0.085	RPD-NA	pg/g	N/A	50	31-DEC-16
Total-HpCDF		<0.11	<0.060	RPD-NA	pg/g	N/A	50	31-DEC-16
COMMENTS: Sample and duplicate RPD criteria outside method limits for select low level targets. It is expected that relative uncertainty increases with compounds detected at levels below the Lower Quantification Limit.								
WG2450443-2 LCS								
2,3,7,8-TCDD			107.0		%		67-158	31-DEC-16
1,2,3,7,8-PeCDD			105.0		%		70-142	31-DEC-16
1,2,3,4,7,8-HxCDD			93.0		%		70-164	31-DEC-16
1,2,3,6,7,8-HxCDD			95.0		%		76-134	31-DEC-16
1,2,3,7,8,9-HxCDD			135.0		%		64-162	31-DEC-16
1,2,3,4,6,7,8-HpCDD			95.0		%		70-140	31-DEC-16
OCDD			94.0		%		78-144	31-DEC-16
2,3,7,8-TCDF			93.0		%		75-158	31-DEC-16
1,2,3,7,8-PeCDF			95.0		%		80-134	31-DEC-16
2,3,4,7,8-PeCDF			90.0		%		68-160	31-DEC-16
1,2,3,4,7,8-HxCDF			104.0		%		72-134	31-DEC-16
1,2,3,6,7,8-HxCDF			97.0		%		84-130	31-DEC-16
2,3,4,6,7,8-HxCDF			97.0		%		78-130	31-DEC-16
1,2,3,7,8,9-HxCDF			102.0		%		70-156	31-DEC-16
1,2,3,4,6,7,8-HpCDF			102.0		%		82-122	31-DEC-16
1,2,3,4,7,8,9-HpCDF			96.0		%		78-138	31-DEC-16
OCDF			89.0		%		63-170	31-DEC-16
WG2450443-1 MB								
2,3,7,8-TCDD			<0.15	[U]	pg/g		0.15	31-DEC-16
1,2,3,7,8-PeCDD			<0.074	[U]	pg/g		0.074	31-DEC-16
1,2,3,4,7,8-HxCDD			<0.10	[U]	pg/g		0.1	31-DEC-16
1,2,3,6,7,8-HxCDD			<0.075	[U]	pg/g		0.075	31-DEC-16
1,2,3,7,8,9-HxCDD			<0.087	[U]	pg/g		0.087	31-DEC-16
1,2,3,4,6,7,8-HpCDD			<0.12	[U]	pg/g		0.12	31-DEC-16
OCDD			<0.12	M,U	pg/g		0.12	31-DEC-16
2,3,7,8-TCDF			<0.17	[U]	pg/g		0.17	31-DEC-16
1,2,3,7,8-PeCDF			<0.093	[U]	pg/g		0.093	31-DEC-16
2,3,4,7,8-PeCDF			<0.069	[U]	pg/g		0.069	31-DEC-16
1,2,3,4,7,8-HxCDF			<0.067	[U]	pg/g		0.067	31-DEC-16
1,2,3,6,7,8-HxCDF			<0.053	[U]	pg/g		0.053	31-DEC-16



Quality Control Report

Workorder: L1861784

Report Date: 03-JAN-17

Page 4 of 18

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU								
	Soil							
Batch R3626951								
WG2450443-1 MB								
2,3,4,6,7,8-HxCDF			<0.057	[U]	pg/g		0.057	31-DEC-16
1,2,3,7,8,9-HxCDF			<0.094	[U]	pg/g		0.094	31-DEC-16
1,2,3,4,6,7,8-HpCDF			<0.051	M,U	pg/g		0.051	31-DEC-16
1,2,3,4,7,8,9-HpCDF			<0.078	[U]	pg/g		0.078	31-DEC-16
OCDF			<0.11	[U]	pg/g		0.11	31-DEC-16
Total-TCDD			<0.15	[U]	pg/g		0.15	31-DEC-16
Total-PeCDD			<0.074	[U]	pg/g		0.074	31-DEC-16
Total-HxCDD			<0.10	[U]	pg/g		0.1	31-DEC-16
Total-HpCDD			<0.12	[U]	pg/g		0.12	31-DEC-16
Total-TCDF			<0.17	[U]	pg/g		0.17	31-DEC-16
Total-PeCDF			<0.093	[U]	pg/g		0.093	31-DEC-16
Total-HxCDF			<0.094	[U]	pg/g		0.094	31-DEC-16
Total-HpCDF			<0.078	[U]	pg/g		0.078	31-DEC-16
Surrogate: 13C12-2,3,7,8-TCDD			42.0		%		25-164	31-DEC-16
Surrogate: 13C12-1,2,3,7,8-PeCDD			52.0		%		25-181	31-DEC-16
Surrogate: 13C12-1,2,3,4,7,8-HxCDD			41.0		%		32-141	31-DEC-16
Surrogate: 13C12-1,2,3,6,7,8-HxCDD			67.0		%		28-130	31-DEC-16
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD			60.0		%		23-140	31-DEC-16
Surrogate: 13C12-OCDD			59.0		%		17-157	31-DEC-16
Surrogate: 13C12-2,3,7,8-TCDF			39.0		%		24-169	31-DEC-16
Surrogate: 13C12-1,2,3,7,8-PeCDF			49.0		%		24-185	31-DEC-16
Surrogate: 13C12-2,3,4,7,8-PeCDF			53.0		%		21-178	31-DEC-16
Surrogate: 13C12-1,2,3,4,7,8-HxCDF			35.0		%		26-152	31-DEC-16
Surrogate: 13C12-1,2,3,6,7,8-HxCDF			73.0		%		26-123	31-DEC-16
Surrogate: 13C12-2,3,4,6,7,8-HxCDF			60.0		%		29-147	31-DEC-16
Surrogate: 13C12-1,2,3,7,8,9-HxCDF			50.0		%		28-136	31-DEC-16
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF			57.0		%		28-143	31-DEC-16
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF			51.0		%		26-138	31-DEC-16
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)			40.0		%		35-197	31-DEC-16
EPH-TUMB-FID-VA								
	Soil							
Batch R3611778								
WG2447436-4 DUP		L1861784-1						
EPH10-19		<200	<200	RPD-NA	mg/kg	N/A	40	08-DEC-16
EPH19-32		<200	<200	RPD-NA	mg/kg	N/A	40	08-DEC-16



Quality Control Report

Workorder: L1861784

Report Date: 03-JAN-17

Page 5 of 18

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
EPH-TUMB-FID-VA								
	Soil							
Batch	R3611778							
WG2447436-3	IRM	ALS PHC2 RM						
EPH10-19			81.5		%		70-130	08-DEC-16
EPH19-32			90.1		%		70-130	08-DEC-16
WG2447436-1	MB							
EPH10-19			<200		mg/kg		200	08-DEC-16
EPH19-32			<200		mg/kg		200	08-DEC-16
F-1:5-DI-SIE-VA								
	Soil							
Batch	R3615433							
WG2448564-9	DUP	L1861784-1						
Fluoride (F)		2.09	2.08		mg/kg	0.7	30	12-DEC-16
WG2448564-6	MB							
Fluoride (F)			<0.20		mg/kg		0.2	12-DEC-16
F2F4-TUMB-H/A-FID-VA								
	Soil							
Batch	R3614131							
WG2447165-3	IRM	ALS PHC2 RM						
F2 (C10-C16)			94.4		%		70-130	09-DEC-16
F3 (C16-C34)			104.1		%		70-130	09-DEC-16
F4 (C34-C50)			110.2		%		70-130	09-DEC-16
WG2447165-2	LCS							
F2 (C10-C16)			105.8		%		70-130	09-DEC-16
F3 (C16-C34)			103.1		%		70-130	09-DEC-16
F4 (C34-C50)			115.3		%		70-130	09-DEC-16
WG2447165-1	MB							
F2 (C10-C16)			<30		mg/kg		30	09-DEC-16
F3 (C16-C34)			<50		mg/kg		50	09-DEC-16
F4 (C34-C50)			<50		mg/kg		50	09-DEC-16
HG-200.2-CVAF-VA								
	Soil							
Batch	R3613496							
WG2447759-4	CRM	VA-NRC-STSD-3						
Mercury (Hg)			95.1		%		70-130	08-DEC-16
WG2447759-3	LCS							
Mercury (Hg)			102.2		%		70-130	08-DEC-16
WG2447759-1	MB							
Mercury (Hg)			<0.0050		mg/kg		0.005	08-DEC-16



Quality Control Report

Workorder: L1861784

Report Date: 03-JAN-17

Page 6 of 18

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-200.2-CVAF-VA		Soil						
Batch	R3614892							
WG2448785-4	CRM	VA-NRC-STSD-3						
Mercury (Hg)			96.5		%		70-130	11-DEC-16
WG2448792-4	CRM	VA-NRC-STSD-3						
Mercury (Hg)			95.8		%		70-130	11-DEC-16
WG2448792-2	DUP	L1861784-23						
Mercury (Hg)		0.0191	0.0203		mg/kg	6.1	40	11-DEC-16
WG2448785-3	LCS							
Mercury (Hg)			103.7		%		70-130	11-DEC-16
WG2448792-3	LCS							
Mercury (Hg)			105.8		%		70-130	11-DEC-16
WG2448785-1	MB							
Mercury (Hg)			<0.0050		mg/kg		0.005	11-DEC-16
WG2448792-1	MB							
Mercury (Hg)			<0.0050		mg/kg		0.005	11-DEC-16
MET-200.2-CCMS-VA		Soil						
Batch	R3614121							
WG2447759-4	CRM	VA-NRC-STSD-3						
Antimony (Sb)			114.1		%		70-130	08-DEC-16
Arsenic (As)			100.7		%		70-130	08-DEC-16
Barium (Ba)			115.6		%		70-130	08-DEC-16
Beryllium (Be)			118.2		%		70-130	08-DEC-16
Cadmium (Cd)			123.4		%		70-130	08-DEC-16
Chromium (Cr)			112.8		%		70-130	08-DEC-16
Cobalt (Co)			108.8		%		70-130	08-DEC-16
Copper (Cu)			103.7		%		70-130	08-DEC-16
Lead (Pb)			110.4		%		70-130	08-DEC-16
Molybdenum (Mo)			112.3		%		70-130	08-DEC-16
Nickel (Ni)			99.8		%		70-130	08-DEC-16
Selenium (Se)			113.7		%		70-130	08-DEC-16
Silver (Ag)			103.1		%		70-130	08-DEC-16
Thallium (Tl)			118.6		%		70-130	08-DEC-16
Uranium (U)			112.6		%		70-130	08-DEC-16
Vanadium (V)			114.3		%		70-130	08-DEC-16
Zinc (Zn)			105.2		%		70-130	08-DEC-16
WG2447759-3	LCS							
Antimony (Sb)			104.8		%		80-120	08-DEC-16
Arsenic (As)			109.2		%		80-120	08-DEC-16



Quality Control Report

Workorder: L1861784

Report Date: 03-JAN-17

Page 7 of 18

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA		Soil						
Batch	R3614121							
WG2447759-3	LCS							
Barium (Ba)			113.7		%		80-120	08-DEC-16
Beryllium (Be)			106.1		%		80-120	08-DEC-16
Cadmium (Cd)			106.6		%		80-120	08-DEC-16
Chromium (Cr)			106.3		%		80-120	08-DEC-16
Cobalt (Co)			106.8		%		80-120	08-DEC-16
Copper (Cu)			103.9		%		80-120	08-DEC-16
Lead (Pb)			103.2		%		80-120	08-DEC-16
Molybdenum (Mo)			106.1		%		80-120	08-DEC-16
Nickel (Ni)			101.4		%		80-120	08-DEC-16
Selenium (Se)			104.2		%		80-120	08-DEC-16
Silver (Ag)			103.5		%		80-120	08-DEC-16
Thallium (Tl)			101.8		%		80-120	08-DEC-16
Tin (Sn)			103.0		%		80-120	08-DEC-16
Uranium (U)			106.9		%		80-120	08-DEC-16
Vanadium (V)			106.0		%		80-120	08-DEC-16
Zinc (Zn)			103.0		%		80-120	08-DEC-16
WG2447759-1	MB							
Antimony (Sb)			<0.10		mg/kg		0.1	08-DEC-16
Arsenic (As)			<0.10		mg/kg		0.1	08-DEC-16
Barium (Ba)			<0.50		mg/kg		0.5	08-DEC-16
Beryllium (Be)			<0.10		mg/kg		0.1	08-DEC-16
Cadmium (Cd)			<0.020		mg/kg		0.02	08-DEC-16
Chromium (Cr)			<0.50		mg/kg		0.5	08-DEC-16
Cobalt (Co)			<0.10		mg/kg		0.1	08-DEC-16
Copper (Cu)			<0.50		mg/kg		0.5	08-DEC-16
Lead (Pb)			<0.50		mg/kg		0.5	08-DEC-16
Molybdenum (Mo)			<0.10		mg/kg		0.1	08-DEC-16
Nickel (Ni)			<0.50		mg/kg		0.5	08-DEC-16
Selenium (Se)			<0.20		mg/kg		0.2	08-DEC-16
Silver (Ag)			<0.10		mg/kg		0.1	08-DEC-16
Thallium (Tl)			<0.050		mg/kg		0.05	08-DEC-16
Tin (Sn)			<2.0		mg/kg		2	08-DEC-16
Uranium (U)			<0.050		mg/kg		0.05	08-DEC-16
Vanadium (V)			<0.20		mg/kg		0.2	08-DEC-16



Quality Control Report

Workorder: L1861784

Report Date: 03-JAN-17

Page 8 of 18

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA		Soil						
Batch	R3614121							
WG2447759-1	MB							
Zinc (Zn)			<2.0		mg/kg		2	08-DEC-16
Batch		R3615457						
WG2448792-4	CRM	VA-NRC-STSD-3						
Antimony (Sb)			100.1		%		70-130	10-DEC-16
Arsenic (As)			93.4		%		70-130	10-DEC-16
Barium (Ba)			103.5		%		70-130	10-DEC-16
Beryllium (Be)			102.4		%		70-130	10-DEC-16
Cadmium (Cd)			115.6		%		70-130	10-DEC-16
Chromium (Cr)			105.5		%		70-130	10-DEC-16
Cobalt (Co)			101.9		%		70-130	10-DEC-16
Copper (Cu)			97.9		%		70-130	10-DEC-16
Lead (Pb)			97.8		%		70-130	10-DEC-16
Molybdenum (Mo)			99.5		%		70-130	10-DEC-16
Nickel (Ni)			96.2		%		70-130	10-DEC-16
Selenium (Se)			102.7		%		70-130	10-DEC-16
Silver (Ag)			96.0		%		70-130	10-DEC-16
Thallium (Tl)			106.2		%		70-130	10-DEC-16
Uranium (U)			98.8		%		70-130	10-DEC-16
Vanadium (V)			108.4		%		70-130	10-DEC-16
Zinc (Zn)			98.5		%		70-130	10-DEC-16
WG2448792-2	DUP	L1861784-23						
Antimony (Sb)		0.22	0.21		mg/kg	2.7	30	10-DEC-16
Arsenic (As)		2.20	2.06		mg/kg	6.7	30	10-DEC-16
Barium (Ba)		52.4	53.5		mg/kg	2.1	40	10-DEC-16
Beryllium (Be)		0.20	0.18		mg/kg	12	30	10-DEC-16
Cadmium (Cd)		0.095	0.114		mg/kg	18	30	10-DEC-16
Chromium (Cr)		29.6	26.1		mg/kg	13	30	10-DEC-16
Cobalt (Co)		7.91	7.36		mg/kg	7.2	30	10-DEC-16
Copper (Cu)		14.3	13.8		mg/kg	3.6	30	10-DEC-16
Lead (Pb)		2.16	2.05		mg/kg	5.3	40	10-DEC-16
Molybdenum (Mo)		0.27	0.25		mg/kg	5.4	40	10-DEC-16
Nickel (Ni)		33.1	30.9		mg/kg	7.0	30	10-DEC-16
Selenium (Se)		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	10-DEC-16
Silver (Ag)		<0.10	<0.10	RPD-NA	mg/kg	N/A	40	10-DEC-16



Quality Control Report

Workorder: L1861784

Report Date: 03-JAN-17

Page 9 of 18

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA								
	Soil							
Batch	R3615457							
WG2448792-2	DUP	L1861784-23						
Thallium (Tl)		<0.050	<0.050	RPD-NA	mg/kg	N/A	30	10-DEC-16
Tin (Sn)		<2.0	<2.0	RPD-NA	mg/kg	N/A	40	10-DEC-16
Uranium (U)		0.290	0.241		mg/kg	19	30	10-DEC-16
Vanadium (V)		47.8	40.9		mg/kg	16	30	10-DEC-16
Zinc (Zn)		38.1	36.6		mg/kg	3.8	30	10-DEC-16
WG2448785-3	LCS							
Antimony (Sb)			109.0		%		80-120	10-DEC-16
Arsenic (As)			107.9		%		80-120	10-DEC-16
Barium (Ba)			110.2		%		80-120	10-DEC-16
Beryllium (Be)			104.0		%		80-120	10-DEC-16
Cadmium (Cd)			106.8		%		80-120	10-DEC-16
Chromium (Cr)			103.2		%		80-120	10-DEC-16
Cobalt (Co)			101.4		%		80-120	10-DEC-16
Copper (Cu)			102.0		%		80-120	10-DEC-16
Lead (Pb)			104.4		%		80-120	10-DEC-16
Molybdenum (Mo)			110.0		%		80-120	10-DEC-16
Nickel (Ni)			101.5		%		80-120	10-DEC-16
Selenium (Se)			105.5		%		80-120	10-DEC-16
Silver (Ag)			102.5		%		80-120	10-DEC-16
Thallium (Tl)			103.9		%		80-120	10-DEC-16
Tin (Sn)			106.0		%		80-120	10-DEC-16
Uranium (U)			106.9		%		80-120	10-DEC-16
Vanadium (V)			106.1		%		80-120	10-DEC-16
Zinc (Zn)			100.1		%		80-120	10-DEC-16
WG2448792-3	LCS							
Antimony (Sb)			103.8		%		80-120	10-DEC-16
Arsenic (As)			103.3		%		80-120	10-DEC-16
Barium (Ba)			106.7		%		80-120	10-DEC-16
Beryllium (Be)			102.5		%		80-120	10-DEC-16
Cadmium (Cd)			104.2		%		80-120	10-DEC-16
Chromium (Cr)			99.9		%		80-120	10-DEC-16
Cobalt (Co)			99.5		%		80-120	10-DEC-16
Copper (Cu)			100.1		%		80-120	10-DEC-16
Lead (Pb)			102.1		%		80-120	10-DEC-16
Molybdenum (Mo)			104.7		%		80-120	10-DEC-16



Quality Control Report

Workorder: L1861784

Report Date: 03-JAN-17

Page 10 of 18

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA								
	Soil							
Batch	R3615457							
WG2448792-3	LCS							
Nickel (Ni)			98.9		%		80-120	10-DEC-16
Selenium (Se)			101.4		%		80-120	10-DEC-16
Silver (Ag)			101.5		%		80-120	10-DEC-16
Thallium (Tl)			100.8		%		80-120	10-DEC-16
Tin (Sn)			102.2		%		80-120	10-DEC-16
Uranium (U)			105.6		%		80-120	10-DEC-16
Vanadium (V)			102.5		%		80-120	10-DEC-16
Zinc (Zn)			97.5		%		80-120	10-DEC-16
WG2448792-1	MB							
Antimony (Sb)			<0.10		mg/kg		0.1	10-DEC-16
Arsenic (As)			<0.10		mg/kg		0.1	10-DEC-16
Barium (Ba)			<0.50		mg/kg		0.5	10-DEC-16
Beryllium (Be)			<0.10		mg/kg		0.1	10-DEC-16
Cadmium (Cd)			<0.020		mg/kg		0.02	10-DEC-16
Chromium (Cr)			<0.50		mg/kg		0.5	10-DEC-16
Cobalt (Co)			<0.10		mg/kg		0.1	10-DEC-16
Copper (Cu)			<0.50		mg/kg		0.5	10-DEC-16
Lead (Pb)			<0.50		mg/kg		0.5	10-DEC-16
Molybdenum (Mo)			<0.10		mg/kg		0.1	10-DEC-16
Nickel (Ni)			<0.50		mg/kg		0.5	10-DEC-16
Selenium (Se)			<0.20		mg/kg		0.2	10-DEC-16
Silver (Ag)			<0.10		mg/kg		0.1	10-DEC-16
Thallium (Tl)			<0.050		mg/kg		0.05	10-DEC-16
Tin (Sn)			<2.0		mg/kg		2	10-DEC-16
Uranium (U)			<0.050		mg/kg		0.05	10-DEC-16
Vanadium (V)			<0.20		mg/kg		0.2	10-DEC-16
Zinc (Zn)			<2.0		mg/kg		2	10-DEC-16
Batch	R3615679							
WG2448785-4	CRM	VA-NRC-STSD-3						
Antimony (Sb)			103.9		%		70-130	12-DEC-16
Arsenic (As)			90.8		%		70-130	12-DEC-16
Barium (Ba)			101.6		%		70-130	12-DEC-16
Beryllium (Be)			106.6		%		70-130	12-DEC-16
Cadmium (Cd)			110.4		%		70-130	12-DEC-16
Chromium (Cr)			100.9		%		70-130	12-DEC-16



Quality Control Report

Workorder: L1861784

Report Date: 03-JAN-17

Page 11 of 18

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA								
	Soil							
Batch	R3615679							
WG2448785-4	CRM	VA-NRC-STSD-3						
Cobalt (Co)			99.4		%		70-130	12-DEC-16
Copper (Cu)			92.4		%		70-130	12-DEC-16
Lead (Pb)			107.1		%		70-130	12-DEC-16
Molybdenum (Mo)			103.2		%		70-130	12-DEC-16
Nickel (Ni)			91.8		%		70-130	12-DEC-16
Selenium (Se)			101.9		%		70-130	12-DEC-16
Silver (Ag)			98.5		%		70-130	12-DEC-16
Thallium (Tl)			114.4		%		70-130	12-DEC-16
Uranium (U)			107.0		%		70-130	12-DEC-16
Vanadium (V)			102.5		%		70-130	12-DEC-16
Zinc (Zn)			93.1		%		70-130	12-DEC-16
WG2448785-1	MB							
Antimony (Sb)			<0.10		mg/kg		0.1	12-DEC-16
Arsenic (As)			<0.10		mg/kg		0.1	12-DEC-16
Barium (Ba)			<0.50		mg/kg		0.5	12-DEC-16
Beryllium (Be)			<0.10		mg/kg		0.1	12-DEC-16
Cadmium (Cd)			<0.020		mg/kg		0.02	12-DEC-16
Chromium (Cr)			<0.50		mg/kg		0.5	12-DEC-16
Cobalt (Co)			<0.10		mg/kg		0.1	12-DEC-16
Copper (Cu)			<0.50		mg/kg		0.5	12-DEC-16
Lead (Pb)			<0.50		mg/kg		0.5	12-DEC-16
Molybdenum (Mo)			<0.10		mg/kg		0.1	12-DEC-16
Nickel (Ni)			<0.50		mg/kg		0.5	12-DEC-16
Selenium (Se)			<0.20		mg/kg		0.2	12-DEC-16
Silver (Ag)			<0.10		mg/kg		0.1	12-DEC-16
Thallium (Tl)			<0.050		mg/kg		0.05	12-DEC-16
Tin (Sn)			<2.0		mg/kg		2	12-DEC-16
Uranium (U)			<0.050		mg/kg		0.05	12-DEC-16
Vanadium (V)			<0.20		mg/kg		0.2	12-DEC-16
Zinc (Zn)			<2.0		mg/kg		2	12-DEC-16
MET-PASTE-ICP-VA								
	Soil							
Batch	R3615623							
WG2448560-2	LCS							
Sodium (Na)			100.8		%		80-120	12-DEC-16
WG2448560-1	MB							



Quality Control Report

Workorder: L1861784

Report Date: 03-JAN-17

Page 12 of 18

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-PASTE-ICP-VA								
Soil								
Batch R3615623								
WG2448560-1	MB							
Sodium (Na)			<0.50		mg/kg		0.5	12-DEC-16
MOISTURE-VA								
Soil								
Batch R3612614								
WG2447459-3	DUP	L1861784-28						
Moisture		20.8	20.2		%	3.4	20	07-DEC-16
WG2447459-2	LCS							
Moisture			99.0		%		90-110	07-DEC-16
WG2447459-1	MB							
Moisture			<0.25		%		0.25	07-DEC-16
NO2-LEACH-IC-VA								
Soil								
Batch R3615526								
WG2449022-4	LCS							
Nitrite (as N)			99.2		%		70-130	09-DEC-16
WG2449022-1	MB							
Nitrite (as N)			<0.010		mg/kg		0.01	09-DEC-16
NO3-LEACH-IC-VA								
Soil								
Batch R3615526								
WG2449022-4	LCS							
Nitrate (as N)			101.9		%		70-130	09-DEC-16
WG2449022-1	MB							
Nitrate (as N)			<0.050		mg/kg		0.05	09-DEC-16
OGG-F4G-TUMB-SG-VA								
Soil								
Batch R3616456								
WG2451111-2	IRM	ALS PHC2 RM						
F4G-SG			119.0		%		70-130	07-DEC-16
WG2451111-1	MB							
F4G-SG			<500		mg/kg		500	07-DEC-16
PAH-TMB-H/A-MS-VA								
Soil								
Batch R3613233								
WG2447436-4	DUP	L1861784-1						
Acenaphthene		<0.0050	<0.0050	RPD-NA	mg/kg	N/A	50	09-DEC-16
Acenaphthylene		<0.0050	<0.0050	RPD-NA	mg/kg	N/A	50	09-DEC-16
Anthracene		<0.0040	<0.0040	RPD-NA	mg/kg	N/A	50	09-DEC-16
Benz(a)anthracene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	09-DEC-16
Benzo(a)pyrene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	09-DEC-16

Quality Control Report

Workorder: L1861784

Report Date: 03-JAN-17

Page 13 of 18

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-TMB-H/A-MS-VA								
	Soil							
Batch	R3613233							
WG2447436-4	DUP	L1861784-1						
Benzo(b)fluoranthene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	09-DEC-16
Benzo(g,h,i)perylene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	09-DEC-16
Benzo(k)fluoranthene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	09-DEC-16
Chrysene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	09-DEC-16
Dibenz(a,h)anthracene		<0.0050	<0.0050	RPD-NA	mg/kg	N/A	50	09-DEC-16
Fluoranthene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	09-DEC-16
Fluorene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	09-DEC-16
Indeno(1,2,3-c,d)pyrene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	09-DEC-16
2-Methylnaphthalene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	09-DEC-16
Naphthalene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	09-DEC-16
Phenanthrene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	09-DEC-16
Pyrene		<0.010	<0.010	RPD-NA	mg/kg	N/A	50	09-DEC-16
WG2447436-2	LCS							
Acenaphthene			85.1		%		60-130	09-DEC-16
Acenaphthylene			80.8		%		60-130	09-DEC-16
Anthracene			81.4		%		60-130	09-DEC-16
Benz(a)anthracene			101.0		%		60-130	09-DEC-16
Benzo(a)pyrene			97.2		%		60-130	09-DEC-16
Benzo(b)fluoranthene			90.6		%		60-130	09-DEC-16
Benzo(g,h,i)perylene			75.7		%		60-130	09-DEC-16
Benzo(k)fluoranthene			95.8		%		60-130	09-DEC-16
Chrysene			106.4		%		60-130	09-DEC-16
Dibenz(a,h)anthracene			80.7		%		60-130	09-DEC-16
Fluoranthene			99.0		%		60-130	09-DEC-16
Fluorene			80.6		%		60-130	09-DEC-16
Indeno(1,2,3-c,d)pyrene			78.5		%		60-130	09-DEC-16
2-Methylnaphthalene			73.2		%		60-130	09-DEC-16
Naphthalene			85.9		%		50-130	09-DEC-16
Phenanthrene			82.8		%		60-130	09-DEC-16
Pyrene			104.1		%		60-130	09-DEC-16
WG2447436-1	MB							
Acenaphthene			<0.0050		mg/kg		0.005	09-DEC-16
Acenaphthylene			<0.0050		mg/kg		0.005	09-DEC-16
Anthracene			<0.0040		mg/kg		0.004	09-DEC-16
Benz(a)anthracene			<0.010		mg/kg		0.01	09-DEC-16



Quality Control Report

Workorder: L1861784

Report Date: 03-JAN-17

Page 14 of 18

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-TMB-H/A-MS-VA								
	Soil							
Batch	R3613233							
WG2447436-1	MB							
Benzo(a)pyrene			<0.010		mg/kg		0.01	09-DEC-16
Benzo(b)fluoranthene			<0.010		mg/kg		0.01	09-DEC-16
Benzo(g,h,i)perylene			<0.010		mg/kg		0.01	09-DEC-16
Benzo(k)fluoranthene			<0.010		mg/kg		0.01	09-DEC-16
Chrysene			<0.010		mg/kg		0.01	09-DEC-16
Dibenz(a,h)anthracene			<0.0050		mg/kg		0.005	09-DEC-16
Fluoranthene			<0.010		mg/kg		0.01	09-DEC-16
Fluorene			<0.010		mg/kg		0.01	09-DEC-16
Indeno(1,2,3-c,d)pyrene			<0.010		mg/kg		0.01	09-DEC-16
2-Methylnaphthalene			<0.010		mg/kg		0.01	09-DEC-16
Naphthalene			<0.010		mg/kg		0.01	09-DEC-16
Phenanthrene			<0.010		mg/kg		0.01	09-DEC-16
Pyrene			<0.010		mg/kg		0.01	09-DEC-16
Surrogate: Naphthalene d8			72.4		%		50-130	09-DEC-16
Surrogate: Acenaphthene d10			69.6		%		60-130	09-DEC-16
Surrogate: Phenanthrene d10			72.1		%		60-130	09-DEC-16
Surrogate: Chrysene d12			65.7		%		60-130	09-DEC-16
PCB-SE-ECD-VA								
	Soil							
Batch	R3606985							
WG2447771-2	CRM	VA-CRM911-050						
PCB-1254			107.5		%		65-130	13-DEC-16
WG2447771-1	MB							
PCB-1016			<0.020		mg/kg		0.02	13-DEC-16
PCB-1221			<0.020		mg/kg		0.02	13-DEC-16
PCB-1232			<0.020		mg/kg		0.02	13-DEC-16
PCB-1242			<0.020		mg/kg		0.02	13-DEC-16
PCB-1248			<0.020		mg/kg		0.02	13-DEC-16
PCB-1254			<0.020		mg/kg		0.02	13-DEC-16
PCB-1260			<0.020		mg/kg		0.02	13-DEC-16
PCB-1262			<0.020		mg/kg		0.02	13-DEC-16
PCB-1268			<0.020		mg/kg		0.02	13-DEC-16
PH-1:2-VA	Soil							



Quality Control Report

Workorder: L1861784

Report Date: 03-JAN-17

Page 15 of 18

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PH-1:2-VA								
	Soil							
Batch	R3615622							
WG2448792-2	DUP	L1861784-23						
pH (1:2 soil:water)		7.05	7.09	J	pH	0.04	0.2	12-DEC-16
PHEN-TMB-MS-VA								
	Soil							
Batch	R3608069							
WG2447443-3	CRM	CRM 143						
4-Chloro-3-methylphenol			125.5		%		60-130	12-DEC-16
2-Chlorophenol			127.8		%		60-130	12-DEC-16
2,4 & 2,5-Dichlorophenol			133.6	RM-ND	%		60-130	12-DEC-16
p-Cresol			108.5		%		60-130	12-DEC-16
Phenol			108.1		%		60-130	12-DEC-16
WG2447443-4	DUP	L1861784-2						
2,4-Dimethylphenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	12-DEC-16
o-Cresol		<0.050	<0.080	RPD-NA	mg/kg	N/A	50	12-DEC-16
m-Cresol		<0.090	<0.020		mg/kg	N/A	50	12-DEC-16
p-Cresol		<0.10	<0.080	RPD-NA	mg/kg	N/A	50	12-DEC-16
Phenol		<0.030	<0.035	RPD-NA	mg/kg	N/A	50	12-DEC-16
WG2447443-2	LCS							
4-Chloro-3-methylphenol			109.5		%		60-130	12-DEC-16
2-Chlorophenol			106.7		%		60-130	12-DEC-16
3-Chlorophenol			106.0		%		60-130	12-DEC-16
4-Chlorophenol			108.7		%		60-130	12-DEC-16
2,3-Dichlorophenol			102.2		%		60-130	12-DEC-16
2,4 & 2,5-Dichlorophenol			104.7		%		60-130	12-DEC-16
2,6-Dichlorophenol			105.0		%		60-130	12-DEC-16
3,4-Dichlorophenol			112.0		%		60-130	12-DEC-16
3,5-Dichlorophenol			111.8		%		60-130	12-DEC-16
2,4-Dimethylphenol			104.7		%		30-130	12-DEC-16
o-Cresol			96.0		%		50-130	12-DEC-16
m-Cresol			103.4		%		50-130	12-DEC-16
p-Cresol			97.3		%		50-130	12-DEC-16
Phenol			108.1		%		50-130	12-DEC-16
WG2447443-1	MB							
4-Chloro-3-methylphenol			<0.020		mg/kg		0.02	12-DEC-16
2-Chlorophenol			<0.020		mg/kg		0.02	12-DEC-16
3-Chlorophenol			<0.020		mg/kg		0.02	12-DEC-16

Quality Control Report

Workorder: L1861784

Report Date: 03-JAN-17

Page 16 of 18

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PHEN-TMB-MS-VA								
	Soil							
Batch	R3608069							
WG2447443-1	MB							
4-Chlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,3-Dichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,4 & 2,5-Dichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,6-Dichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
3,4-Dichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
3,5-Dichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,4-Dimethylphenol			<0.020		mg/kg		0.02	12-DEC-16
o-Cresol			<0.020		mg/kg		0.02	12-DEC-16
m-Cresol			<0.020		mg/kg		0.02	12-DEC-16
p-Cresol			<0.020		mg/kg		0.02	12-DEC-16
Phenol			<0.020		mg/kg		0.02	12-DEC-16
PSA-MUST-SK								
	Soil							
Batch	R3614017							
WG2447746-1	DUP	L1861784-10						
MUST PSA % > 75um		96.5	96.6	J	%	0.1	5	09-DEC-16
WG2447746-2	IRM	10-105 SOIL						
MUST PSA % > 75um			25.1		%		21-31	09-DEC-16
SAT-PCNT-VA								
	Soil							
Batch	R3615525							
WG2448560-3	IRM	VA-ALP-SRS1507						
% Saturation			102.5		%		80-120	12-DEC-16
WG2448560-1	MB							
% Saturation			50.0		%		50	12-DEC-16
SO4-LEACH-IC-VA								
	Soil							
Batch	R3615526							
WG2449022-4	LCS							
Sulfate (SO4)			103.3		%		70-130	09-DEC-16
WG2449022-1	MB							
Sulfate (SO4)			<10		mg/kg		10	09-DEC-16

Quality Control Report

Workorder: L1861784

Report Date: 03-JAN-17

Page 17 of 18

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
G	QC result did not meet ALS DQO. Refer to narrative comments for further information.
J	Duplicate results and limits are expressed in terms of absolute difference.
M,U	A peak has been manually integrated, and the analyte was not detected above the EDL.
RM-ND	Reference Material recovery was slightly outside ALS DQO. Reported non-detect results for associated samples were unaffected.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.
[U]	The analyte was not detected above the EDL.

Quality Control Report

Workorder: L1861784

Report Date: 03-JAN-17

Page 18 of 18

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Leachable Anions & Nutrients							
Nitrate leach (1:10) by IC							
	1	23-NOV-16	09-DEC-16 14:33	3	16	days	EHT
	5	23-NOV-16	09-DEC-16 14:33	3	16	days	EHT
	14	23-NOV-16	09-DEC-16 14:33	3	16	days	EHT
	23	23-NOV-16	09-DEC-16 14:33	3	16	days	EHT
	28	23-NOV-16	09-DEC-16 14:33	3	16	days	EHT
Nitrite leach (1:10) by IC							
	1	23-NOV-16	09-DEC-16 14:33	3	16	days	EHT
	5	23-NOV-16	09-DEC-16 14:33	3	16	days	EHT
	14	23-NOV-16	09-DEC-16 14:33	3	16	days	EHT
	23	23-NOV-16	09-DEC-16 14:33	3	16	days	EHT
	28	23-NOV-16	09-DEC-16 14:33	3	16	days	EHT
Phenolics							
Chlorinated Phenols by Tumbler/GCMS							
	5	23-NOV-16	09-DEC-16 16:57	14	16	days	EHT
	11	23-NOV-16	09-DEC-16 16:57	14	16	days	EHT
	12	23-NOV-16	09-DEC-16 16:57	14	16	days	EHT
	18	23-NOV-16	09-DEC-16 16:57	14	16	days	EHT
	27	23-NOV-16	09-DEC-16 16:57	14	16	days	EHT
	28	23-NOV-16	09-DEC-16 16:57	14	16	days	EHT
Phenolics by Tumbler/GC-MS							
	2	23-NOV-16	09-DEC-16 16:57	14	16	days	EHT
	5	23-NOV-16	09-DEC-16 16:57	14	16	days	EHT
	11	23-NOV-16	09-DEC-16 16:57	14	16	days	EHT
	12	23-NOV-16	09-DEC-16 16:57	14	16	days	EHT
	18	23-NOV-16	09-DEC-16 16:57	14	16	days	EHT
	27	23-NOV-16	09-DEC-16 16:57	14	16	days	EHT
	28	23-NOV-16	09-DEC-16 16:57	14	16	days	EHT

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 L1861784 were received on 23-NOV-16 12:20.

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.

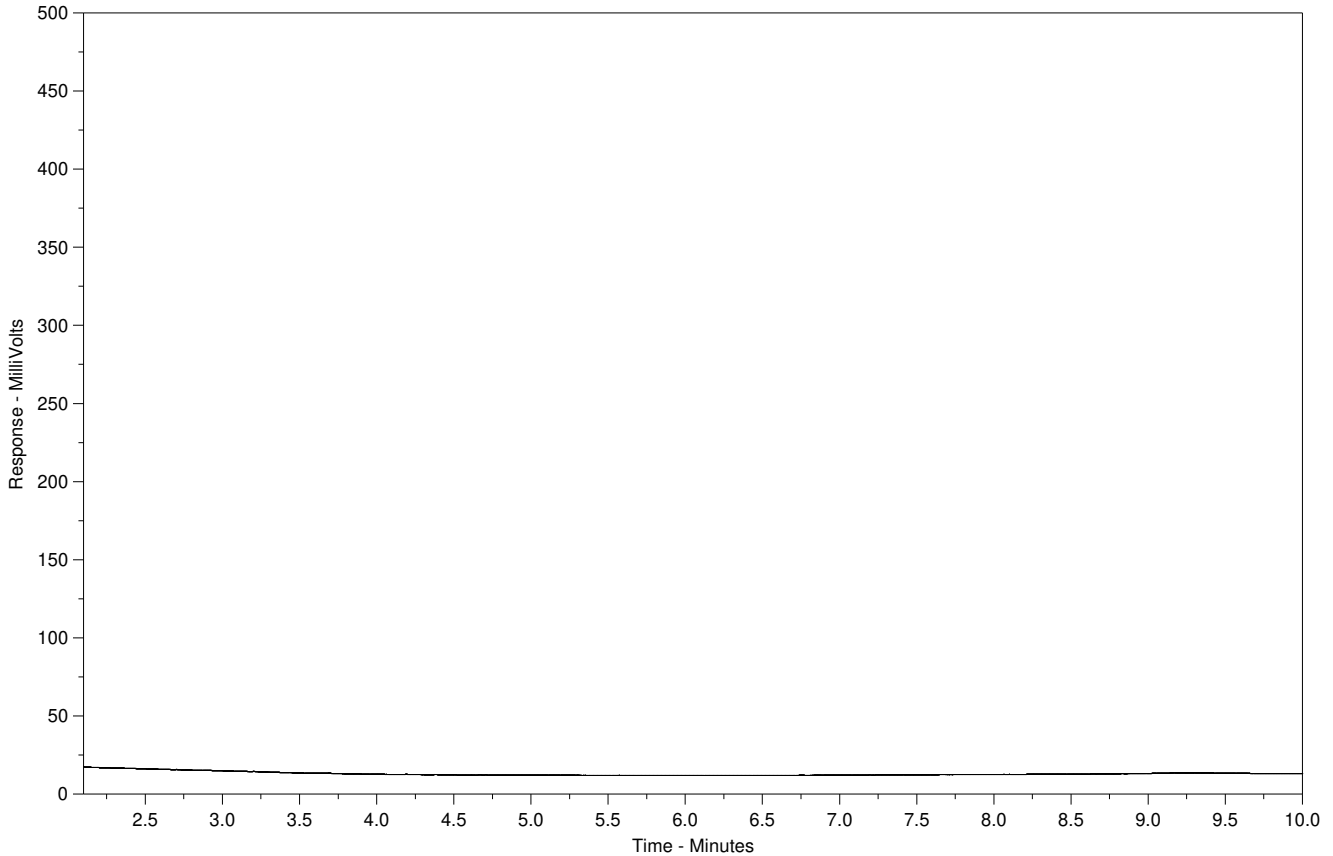
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide 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.

Hydrocarbon Distribution Report



ALS Sample ID: L1861784-1
Client Sample ID: 03020-01



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →	← Diesel / Jet Fuels →	← Motor Oils / Lube Oils / Grease →

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

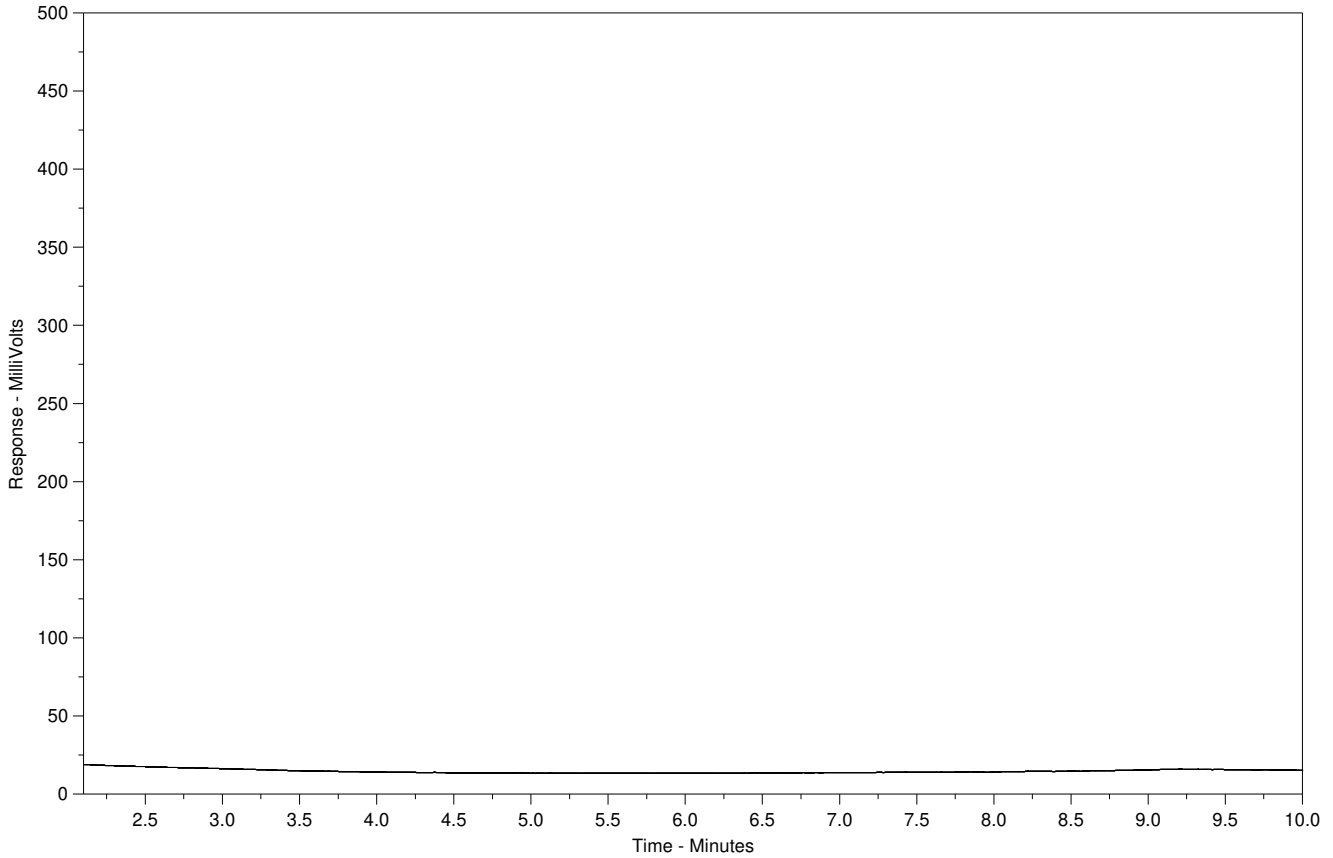
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Hydrocarbon Distribution Report



ALS Sample ID: WG2447436-4#L1861784-1
 Client Sample ID: 03020-01



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →		← Motor Oils / Lube Oils / Grease →
← Diesel / Jet Fuels →		

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

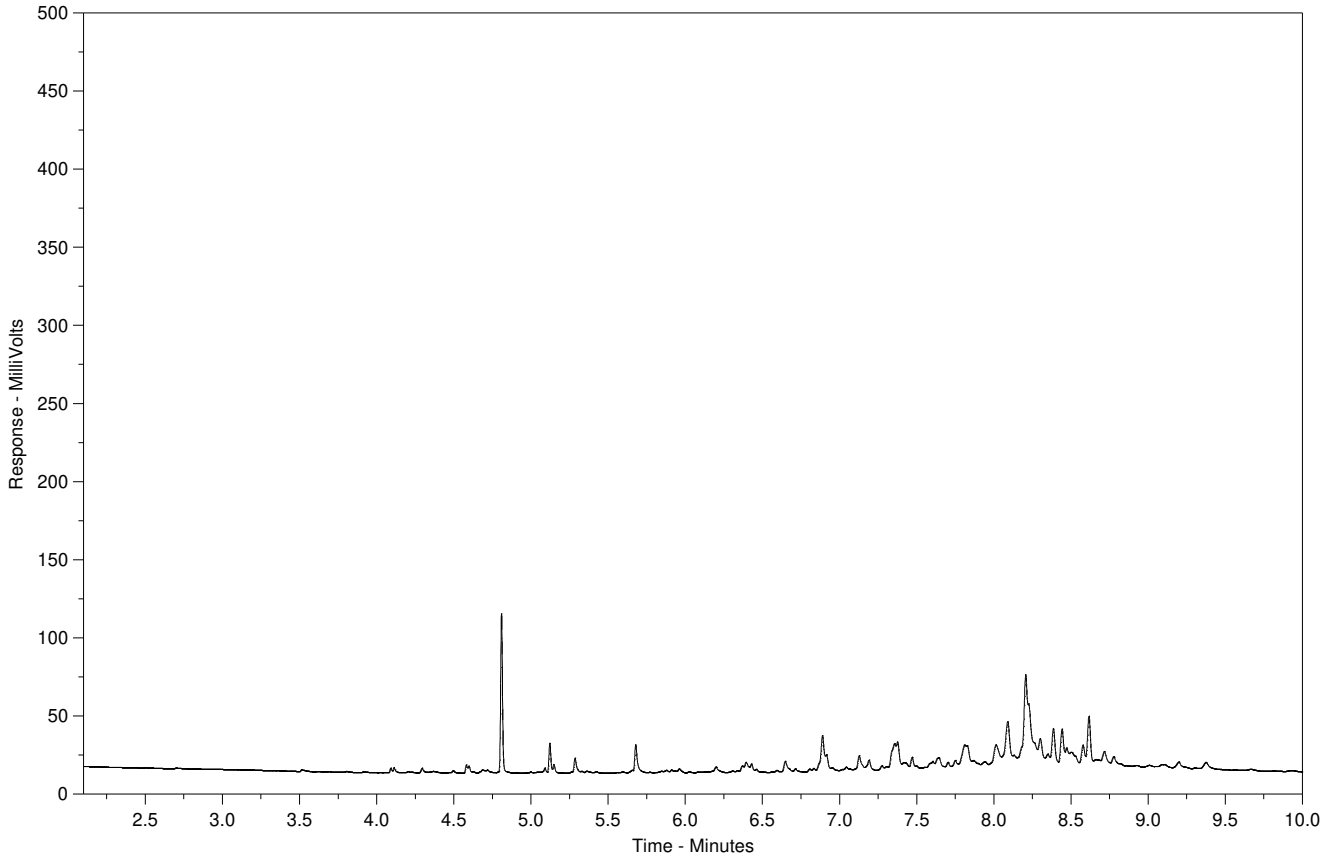
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Hydrocarbon Distribution Report



ALS Sample ID: L1861784-2
 Client Sample ID: 03020-02



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →		← Diesel / Jet Fuels →
← Motor Oils / Lube Oils / Grease →		

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

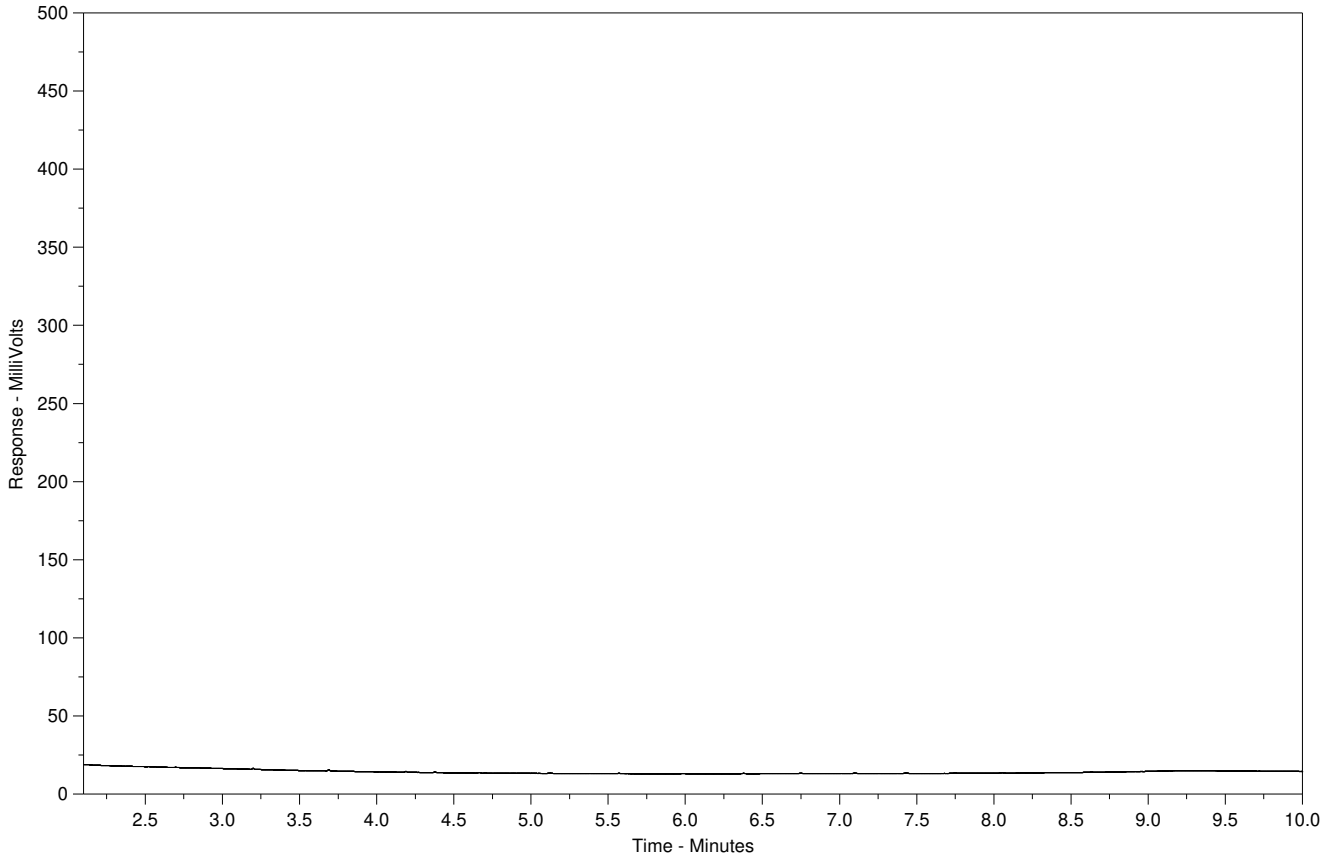
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Hydrocarbon Distribution Report



ALS Sample ID: L1861784-5
Client Sample ID: 03020-05



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →	← Diesel / Jet Fuels →	← Motor Oils / Lube Oils / Grease →

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

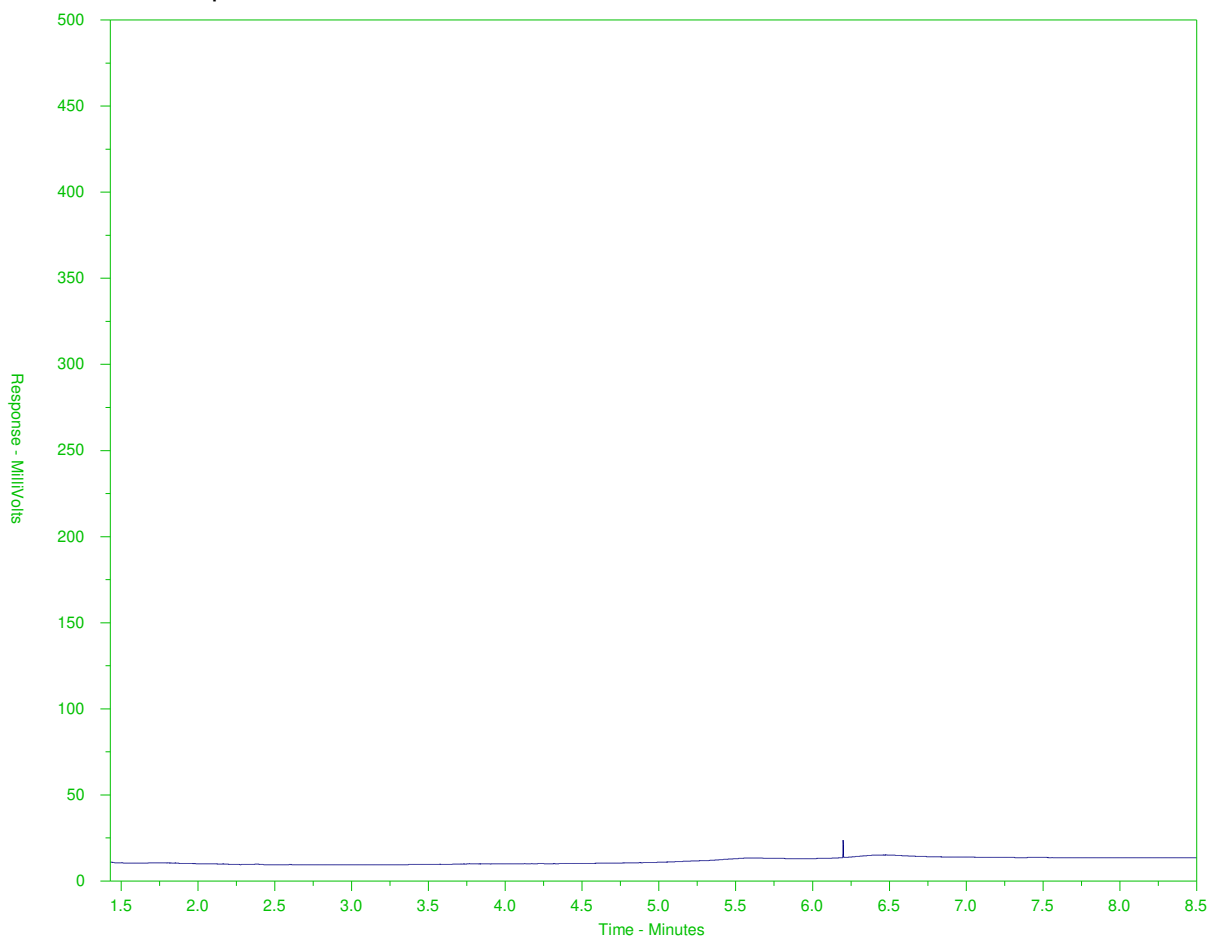
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L1861784-C-5
 Client Sample ID: 03020-05



F2		F3		F4	
nC10	nC16			nC34	nC50
174°C	287°C			481°C	575°C
346°F	549°F			898°F	1067°F
← Gasoline →			← Motor Oils/ Lube Oils/ Grease →		
← 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.

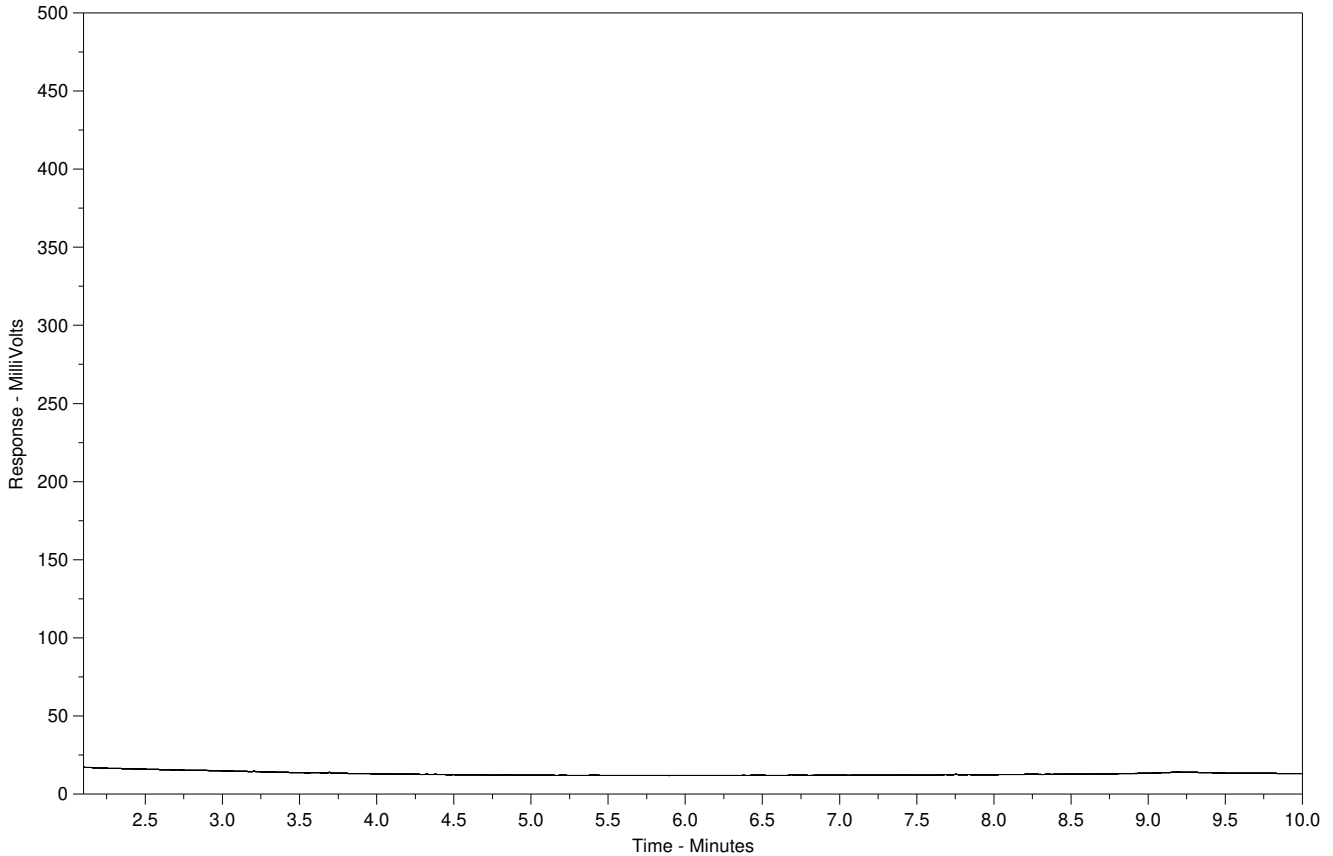
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

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.

Hydrocarbon Distribution Report



ALS Sample ID: L1861784-11
 Client Sample ID: 03020-11



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →		← Motor Oils / Lube Oils / Grease →
← Diesel / Jet Fuels →		

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

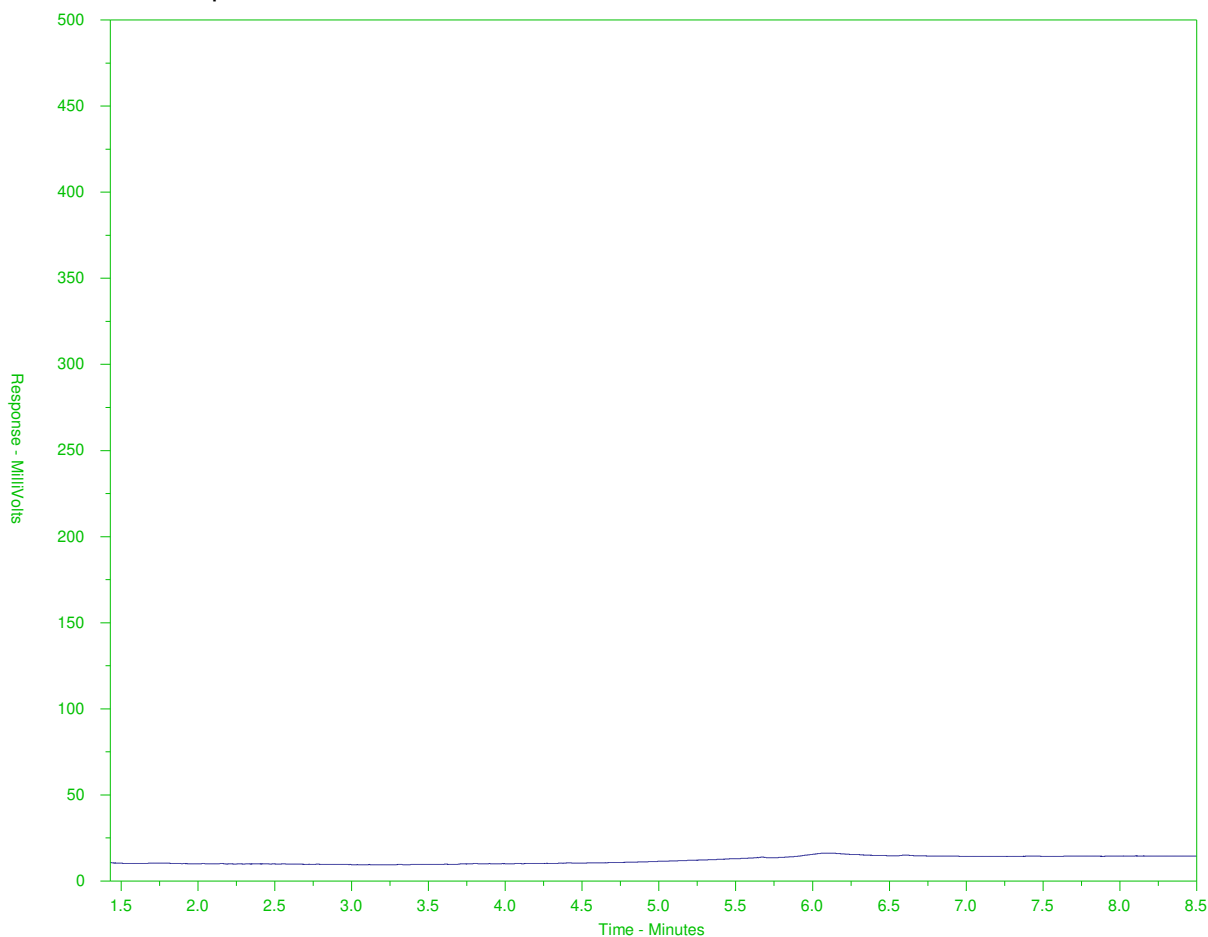
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L1861784-C-11
 Client Sample ID: 03020-11



← F2 →		← F3 →		← F4 →	
nC10	nC16			nC34	nC50
174°C	287°C			481°C	575°C
346°F	549°F			898°F	1067°F
← Gasoline →			← Motor Oils/ Lube Oils/ Grease →		
← 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.

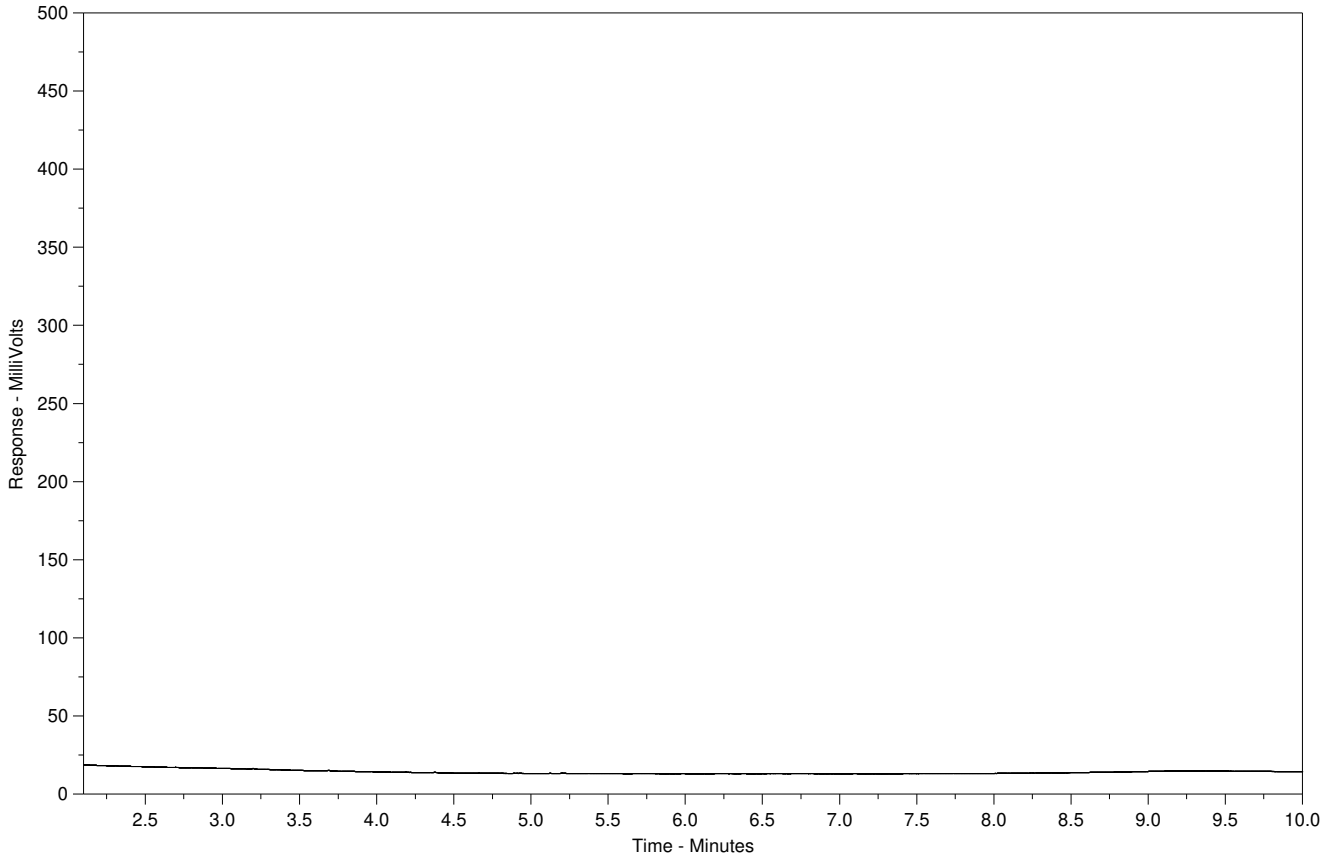
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

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.

Hydrocarbon Distribution Report



ALS Sample ID: L1861784-12
Client Sample ID: 03020-12



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →	← Diesel / Jet Fuels →	← Motor Oils / Lube Oils / Grease →

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

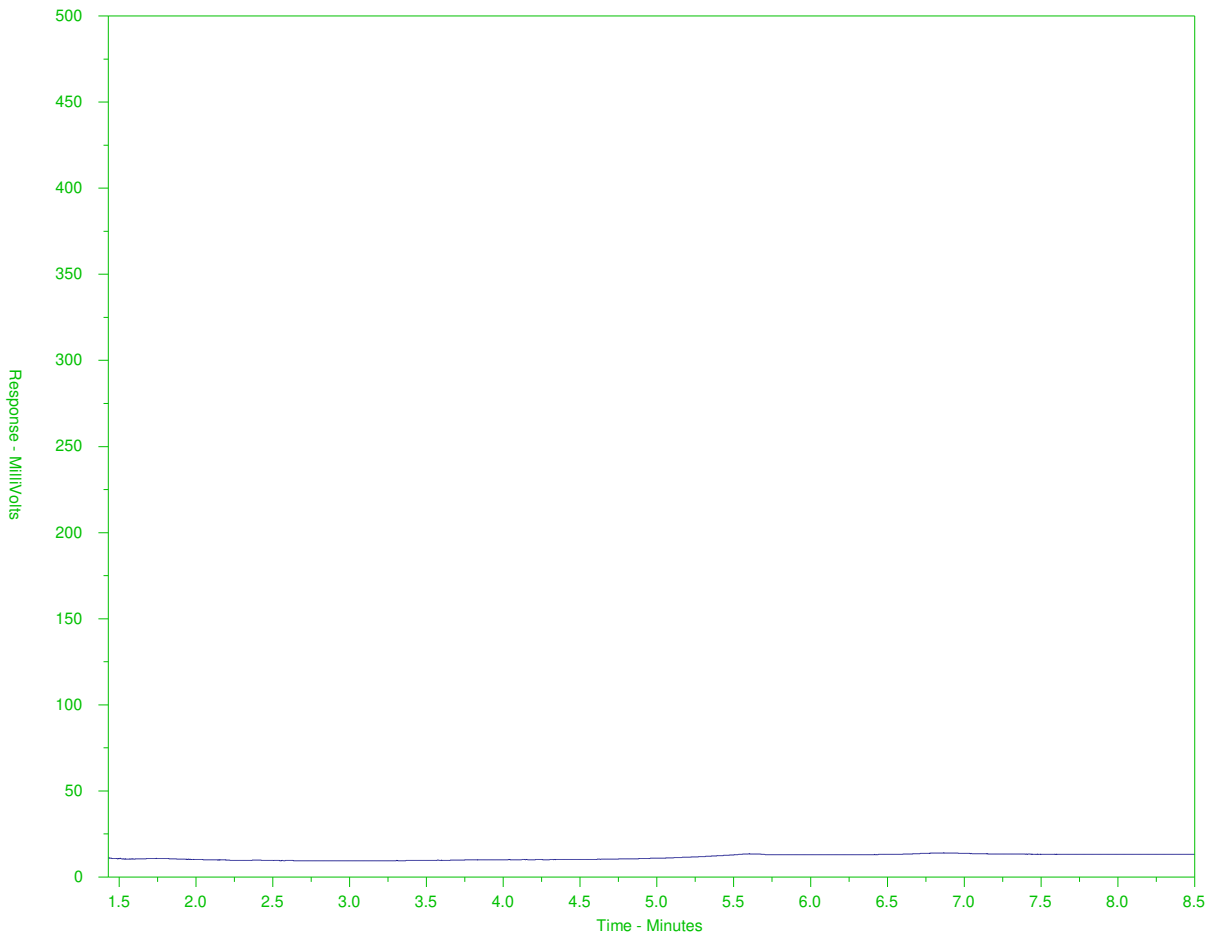
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L1861784-C-12
 Client Sample ID: 03020-12



← F2 →		← F3 →		← F4 →	
nC10	nC16	nC34		nC50	
174°C	287°C	481°C		575°C	
346°F	549°F	898°F		1067°F	
← Gasoline →			← Motor Oils/ Lube Oils/ Grease →		
← 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.

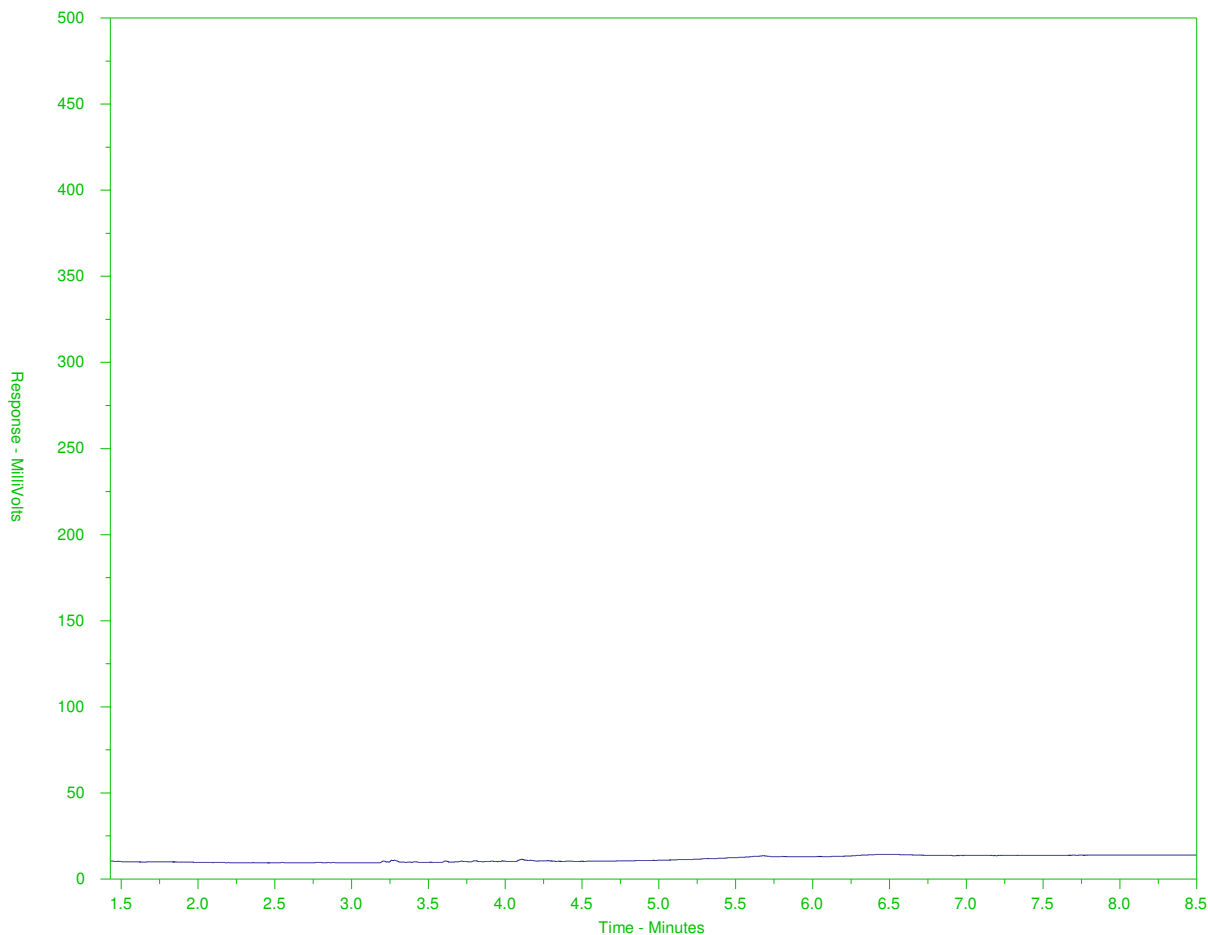
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

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.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L1861784-C-14
 Client Sample ID: 02042-02



← F2 →		← F3 →		← F4 →	
nC10	nC16			nC34	nC50
174°C	287°C			481°C	575°C
346°F	549°F			898°F	1067°F
← Gasoline →			← Motor Oils/ Lube Oils/ Grease →		
← 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.

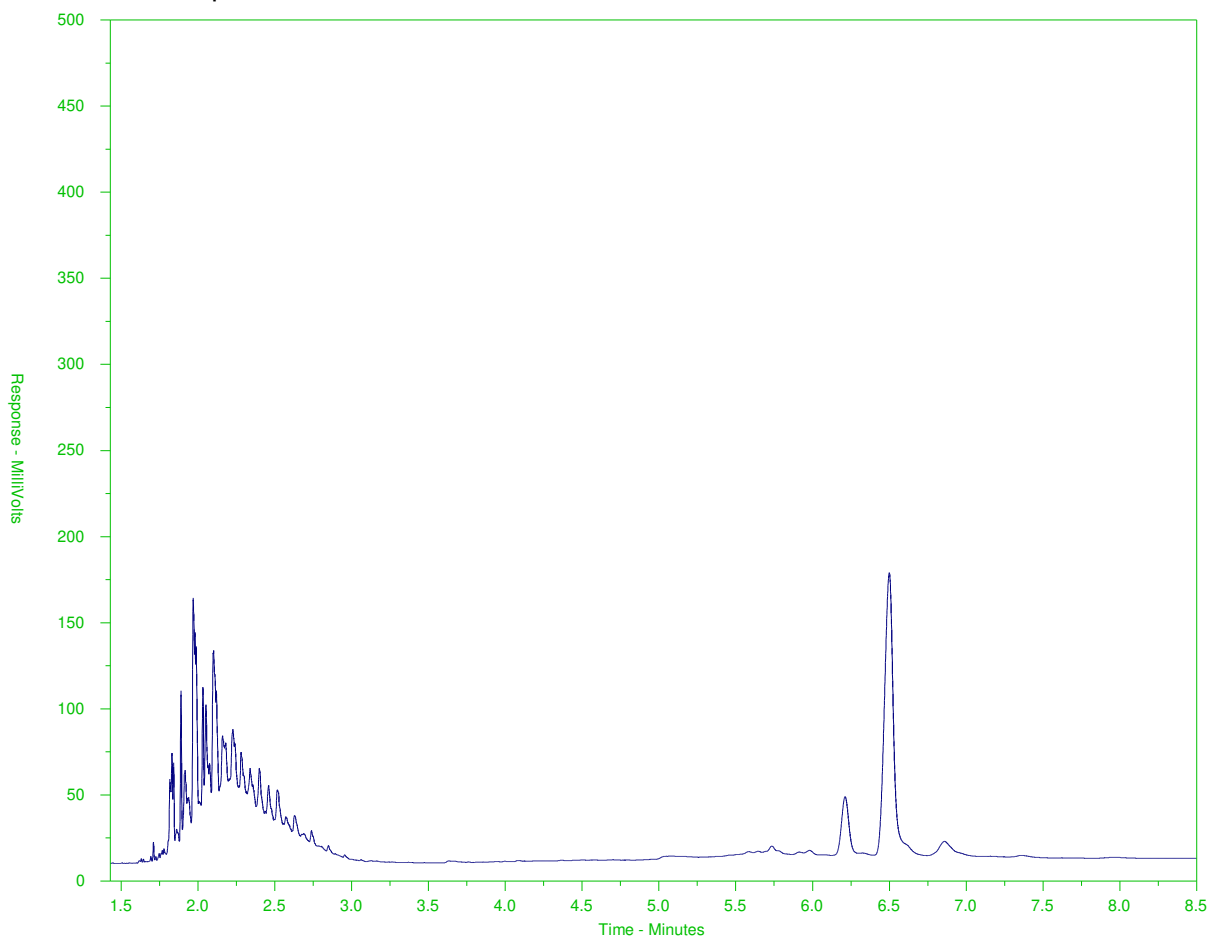
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

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.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L1861784-C-18
 Client Sample ID: 02042-06



F2		F3		F4	
nC10	nC16			nC34	nC50
174°C	287°C			481°C	575°C
346°F	549°F			898°F	1067°F
← Gasoline →			← Motor Oils/ Lube Oils/ Grease →		
← 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.

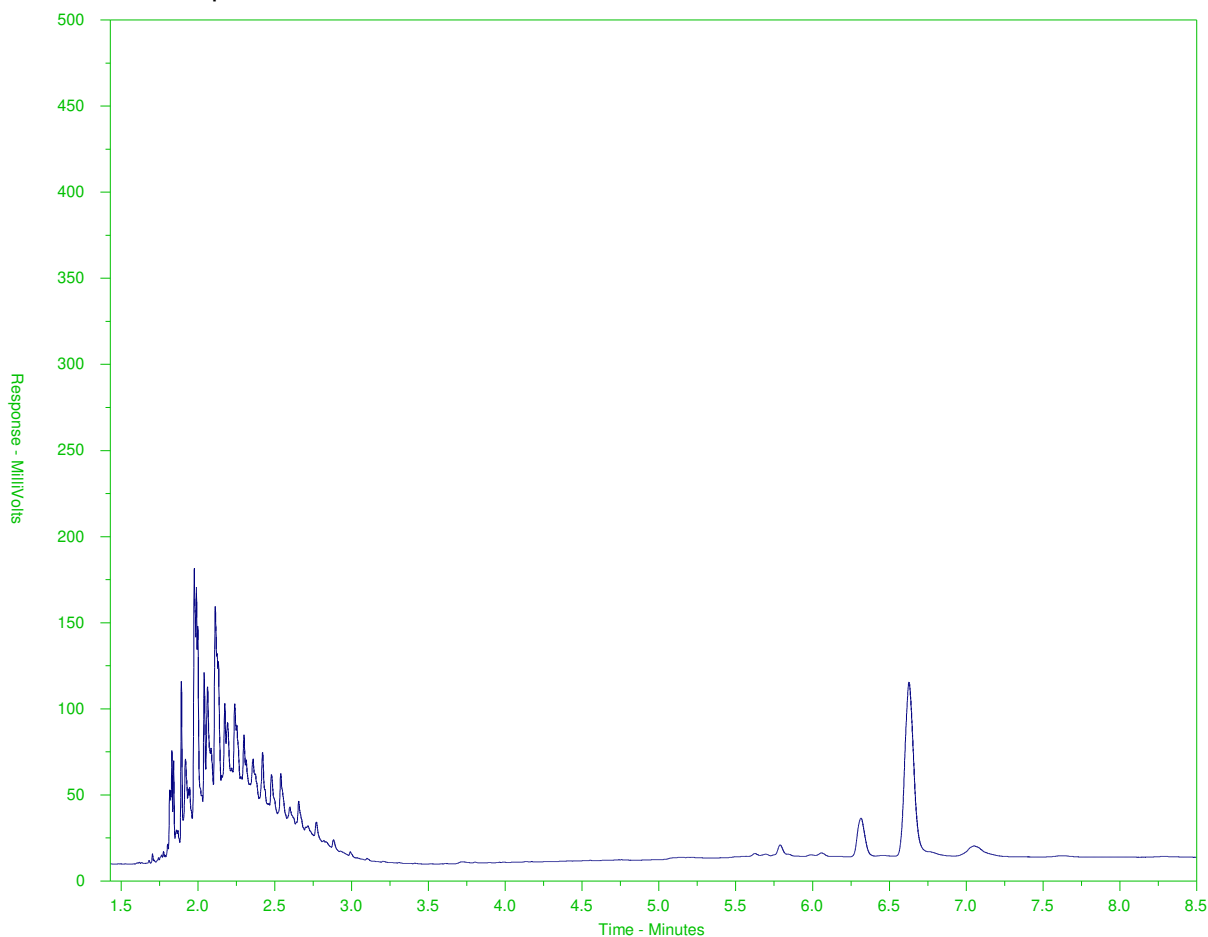
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

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.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L1861784-C-23
 Client Sample ID: 02042-11



← F2 →		← F3 →		← F4 →	
nC10	nC16			nC34	nC50
174°C	287°C			481°C	575°C
346°F	549°F			898°F	1067°F
← Gasoline →			← Motor Oils/ Lube Oils/ Grease →		
← 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.

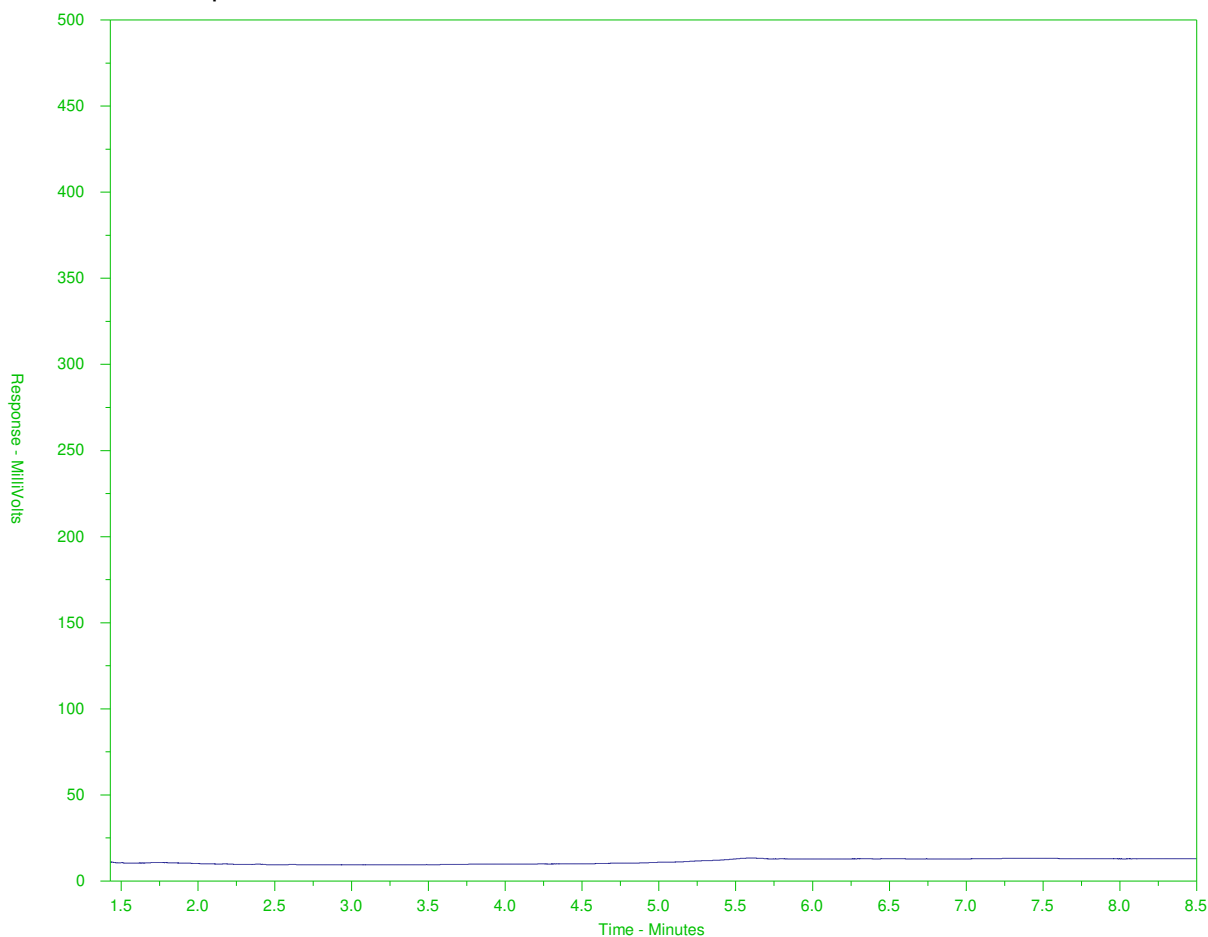
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

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.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L1861784-C-27
 Client Sample ID: 02043-03



← F2 →		← F3 →		← F4 →	
nC10	nC16			nC34	nC50
174°C	287°C			481°C	575°C
346°F	549°F			898°F	1067°F
← Gasoline →			← Motor Oils/ Lube Oils/ Grease →		
← 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.

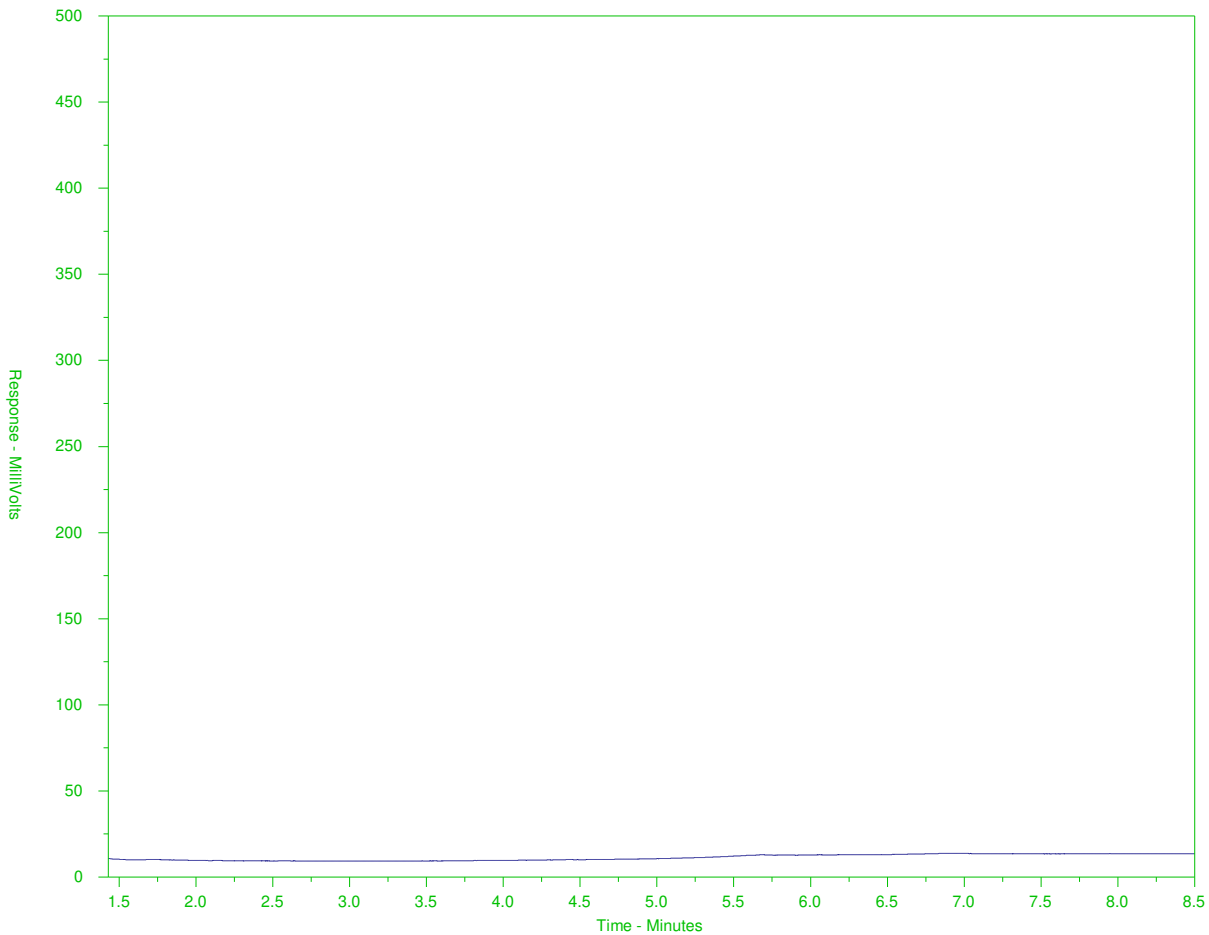
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

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.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L1861784-C-28
 Client Sample ID: 02043-04



← F2 →		← F3 →		← F4 →	
nC10	nC16			nC34	nC50
174°C	287°C			481°C	575°C
346°F	549°F			898°F	1067°F
← Gasoline →			← Motor Oils/ Lube Oils/ Grease →		
← 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.



L1861784-COFC

CHAIN OF CUSTODY RECORD/ANALYSIS REQUEST

No. 03020 page 1 of 3

200 - 2920 Virtual Way
Vancouver, British Columbia, Canada V5M 0C4
Telephone (604) 296-4200 Fax (604) 298-5253

Project Number: 1525010/3300/3300-3		Laboratory Name: ALS	
Short Title: ANNACIS ISLAND WWTP		Golder Contact: TIM LAIDLAW	
Golder E-mail Address 1: j.laidlaw@golder.com		Golder E-mail Address 2: agarrido@golder.com	
		Address: 8081 Lougheed Highway	
		Telephone/Fax:	
		Contact: AMBER SPRINGS	

Office Name: VANCOUVER	EQUIS Facility Code:	Analyses Required
	EQUIS upload: <input type="checkbox"/>	

Turnaround Time: <input type="checkbox"/> 24 hr <input type="checkbox"/> 48 hr <input type="checkbox"/> 72 hr <input type="checkbox"/> Regular (5 Days)
Criteria: <input checked="" type="checkbox"/> CSR <input type="checkbox"/> CCME <input type="checkbox"/> BC Water Quality <input type="checkbox"/> Other

Note: Final Reports to be issued by e-mail	Quote No.:
--	------------

Sample Control Number (SCN)	Sample Location	Sa. #	Sample Depth (m)	Sample Matrix (over)	Date Sampled (D/M/Y)	Time Sampled (HH:MM)	Sample Type (over)	QAQC Code (over)	Related SCN (over)	Number of Containers	RUSH (Select TAT above)	Remarks (over)
03020-01	SH16-05	8-9	8-9	SOL	23/11/16		Discard					
-02			10-11									
-03			12-13									
-04			15-16									
-05			18-19									
-06			21-22									
-07			25-26									
-08			28-29									
-09			32-33									
-10			36-37									
-11			40-41									
-12								FM 03020-12 FD 03020-11				

Sampler's Signature: ALVARO GARRIDO	Relinquished by: Signature:	Company: GOLDFER	Date: 23 NOV 2016	Time:	Received by: Signature:	Company:
Comments:	Method of Shipment:	Waybill No.:	Received for Lab by:		Date:	Time:
	Shipped by:	Shipment Condition: Seal Intact:	Temp (°C): 9	Cooler opened by: JC	Date: 23 Nov 16	Time: 12:20pm

WHITE: Golder Copy YELLOW: Lab Copy



L1861784-COFC

CHAIN OF CUSTODY RECORD/ANALYSIS REQUEST

No. 02042 page 2 of 3

200 - 2920 Virtual Way
Vancouver, British Columbia, Canada V5M 0C4
Telephone (604) 296-4200 Fax (604) 298-5253

Project Number: 1525010 / 3300 / 3300.3		Laboratory Name: ALS	
Short Title: ANNACIS ISLAND WWTP		Golder Contact: JIM LAIDLAW	
Golder E-mail Address 1: jlaidlaw@golder.com		Golder E-mail Address 2: agarnod@golder.com	
		Address: 8081 Loughhead Highway	
		Telephone/Fax: _____	
		Contact: KIMBER SPRINGS	

Office Name: VANCOUVER	EQUIS Facility Code: _____ EQUIS upload: <input type="checkbox"/>	Analyses Required
-------------------------------	--	-------------------

Turnaround Time: <input type="checkbox"/> 24 hr <input type="checkbox"/> 48 hr <input type="checkbox"/> 72 hr <input type="checkbox"/> Regular (5 Days)
Criteria: <input checked="" type="checkbox"/> CSR <input type="checkbox"/> CCME <input type="checkbox"/> BC Water Quality <input type="checkbox"/> Other

Note: Final Reports to be issued by e-mail	Quote No.:
--	------------

Sample Control Number (SCN)	Sample Location	Sa. #	Sample Depth (m)	Sample Matrix (over)	Date Sampled (D/M/Y)	Time Sampled (HH:MM)	Sample Type (over)	QAQC Code (over)	Related SCN (over)	Number of Containers	Remarks (over)
02042-01	SH16-05	45-46	50'	Soil	23/11/16		Diesel			3	
-02			49-50								
-03			54-55								
-04			58-59								
-05			62-63								
-06			66-67								
-07			70-71								
-08			75-76								
-09			79-80								
-10			83-84								
-11			87-88								
-12								FDA 02042-12			
								FD 02042-11			

Sampler's Signature: AWATO SAUITO	Relinquished by: Signature:	Company: GOLDER	Date: 23 NOV-2016	Time: _____	Received by: Signature: _____	Company: _____
Comments:	Method of Shipment: _____	Waybill No.: _____	Received for Lab by: _____		Date: _____	Time: _____
	Shipped by: _____	Shipment Condition: _____ Seal Intact: _____	Temp (°C): 9	Cooler opened by: JC	Date: 23 Nov 16	Time: 12:20pm

WHITE: Golder Copy YELLOW: Lab Copy



L1861784-COFC

CHAIN OF CUSTODY RECORD/ANALYSIS REQUEST

No. 02043 page 3 of 3

200 - 2920 Virtual Way
Vancouver, British Columbia, Canada V5M 0C4
Telephone (604) 296-4200 Fax (604) 298-5253

Project Number: IS 25010 / 33000 / 33000.3		Laboratory Name: ALS	
Short Title: ANNACIS ISLAND WWTP		Golder Contact: JIM LATOULOU	
Golder E-mail Address 1: j.latoulou@golder.com		Golder E-mail Address 2: agarrido@golder.com	
Address: 8081 Lougheed Highway		Telephone/Fax:	
Contact: AMBER SPAINO			

Office Name: VANCOUVER				EQUS Facility Code: EQUS upload: <input type="checkbox"/>				Analyses Required														
Turnaround Time: <input type="checkbox"/> 24 hr <input type="checkbox"/> 48 hr <input type="checkbox"/> 72 hr <input type="checkbox"/> Regular (5 Days)				Criteria: <input checked="" type="checkbox"/> CSR <input type="checkbox"/> CCME <input type="checkbox"/> BC Water Quality <input type="checkbox"/> Other																		
Note: Final Reports to be issued by e-mail				Quote No.:																		
Sample Control Number (SCN)	Sample Location	Sa. #	Sample Depth (m)	Sample Matrix (over)	Date Sampled (D/M/Y)	Time Sampled (HH:MM)	Sample Type (over)	QAQC Code (over)	Related SCN (over)	Number of Containers											Remarks (over)	
02043-01	S#16-05		91-92	Soil	23/11/16		Disturb				3											
-02	↓		95-96	↓	↓	↓	↓				↓											
-03	↓		99-100	↓	↓	↓	↓				↓											
-04	↓		104-105	↓	↓	↓	↓				↓											
-05																						
-06																						
-07																						
-08																						
-09																						
-10																						
-11																						
-12																						

Sampler's Signature: [Signature]		Relinquished by: Signature [Signature]		Company GOLDER		Date 23-NOV-2016		Time		Received by: Signature		Company	
Comments:		Method of Shipment:		Waybill No.:		Received for Lab by:		Date		Time			
		Shipped by:		Shipment Condition: Seal Intact:		Temp (°C) 9		Cooler opened by: JK		Date 23 Nov 16		Time 12:20 pm	

WHITE: Golder Copy YELLOW: Lab Copy



GOLDER ASSOCIATES LTD.
ATTN: Jm Laidlaw
200- 2920 Virtual Way
Vancouver BC V5M 0C4

Date Received: 24- NOV- 16
Report Date: 03- JAN- 17 16:17 (MT)
Version: FINAL

Client Phone: 604- 298- 6623

Certificate of Analysis

Lab Work Order #: L1862331

Project P.O. #: NOT SUBMITTED
Job Reference: 1525010/3300/33003
C of C Numbers: 02044, 02045, 02046
Legal Site Desc:

Amber Springer, B.Sc
Account Manager

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

ADDRESS: 8081 Lougheed Hwy, Suite 100, Burnaby, BC V5A 1W9 Canada | Phone: +1 604 253 4188 | Fax: +1 604 253 6700
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1862331-1 Soil 24-NOV-16 02044-01	L1862331-2 Soil 24-NOV-16 02044-02	L1862331-5 Soil 24-NOV-16 02044-05	L1862331-6 Soil 24-NOV-16 02044-06	L1862331-7 Soil 24-NOV-16 02044-07
Grouping	Analyte					
SOIL						
Physical Tests	Moisture (%)	14.9	31.8	19.2	20.5	20.8
	pH (1:2 soil:water) (pH)	7.82	6.25	7.25	7.24	
Particle Size	General Texture Class					Coarse
	MUST PSA % > 75um (%)					PSAL 99.1
Leachable Anions & Nutrients	Bromide (Br) (mg/kg)		<0.50		<0.50	
	Chloride (Cl) (mg/kg)		<5.0		9.8	
	Fluoride (F) (mg/kg)		0.43		0.26	
	Nitrate (as N) (mg/kg)		<0.050		<0.050	
	Nitrite (as N) (mg/kg)		<0.010		<0.010	
	Sulfate (SO4) (mg/kg)		10		<10	
Organic / Inorganic Carbon	Total Organic Carbon (%)			0.135	0.101	
Saturated Paste Extractables	Chloride (Cl) (mg/kg)	0.83		10.1		
	% Saturation (%)	31.9		36.8		
	Sodium (Na) (mg/kg)	3.5		7.7		
Metals	Antimony (Sb) (mg/kg)	0.22	0.60	0.29	0.25	
	Arsenic (As) (mg/kg)	3.16	12.2	1.63	1.58	
	Barium (Ba) (mg/kg)	48.5	141	54.9	64.9	
	Beryllium (Be) (mg/kg)	0.20	0.45	0.19	0.19	
	Cadmium (Cd) (mg/kg)	0.109	0.338	0.112	0.102	
	Chromium (Cr) (mg/kg)	31.5	54.7	37.5	33.4	
	Cobalt (Co) (mg/kg)	8.08	29.3	8.63	8.09	
	Copper (Cu) (mg/kg)	13.5	35.7	14.6	13.9	
	Lead (Pb) (mg/kg)	2.11	6.58	2.38	2.36	
	Mercury (Hg) (mg/kg)	0.0162	0.0489	0.0258	0.0243	
	Molybdenum (Mo) (mg/kg)	0.33	1.79	0.20	0.20	
	Nickel (Ni) (mg/kg)	35.1	92.6	44.4	41.2	
	Selenium (Se) (mg/kg)	<0.20	0.50	<0.20	<0.20	
	Silver (Ag) (mg/kg)	<0.10	0.14	<0.10	<0.10	
	Thallium (Tl) (mg/kg)	<0.050	0.115	<0.050	<0.050	
	Tin (Sn) (mg/kg)	<2.0	<2.0	<2.0	<2.0	
	Uranium (U) (mg/kg)	0.256	0.951	0.501	0.325	
	Vanadium (V) (mg/kg)	47.6	75.4	44.6	37.2	
	Zinc (Zn) (mg/kg)	36.3	71.5	38.7	37.5	
Hydrocarbons	EPH10-19 (mg/kg)	<200	<200	<200		
	EPH19-32 (mg/kg)	<200	<200	<200		
	LEPH (mg/kg)	<200	<200	<200		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1862331-10 Soil 24-NOV-16 02044-10	L1862331-11 Soil 24-NOV-16 02044-11	L1862331-14 Soil 24-NOV-16 02045-02	L1862331-15 Soil 24-NOV-16 02045-03	L1862331-18 Soil 24-NOV-16 02045-06
Grouping	Analyte					
SOIL						
Physical Tests	Moisture (%)	18.2	18.4	19.2	15.7	20.3
	pH (1:2 soil:water) (pH)	6.95		6.68		6.41
Particle Size	General Texture Class					
	MUST PSA % > 75um (%)					
Leachable Anions & Nutrients	Bromide (Br) (mg/kg)			<0.50		
	Chloride (Cl) (mg/kg)			<5.0		
	Fluoride (F) (mg/kg)			<0.20		
	Nitrate (as N) (mg/kg)			<0.050		
	Nitrite (as N) (mg/kg)			<0.010		
	Sulfate (SO4) (mg/kg)			<10		
Organic / Inorganic Carbon	Total Organic Carbon (%)		0.094		0.078	
Saturated Paste Extractables	Chloride (Cl) (mg/kg)		3.59			
	% Saturation (%)		32.8			
	Sodium (Na) (mg/kg)		4.9			
Metals	Antimony (Sb) (mg/kg)	0.18		0.20		0.22
	Arsenic (As) (mg/kg)	1.61		1.71		1.98
	Barium (Ba) (mg/kg)	58.5		61.7		53.4
	Beryllium (Be) (mg/kg)	0.19		0.19		0.20
	Cadmium (Cd) (mg/kg)	0.096		0.105		0.093
	Chromium (Cr) (mg/kg)	22.0		21.5		27.9
	Cobalt (Co) (mg/kg)	7.57		7.13		7.75
	Copper (Cu) (mg/kg)	12.9		13.6		14.0
	Lead (Pb) (mg/kg)	2.16		2.30		2.13
	Mercury (Hg) (mg/kg)	0.0256		0.0168		0.0172
	Molybdenum (Mo) (mg/kg)	0.19		0.21		0.28
	Nickel (Ni) (mg/kg)	28.0		27.7		32.1
	Selenium (Se) (mg/kg)	<0.20		<0.20		<0.20
	Silver (Ag) (mg/kg)	<0.10		<0.10		<0.10
	Thallium (Tl) (mg/kg)	<0.050		<0.050		<0.050
	Tin (Sn) (mg/kg)	<2.0		<2.0		<2.0
	Uranium (U) (mg/kg)	0.225		0.230		0.258
	Vanadium (V) (mg/kg)	41.0		39.3		48.3
	Zinc (Zn) (mg/kg)	36.5		36.7		37.3
Hydrocarbons	EPH10-19 (mg/kg)					
	EPH19-32 (mg/kg)					
	LEPH (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1862331-19 Soil 24-NOV-16 02045-07	L1862331-22 Soil 24-NOV-16 02045-10	L1862331-23 Soil 24-NOV-16 02045-11	L1862331-26 Soil 24-NOV-16 02046-02	L1862331-27 Soil 24-NOV-16 02046-03
Grouping	Analyte					
SOIL						
Physical Tests	Moisture (%)	19.4	19.7		19.3	15.7
	pH (1:2 soil:water) (pH)		6.63		8.52	8.67
Particle Size	General Texture Class	Coarse			Coarse	
	MUST PSA % > 75um (%)	98.5 ^{PSAL}			98.6 ^{PSAL}	
Leachable Anions & Nutrients	Bromide (Br) (mg/kg)		<0.50		<0.50	
	Chloride (Cl) (mg/kg)		6.4		6.2	
	Fluoride (F) (mg/kg)		<0.20		<0.20	
	Nitrate (as N) (mg/kg)		<0.050		<0.050	
	Nitrite (as N) (mg/kg)		<0.010		<0.010	
	Sulfate (SO4) (mg/kg)		<10		<10	
Organic / Inorganic Carbon	Total Organic Carbon (%)	0.121		0.055	0.091	0.099
Saturated Paste Extractables	Chloride (Cl) (mg/kg)	2.74			6.56	6.19
	% Saturation (%)	34.8			32.0	33.2
	Sodium (Na) (mg/kg)	5.5			4.3	4.0
Metals	Antimony (Sb) (mg/kg)		0.28		0.25	0.23
	Arsenic (As) (mg/kg)		2.67		2.79	2.57
	Barium (Ba) (mg/kg)		58.7		42.9	52.1
	Beryllium (Be) (mg/kg)		0.20		0.21	0.20
	Cadmium (Cd) (mg/kg)		0.280		0.102	0.118
	Chromium (Cr) (mg/kg)		27.3		35.2	25.1
	Cobalt (Co) (mg/kg)		8.01		8.69	8.25
	Copper (Cu) (mg/kg)		15.8		16.0	16.4
	Lead (Pb) (mg/kg)		2.26		2.35	2.19
	Mercury (Hg) (mg/kg)		0.0324		0.0175	0.0194
	Molybdenum (Mo) (mg/kg)		0.33		0.28	0.31
	Nickel (Ni) (mg/kg)		32.2		37.9	33.0
	Selenium (Se) (mg/kg)		<0.20		<0.20	<0.20
	Silver (Ag) (mg/kg)		<0.10		<0.10	<0.10
	Thallium (Tl) (mg/kg)		0.091		<0.050	0.055
	Tin (Sn) (mg/kg)		<2.0		<2.0	<2.0
	Uranium (U) (mg/kg)		0.271		0.267	0.219
	Vanadium (V) (mg/kg)		47.7		56.3	43.6
	Zinc (Zn) (mg/kg)		37.7		38.1	39.3
Hydrocarbons	EPH10-19 (mg/kg)					
	EPH19-32 (mg/kg)					
	LEPH (mg/kg)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1862331-1	L1862331-2	L1862331-5	L1862331-6	L1862331-7
		Description	Soil	Soil	Soil	Soil	Soil
		Sampled Date	24-NOV-16	24-NOV-16	24-NOV-16	24-NOV-16	24-NOV-16
		Sampled Time					
		Client ID	02044-01	02044-02	02044-05	02044-06	02044-07
Grouping	Analyte						
SOIL							
Hydrocarbons	HEPH (mg/kg)	<200	<200	<200			
	F2 (C10-C16) (mg/kg)			<30	<30		
	F3 (C16-C34) (mg/kg)			<50	<50		
	F4 (C34-C50) (mg/kg)			<50	<50		
	Chrom. to baseline at nC50			YES	YES		
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)	<0.0050	<0.0050	<0.0050	<0.0050		
	Acenaphthylene (mg/kg)	<0.0050	<0.0050	<0.0050	<0.0050		
	Anthracene (mg/kg)	<0.0040	<0.0040	<0.0040	<0.0040		
	Benz(a)anthracene (mg/kg)	<0.010	<0.010	<0.010	<0.010		
	Benzo(a)pyrene (mg/kg)	<0.010	<0.010	<0.010	<0.010		
	Benzo(b)fluoranthene (mg/kg)	<0.010	<0.010	<0.010	<0.010		
	Benzo(b+j+k)fluoranthene (mg/kg)	<0.015	<0.015	<0.015	<0.015		
	Benzo(g,h,i)perylene (mg/kg)	<0.010	<0.010	<0.010	<0.010		
	Benzo(k)fluoranthene (mg/kg)	<0.010	<0.010	<0.010	<0.010		
	Chrysene (mg/kg)	<0.010	<0.010	<0.010	<0.010		
	Dibenz(a,h)anthracene (mg/kg)	<0.0050	<0.0050	<0.0050	<0.0050		
	Fluoranthene (mg/kg)	<0.010	<0.010	<0.010	<0.010		
	Fluorene (mg/kg)	<0.010	<0.010	<0.010	<0.010		
	Indeno(1,2,3-c,d)pyrene (mg/kg)	<0.010	<0.010	<0.010	<0.010		
	2-Methylnaphthalene (mg/kg)	<0.010	<0.010	<0.010	<0.010		
	Naphthalene (mg/kg)	<0.010	<0.010	<0.010	<0.010		
	Phenanthrene (mg/kg)	<0.010	<0.010	<0.010	<0.010		
	Pyrene (mg/kg)	<0.010	<0.010	<0.010	<0.010		
	Surrogate: Acenaphthene d10 (%)	80.0	78.3	85.8	81.9		
	Surrogate: Chrysene d12 (%)	84.0	80.6	87.8	78.8		
	Surrogate: Naphthalene d8 (%)	77.2	74.0	82.6	80.1		
	Surrogate: Phenanthrene d10 (%)	82.7	88.8	86.3	80.0		
	B(a)P Total Potency Equivalent (mg/kg)	<0.020	<0.020	<0.020	<0.020		
IACR (CCME) (mg/kg)	<0.15	<0.15	<0.15	<0.15			
Phenolics	4-Chloro-3-methylphenol (mg/kg)	<0.020	<0.020	<0.020			
	2-Chlorophenol (mg/kg)	<0.020	<0.020	<0.020			
	3-Chlorophenol (mg/kg)	<0.020	<0.020	<0.020			
	4-Chlorophenol (mg/kg)	<0.020	<0.020	<0.020			
	2,3-Dichlorophenol (mg/kg)	<0.020	<0.020	<0.020			
	2,4 & 2,5-Dichlorophenol (mg/kg)	<0.020	<0.020	<0.020			
	2,6-Dichlorophenol (mg/kg)	<0.020	<0.020	<0.020			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID		L1862331-10 Soil 24-NOV-16 02044-10	L1862331-11 Soil 24-NOV-16 02044-11	L1862331-14 Soil 24-NOV-16 02045-02	L1862331-15 Soil 24-NOV-16 02045-03	L1862331-18 Soil 24-NOV-16 02045-06
Grouping	Analyte					
SOIL						
Hydrocarbons	HEPH (mg/kg)					
	F2 (C10-C16) (mg/kg)	<30		<30		<30
	F3 (C16-C34) (mg/kg)	<50		<50		<50
	F4 (C34-C50) (mg/kg)	<50		<50		<50
	Chrom. to baseline at nC50	YES		YES		YES
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)	<0.0050		<0.0050		<0.0050
	Acenaphthylene (mg/kg)	<0.0050		<0.0050		<0.0050
	Anthracene (mg/kg)	<0.0040		<0.0040		<0.0040
	Benz(a)anthracene (mg/kg)	<0.010		<0.010		<0.010
	Benzo(a)pyrene (mg/kg)	<0.010		<0.010		<0.010
	Benzo(b)fluoranthene (mg/kg)	<0.010		<0.010		<0.010
	Benzo(b+j+k)fluoranthene (mg/kg)	<0.015		<0.015		<0.015
	Benzo(g,h,i)perylene (mg/kg)	<0.010		<0.010		<0.010
	Benzo(k)fluoranthene (mg/kg)	<0.010		<0.010		<0.010
	Chrysene (mg/kg)	<0.010		<0.010		<0.010
	Dibenz(a,h)anthracene (mg/kg)	<0.0050		<0.0050		<0.0050
	Fluoranthene (mg/kg)	<0.010		<0.010		<0.010
	Fluorene (mg/kg)	<0.010		<0.010		<0.010
	Indeno(1,2,3-c,d)pyrene (mg/kg)	<0.010		<0.010		<0.010
	2-Methylnaphthalene (mg/kg)	<0.010		<0.010		<0.010
	Naphthalene (mg/kg)	<0.010		<0.010		<0.010
	Phenanthrene (mg/kg)	<0.010		<0.010		<0.010
	Pyrene (mg/kg)	<0.010		<0.010		<0.010
	Surrogate: Acenaphthene d10 (%)	88.2		84.9		84.9
	Surrogate: Chrysene d12 (%)	85.0		83.7		84.1
	Surrogate: Naphthalene d8 (%)	86.5		82.8		81.8
	Surrogate: Phenanthrene d10 (%)	85.0		83.2		91.1
	B(a)P Total Potency Equivalent (mg/kg)	<0.020		<0.020		<0.020
	IACR (CCME) (mg/kg)	<0.15		<0.15		<0.15
Phenolics	4-Chloro-3-methylphenol (mg/kg)	<0.020		<0.020		<0.020
	2-Chlorophenol (mg/kg)	<0.020		<0.020		<0.050 ^{DLQ}
	3-Chlorophenol (mg/kg)	<0.020		<0.020		<0.020
	4-Chlorophenol (mg/kg)	<0.020		<0.020		<0.020
	2,3-Dichlorophenol (mg/kg)	<0.020		<0.020		<0.020
	2,4 & 2,5-Dichlorophenol (mg/kg)	<0.020		<0.020		<0.020
	2,6-Dichlorophenol (mg/kg)	<0.020		<0.020		<0.020

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1862331-19 Soil 24-NOV-16 02045-07	L1862331-22 Soil 24-NOV-16 02045-10	L1862331-23 Soil 24-NOV-16 02045-11	L1862331-26 Soil 24-NOV-16 02046-02	L1862331-27 Soil 24-NOV-16 02046-03
Grouping	Analyte				
SOIL					
Hydrocarbons	HEPH (mg/kg)				
	F2 (C10-C16) (mg/kg)				
	F3 (C16-C34) (mg/kg)				
	F4 (C34-C50) (mg/kg)				
	Chrom. to baseline at nC50				
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)				
	Acenaphthylene (mg/kg)				
	Anthracene (mg/kg)				
	Benz(a)anthracene (mg/kg)				
	Benzo(a)pyrene (mg/kg)				
	Benzo(b)fluoranthene (mg/kg)				
	Benzo(b+j+k)fluoranthene (mg/kg)				
	Benzo(g,h,i)perylene (mg/kg)				
	Benzo(k)fluoranthene (mg/kg)				
	Chrysene (mg/kg)				
	Dibenz(a,h)anthracene (mg/kg)				
	Fluoranthene (mg/kg)				
	Fluorene (mg/kg)				
	Indeno(1,2,3-c,d)pyrene (mg/kg)				
	2-Methylnaphthalene (mg/kg)				
	Naphthalene (mg/kg)				
	Phenanthrene (mg/kg)				
	Pyrene (mg/kg)				
	Surrogate: Acenaphthene d10 (%)				
	Surrogate: Chrysene d12 (%)				
	Surrogate: Naphthalene d8 (%)				
	Surrogate: Phenanthrene d10 (%)				
	B(a)P Total Potency Equivalent (mg/kg)				
	IACR (CCME) (mg/kg)				
Phenolics	4-Chloro-3-methylphenol (mg/kg)				
	2-Chlorophenol (mg/kg)				
	3-Chlorophenol (mg/kg)				
	4-Chlorophenol (mg/kg)				
	2,3-Dichlorophenol (mg/kg)				
	2,4 & 2,5-Dichlorophenol (mg/kg)				
	2,6-Dichlorophenol (mg/kg)				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1862331-1	L1862331-2	L1862331-5	L1862331-6	L1862331-7
		Description	Soil	Soil	Soil	Soil	Soil
		Sampled Date	24-NOV-16	24-NOV-16	24-NOV-16	24-NOV-16	24-NOV-16
		Sampled Time					
		Client ID	02044-01	02044-02	02044-05	02044-06	02044-07
Grouping	Analyte						
SOIL							
Phenolics	3,4-Dichlorophenol (mg/kg)	<0.020	<0.020	<0.020			
	3,5-Dichlorophenol (mg/kg)	<0.020	<0.020	<0.020			
	2,4-Dimethylphenol (mg/kg)	<0.020			<0.020		
	o-Cresol (mg/kg)	<0.020			<0.020		
	m-Cresol (mg/kg)	<0.020			<0.020		
	p-Cresol (mg/kg)	<0.020			<0.080 ^{DLO}		
	Pentachlorophenol (mg/kg)	<0.020	<0.020	<0.020			
	Phenol (mg/kg)	<0.020			<0.020		
	2,3,4,5-Tetrachlorophenol (mg/kg)	<0.020	<0.020	<0.020			
	2,3,4,6-Tetrachlorophenol (mg/kg)	<0.020	<0.020	<0.020			
	2,3,5,6-Tetrachlorophenol (mg/kg)	<0.020	<0.020	<0.020			
	2,3,4-Trichlorophenol (mg/kg)	<0.020	<0.020	<0.020			
	2,3,5-Trichlorophenol (mg/kg)	<0.020	<0.020	<0.020			
	2,3,6-Trichlorophenol (mg/kg)	<0.020	<0.020	<0.020			
	2,4,5-Trichlorophenol (mg/kg)	<0.020	<0.020	<0.020			
	2,4,6-Trichlorophenol (mg/kg)	<0.020	<0.020	<0.020			
	3,4,5-Trichlorophenol (mg/kg)	<0.020	<0.020	<0.020			
Polychlorinated Biphenyls	PCB-1016 (mg/kg)						<0.020
	PCB-1221 (mg/kg)						<0.020
	PCB-1232 (mg/kg)						<0.020
	PCB-1242 (mg/kg)						<0.020
	PCB-1248 (mg/kg)						<0.020
	PCB-1254 (mg/kg)						<0.020
	PCB-1260 (mg/kg)						<0.020
	PCB-1262 (mg/kg)						<0.020
	PCB-1268 (mg/kg)						<0.020
	Total PCB (BC CSR) (mg/kg)						<0.020
	Total Polychlorinated Biphenyls (mg/kg)						<0.020
Dioxins and Furans	2,3,7,8-TCDD (pg/g)						<0.064 ^[U]
	1,2,3,7,8-PeCDD (pg/g)						<0.033 ^[U]
	1,2,3,4,7,8-HxCDD (pg/g)						<0.050 ^[U]
	1,2,3,6,7,8-HxCDD (pg/g)						<0.048 ^[U]
	1,2,3,7,8,9-HxCDD (pg/g)						<0.051 ^[U]
	1,2,3,4,6,7,8-HpCDD (pg/g)						0.160 ^{M,J,R}
	OCDD (pg/g)						1.50 ^[J]
	Total-TCDD (pg/g)						<0.064 ^[U]

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1862331-10	L1862331-11	L1862331-14	L1862331-15	L1862331-18
		Description	Soil	Soil	Soil	Soil	Soil
		Sampled Date	24-NOV-16	24-NOV-16	24-NOV-16	24-NOV-16	24-NOV-16
		Sampled Time					
		Client ID	02044-10	02044-11	02045-02	02045-03	02045-06
Grouping	Analyte						
SOIL							
Phenolics	3,4-Dichlorophenol (mg/kg)	<0.020			<0.020		<0.020
	3,5-Dichlorophenol (mg/kg)	<0.020			<0.020		<0.020
	2,4-Dimethylphenol (mg/kg)				<0.020		
	o-Cresol (mg/kg)				<0.020		
	m-Cresol (mg/kg)				<0.020		
	p-Cresol (mg/kg)				<0.10 ^{DLQ}		
	Pentachlorophenol (mg/kg)	<0.020			<0.020		<0.020
	Phenol (mg/kg)				<0.020		
	2,3,4,5-Tetrachlorophenol (mg/kg)	<0.020			<0.020		<0.020
	2,3,4,6-Tetrachlorophenol (mg/kg)	<0.020			<0.020		<0.020
	2,3,5,6-Tetrachlorophenol (mg/kg)	<0.020			<0.020		<0.020
	2,3,4-Trichlorophenol (mg/kg)	<0.020			<0.020		<0.020
	2,3,5-Trichlorophenol (mg/kg)	<0.020			<0.020		<0.020
	2,3,6-Trichlorophenol (mg/kg)	<0.020			<0.020		<0.020
	2,4,5-Trichlorophenol (mg/kg)	<0.020			<0.020		<0.020
	2,4,6-Trichlorophenol (mg/kg)	<0.020			<0.020		<0.020
	3,4,5-Trichlorophenol (mg/kg)	<0.020			<0.020		<0.020
Polychlorinated Biphenyls	PCB-1016 (mg/kg)			<0.020		<0.020	
	PCB-1221 (mg/kg)			<0.020		<0.020	
	PCB-1232 (mg/kg)			<0.020		<0.020	
	PCB-1242 (mg/kg)			<0.020		<0.020	
	PCB-1248 (mg/kg)			<0.020		<0.020	
	PCB-1254 (mg/kg)			<0.020		<0.020	
	PCB-1260 (mg/kg)			<0.020		<0.020	
	PCB-1262 (mg/kg)			<0.020		<0.020	
	PCB-1268 (mg/kg)			<0.020		<0.020	
	Total PCB (BC CSR) (mg/kg)			<0.020		<0.020	
	Total Polychlorinated Biphenyls (mg/kg)			<0.020		<0.020	
Dioxins and Furans	2,3,7,8-TCDD (pg/g)			<0.058 ^[U]		<0.14 ^[U]	
	1,2,3,7,8-PeCDD (pg/g)			<0.038 ^[U]		<0.064 ^[U]	
	1,2,3,4,7,8-HxCDD (pg/g)			<0.062 ^[U]		<0.11 ^[U]	
	1,2,3,6,7,8-HxCDD (pg/g)			<0.060 ^[U]		<0.10 ^[U]	
	1,2,3,7,8,9-HxCDD (pg/g)			0.067 ^{M,J}		<0.11 ^[U]	
	1,2,3,4,6,7,8-HpCDD (pg/g)			0.290 ^{M,J,R}		0.474 ^{M,J}	
	OCDD (pg/g)			2.38 ^[J]		3.65 ^{M,J}	
	Total-TCDD (pg/g)			0.186		<0.14 ^[U]	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1862331-19	L1862331-22	L1862331-23	L1862331-26	L1862331-27
		Description	Soil	Soil	Soil	Soil	Soil
		Sampled Date	24-NOV-16	24-NOV-16	24-NOV-16	24-NOV-16	24-NOV-16
		Sampled Time					
		Client ID	02045-07	02045-10	02045-11	02046-02	02046-03
Grouping	Analyte						
SOIL							
Phenolics	3,4-Dichlorophenol (mg/kg)			<0.020		<0.020	<0.020
	3,5-Dichlorophenol (mg/kg)			<0.020		<0.020	<0.020
	2,4-Dimethylphenol (mg/kg)			<0.020		<0.020	<0.020
	o-Cresol (mg/kg)			<0.020		<0.020	<0.020
	m-Cresol (mg/kg)			<0.020		<0.030 ^{DLQ}	<0.020
	p-Cresol (mg/kg)			<0.060 ^{DLQ}		<0.020	<0.050 ^{DLQ}
	Pentachlorophenol (mg/kg)			<0.020		<0.020	<0.020
	Phenol (mg/kg)			<0.020		<0.020	<0.020
	2,3,4,5-Tetrachlorophenol (mg/kg)			<0.020		<0.020	<0.020
	2,3,4,6-Tetrachlorophenol (mg/kg)			<0.020		<0.020	<0.020
	2,3,5,6-Tetrachlorophenol (mg/kg)			<0.020		<0.020	<0.020
	2,3,4-Trichlorophenol (mg/kg)			<0.020		<0.020	<0.020
	2,3,5-Trichlorophenol (mg/kg)			<0.020		<0.020	<0.020
	2,3,6-Trichlorophenol (mg/kg)			<0.020		<0.020	<0.020
	2,4,5-Trichlorophenol (mg/kg)			<0.020		<0.020	<0.020
	2,4,6-Trichlorophenol (mg/kg)			<0.020		<0.020	<0.020
	3,4,5-Trichlorophenol (mg/kg)			<0.020		<0.020	<0.020
Polychlorinated Biphenyls	PCB-1016 (mg/kg)		<0.020			<0.020	<0.020
	PCB-1221 (mg/kg)		<0.020			<0.020	<0.020
	PCB-1232 (mg/kg)		<0.020			<0.020	<0.020
	PCB-1242 (mg/kg)		<0.020			<0.020	<0.020
	PCB-1248 (mg/kg)		<0.020			<0.020	<0.020
	PCB-1254 (mg/kg)		<0.020			<0.020	<0.020
	PCB-1260 (mg/kg)		<0.020			<0.020	<0.020
	PCB-1262 (mg/kg)		<0.020			<0.020	<0.020
	PCB-1268 (mg/kg)		<0.020			<0.020	<0.020
	Total PCB (BC CSR) (mg/kg)		<0.020			<0.020	<0.020
	Total Polychlorinated Biphenyls (mg/kg)		<0.020			<0.020	<0.020
Dioxins and Furans	2,3,7,8-TCDD (pg/g)		<0.061 ^[U]				<0.086 ^[U]
	1,2,3,7,8-PeCDD (pg/g)		<0.052 ^{M,U}				<0.059 ^[U]
	1,2,3,4,7,8-HxCDD (pg/g)		<0.069 ^[U]				<0.047 ^[U]
	1,2,3,6,7,8-HxCDD (pg/g)		<0.065 ^[U]				<0.042 ^[U]
	1,2,3,7,8,9-HxCDD (pg/g)		0.092 ^{J,R}				<0.046 ^[U]
	1,2,3,4,6,7,8-HpCDD (pg/g)		0.885 ^[U]				0.12 ^{M,J,R}
	OCDD (pg/g)		8.47				0.891 ^{M,J}
	Total-TCDD (pg/g)		7.36				<0.086 ^[U]

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1862331-1	L1862331-2	L1862331-5	L1862331-6	L1862331-7
		Description	Soil	Soil	Soil	Soil	Soil
		Sampled Date	24-NOV-16	24-NOV-16	24-NOV-16	24-NOV-16	24-NOV-16
		Sampled Time					
		Client ID	02044-01	02044-02	02044-05	02044-06	02044-07
Grouping	Analyte						
SOIL							
Dioxins and Furans	Total TCDD # Homologues						0
	Total-PeCDD (pg/g)						0.039
	Total PeCDD # Homologues						1
	Total-HxCDD (pg/g)						0.356
	Total HxCDD # Homologues						2
	Total-HpCDD (pg/g)						<0.061 ^[U]
	Total HpCDD # Homologues						0
	2,3,7,8-TCDF (pg/g)						<0.039 ^{M,U}
	1,2,3,7,8-PeCDF (pg/g)						<0.025 ^{M,U}
	2,3,4,7,8-PeCDF (pg/g)						<0.021 ^[U]
	1,2,3,4,7,8-HxCDF (pg/g)						<0.024 ^[U]
	1,2,3,6,7,8-HxCDF (pg/g)						<0.022 ^[U]
	1,2,3,7,8,9-HxCDF (pg/g)						<0.036 ^[U]
	2,3,4,6,7,8-HxCDF (pg/g)						<0.024 ^[U]
	1,2,3,4,6,7,8-HpCDF (pg/g)						<0.013 ^{M,U}
	1,2,3,4,7,8,9-HpCDF (pg/g)						<0.018 ^[U]
	OCDF (pg/g)						<0.033 ^[U]
	Total-TCDF (pg/g)						<0.039 ^[U]
	Total TCDF # Homologues						0
	Total-PeCDF (pg/g)						<0.025 ^[U]
	Total PeCDF # Homologues						0
	Total-HxCDF (pg/g)						<0.036 ^[U]
	Total HxCDF # Homologues						0
	Total-HpCDF (pg/g)						<0.018 ^[U]
	Total HpCDF # Homologues						0
	Surrogate: 13C12-2,3,7,8-TCDD (%)						73.0
	Surrogate: 13C12-1,2,3,7,8-PeCDD (%)						81.0
	Surrogate: 13C12-1,2,3,4,7,8-HxCDD (%)						69.0
	Surrogate: 13C12-1,2,3,6,7,8-HxCDD (%)						84.0
	Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD (%)						79.0
	Surrogate: 13C12-OCDD (%)						73.0
	Surrogate: 13C12-2,3,7,8-TCDF (%)						77.0
Surrogate: 13C12-1,2,3,7,8-PeCDF (%)						81.0	
Surrogate: 13C12-2,3,4,7,8-PeCDF (%)						78.0	
Surrogate: 13C12-1,2,3,4,7,8-HxCDF (%)						66.0	
Surrogate: 13C12-1,2,3,6,7,8-HxCDF (%)						85.0	
Surrogate: 13C12-2,3,4,6,7,8-HxCDF (%)						76.0	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1862331-10	L1862331-11	L1862331-14	L1862331-15	L1862331-18
		Description	Soil	Soil	Soil	Soil	Soil
		Sampled Date	24-NOV-16	24-NOV-16	24-NOV-16	24-NOV-16	24-NOV-16
		Sampled Time					
		Client ID	02044-10	02044-11	02045-02	02045-03	02045-06
Grouping	Analyte						
SOIL							
Dioxins and Furans	Total TCDD # Homologues			1		0	
	Total-PeCDD (pg/g)			<0.038 ^[U]		0.085	
	Total PeCDD # Homologues			0		1	
	Total-HxCDD (pg/g)			0.067		0.19	
	Total HxCDD # Homologues			1		1	
	Total-HpCDD (pg/g)			0.469		1.28	
	Total HpCDD # Homologues			1		2	
	2,3,7,8-TCDF (pg/g)			0.059 ^{M,J}		<0.076 ^[U]	
	1,2,3,7,8-PeCDF (pg/g)			<0.021 ^[U]		<0.049 ^[U]	
	2,3,4,7,8-PeCDF (pg/g)			<0.018 ^[U]		<0.041 ^[U]	
	1,2,3,4,7,8-HxCDF (pg/g)			<0.016 ^[U]		<0.040 ^[U]	
	1,2,3,6,7,8-HxCDF (pg/g)			<0.015 ^{M,U}		<0.035 ^[U]	
	1,2,3,7,8,9-HxCDF (pg/g)			<0.022 ^[U]		<0.054 ^{M,U}	
	2,3,4,6,7,8-HxCDF (pg/g)			<0.015 ^[U]		<0.040 ^[U]	
	1,2,3,4,6,7,8-HpCDF (pg/g)			<0.014 ^[U]		<0.028 ^[U]	
	1,2,3,4,7,8,9-HpCDF (pg/g)			<0.020 ^[U]		<0.043 ^{M,U}	
	OCDF (pg/g)			0.047 ^{M,J,R}		<0.056 ^{M,U}	
	Total-TCDF (pg/g)			0.120		<0.076 ^[U]	
	Total TCDF # Homologues			2		0	
	Total-PeCDF (pg/g)			<0.021 ^[U]		<0.049 ^[U]	
	Total PeCDF # Homologues			0		0	
	Total-HxCDF (pg/g)			<0.022 ^[U]		<0.054 ^[U]	
	Total HxCDF # Homologues			0		0	
	Total-HpCDF (pg/g)			<0.020 ^[U]		<0.043 ^[U]	
	Total HpCDF # Homologues			0		0	
	Surrogate: 13C12-2,3,7,8-TCDD (%)			74.0		80.0	
	Surrogate: 13C12-1,2,3,7,8-PeCDD (%)			79.0		83.0	
	Surrogate: 13C12-1,2,3,4,7,8-HxCDD (%)			67.0		67.0	
	Surrogate: 13C12-1,2,3,6,7,8-HxCDD (%)			85.0		89.0	
	Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD (%)			79.0		81.0	
	Surrogate: 13C12-OCDD (%)			75.0		80.0	
	Surrogate: 13C12-2,3,7,8-TCDF (%)			78.0		86.0	
	Surrogate: 13C12-1,2,3,7,8-PeCDF (%)			80.0		86.0	
Surrogate: 13C12-2,3,4,7,8-PeCDF (%)			80.0		88.0		
Surrogate: 13C12-1,2,3,4,7,8-HxCDF (%)			65.0		63.0		
Surrogate: 13C12-1,2,3,6,7,8-HxCDF (%)			85.0		93.0		
Surrogate: 13C12-2,3,4,6,7,8-HxCDF (%)			76.0		78.0		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1862331-19	L1862331-22	L1862331-23	L1862331-26	L1862331-27
		Description	Soil	Soil	Soil	Soil	Soil
		Sampled Date	24-NOV-16	24-NOV-16	24-NOV-16	24-NOV-16	24-NOV-16
		Sampled Time					
		Client ID	02045-07	02045-10	02045-11	02046-02	02046-03
Grouping	Analyte						
SOIL							
Dioxins and Furans	Total TCDD # Homologues	3					0
	Total-PeCDD (pg/g)	0.755					<0.059 ^[U]
	Total PeCDD # Homologues	3					0
	Total-HxCDD (pg/g)	1.67					<0.047 ^[U]
	Total HxCDD # Homologues	1					0
	Total-HpCDD (pg/g)	2.66					<0.11 ^[U]
	Total HpCDD # Homologues	2					0
	2,3,7,8-TCDF (pg/g)	0.100 ^{M,J}					0.110 ^{M,J,R}
	1,2,3,7,8-PeCDF (pg/g)	<0.022 ^[U]					<0.049 ^[U]
	2,3,4,7,8-PeCDF (pg/g)	<0.018 ^[U]					<0.040 ^[U]
	1,2,3,4,7,8-HxCDF (pg/g)	<0.014 ^[U]					<0.036 ^[U]
	1,2,3,6,7,8-HxCDF (pg/g)	<0.013 ^[U]					<0.032 ^[U]
	1,2,3,7,8,9-HxCDF (pg/g)	<0.021 ^{M,U}					<0.053 ^[U]
	2,3,4,6,7,8-HxCDF (pg/g)	<0.014 ^{M,U}					<0.034 ^[U]
	1,2,3,4,6,7,8-HpCDF (pg/g)	<0.014 ^{M,U}					<0.031 ^[U]
	1,2,3,4,7,8,9-HpCDF (pg/g)	<0.019 ^[U]					<0.046 ^[U]
	OCDF (pg/g)	0.050 ^{M,J,R}					0.065 ^{M,J,R}
	Total-TCDF (pg/g)	0.100					<0.077 ^[U]
	Total TCDF # Homologues	1					0
	Total-PeCDF (pg/g)	<0.022 ^[U]					<0.049 ^[U]
	Total PeCDF # Homologues	0					0
	Total-HxCDF (pg/g)	<0.021 ^[U]					<0.053 ^[U]
	Total HxCDF # Homologues	0					0
	Total-HpCDF (pg/g)	<0.019 ^[U]					<0.046 ^[U]
	Total HpCDF # Homologues	0					0
	Surrogate: 13C12-2,3,7,8-TCDD (%)	75.0					74.0
	Surrogate: 13C12-1,2,3,7,8-PeCDD (%)	81.0					82.0
	Surrogate: 13C12-1,2,3,4,7,8-HxCDD (%)	68.0					65.0
	Surrogate: 13C12-1,2,3,6,7,8-HxCDD (%)	84.0					89.0
	Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD (%)	78.0					83.0
	Surrogate: 13C12-OCDD (%)	77.0					78.0
	Surrogate: 13C12-2,3,7,8-TCDF (%)	79.0					80.0
	Surrogate: 13C12-1,2,3,7,8-PeCDF (%)	79.0					83.0
Surrogate: 13C12-2,3,4,7,8-PeCDF (%)	80.0					84.0	
Surrogate: 13C12-1,2,3,4,7,8-HxCDF (%)	66.0					62.0	
Surrogate: 13C12-1,2,3,6,7,8-HxCDF (%)	83.0					92.0	
Surrogate: 13C12-2,3,4,6,7,8-HxCDF (%)	76.0					77.0	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1862331-1 Soil 24-NOV-16 02044-01	L1862331-2 Soil 24-NOV-16 02044-02	L1862331-5 Soil 24-NOV-16 02044-05	L1862331-6 Soil 24-NOV-16 02044-06	L1862331-7 Soil 24-NOV-16 02044-07
Grouping	Analyte					
SOIL						
Dioxins and Furans	Surrogate: 13C12-1,2,3,7,8,9-HxCDF (%)					72.0
	Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF (%)					70.0
	Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF (%)					69.0
	Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup) (%)					67.0
Toxic Equivalency	Lower Bound PCDD/F TEQ (WHO 2005) (pg/g)					0.000450
	Mid Point PCDD/F TEQ (WHO 2005) (pg/g)					0.0689
	Upper Bound PCDD/F TEQ (WHO 2005) (pg/g)					0.136

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1862331-10	L1862331-11	L1862331-14	L1862331-15	L1862331-18
		Description	Soil	Soil	Soil	Soil	Soil
		Sampled Date	24-NOV-16	24-NOV-16	24-NOV-16	24-NOV-16	24-NOV-16
		Sampled Time					
		Client ID	02044-10	02044-11	02045-02	02045-03	02045-06
Grouping	Analyte						
SOIL							
Dioxins and Furans	Surrogate: 13C12-1,2,3,7,8,9-HxCDF (%)			73.0		71.0	
	Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF (%)			71.0		76.0	
	Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF (%)			73.0		76.0	
	Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup) (%)			68.0		68.0	
Toxic Equivalency	Lower Bound PCDD/F TEQ (WHO 2005) (pg/g)			0.0133		0.00584	
	Mid Point PCDD/F TEQ (WHO 2005) (pg/g)			0.0769		0.143	
	Upper Bound PCDD/F TEQ (WHO 2005) (pg/g)			0.138		0.281	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1862331-19	L1862331-22	L1862331-23	L1862331-26	L1862331-27
		Description	Soil	Soil	Soil	Soil	Soil
		Sampled Date	24-NOV-16	24-NOV-16	24-NOV-16	24-NOV-16	24-NOV-16
		Sampled Time					
		Client ID	02045-07	02045-10	02045-11	02046-02	02046-03
Grouping	Analyte						
SOIL							
Dioxins and Furans	Surrogate: 13C12-1,2,3,7,8,9-HxCDF (%)	73.0					71.0
	Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF (%)	70.0					75.0
	Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF (%)	74.0					76.0
	Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup (%))	71.0					65.0
Toxic Equivalency	Lower Bound PCDD/F TEQ (WHO 2005) (pg/g)	0.0214					0.000267
	Mid Point PCDD/F TEQ (WHO 2005) (pg/g)	0.100					0.107
	Upper Bound PCDD/F TEQ (WHO 2005) (pg/g)	0.170					0.201

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Duplicate	Total-HpCDD	G	L1862331-11, -15, -19, -27, -7
Comments:	Sample and duplicate RPD criteria outside method limits for select low level targets. It is expected that relative uncertainty increases with compounds detected at levels below the Lower Quantification Limit.		
Duplicate	Total-HxCDD	G	L1862331-11, -15, -19, -27, -7
Comments:	Sample and duplicate RPD criteria outside method limits for select low level targets. It is expected that relative uncertainty increases with compounds detected at levels below the Lower Quantification Limit.		
Method Blank	1,2,3,4,6,7,8-HpCDF	M,U	L1862331-11, -15, -19, -27, -7
Method Blank	OCDD	M,U	L1862331-11, -15, -19, -27, -7
Certified Reference Material	2,4 & 2,5-Dichlorophenol	RM-ND	L1862331-1, -10, -14, -18, -2, -22, -26, -27, -5
Method Blank	1,2,3,4,6,7,8-HpCDD	[U]	L1862331-11, -15, -19, -27, -7
Method Blank	1,2,3,4,7,8,9-HpCDF	[U]	L1862331-11, -15, -19, -27, -7
Method Blank	1,2,3,4,7,8-HxCDD	[U]	L1862331-11, -15, -19, -27, -7
Method Blank	1,2,3,4,7,8-HxCDF	[U]	L1862331-11, -15, -19, -27, -7
Method Blank	1,2,3,6,7,8-HxCDD	[U]	L1862331-11, -15, -19, -27, -7
Method Blank	1,2,3,6,7,8-HxCDF	[U]	L1862331-11, -15, -19, -27, -7
Method Blank	1,2,3,7,8,9-HxCDD	[U]	L1862331-11, -15, -19, -27, -7
Method Blank	1,2,3,7,8,9-HxCDF	[U]	L1862331-11, -15, -19, -27, -7
Method Blank	1,2,3,7,8-PeCDD	[U]	L1862331-11, -15, -19, -27, -7
Method Blank	1,2,3,7,8-PeCDF	[U]	L1862331-11, -15, -19, -27, -7
Method Blank	2,3,4,6,7,8-HxCDF	[U]	L1862331-11, -15, -19, -27, -7
Method Blank	2,3,4,7,8-PeCDF	[U]	L1862331-11, -15, -19, -27, -7
Method Blank	2,3,7,8-TCDD	[U]	L1862331-11, -15, -19, -27, -7
Method Blank	2,3,7,8-TCDF	[U]	L1862331-11, -15, -19, -27, -7
Method Blank	OCDF	[U]	L1862331-11, -15, -19, -27, -7
Method Blank	Total-HpCDD	[U]	L1862331-11, -15, -19, -27, -7
Method Blank	Total-HpCDF	[U]	L1862331-11, -15, -19, -27, -7
Method Blank	Total-HxCDD	[U]	L1862331-11, -15, -19, -27, -7
Method Blank	Total-HxCDF	[U]	L1862331-11, -15, -19, -27, -7
Method Blank	Total-PeCDD	[U]	L1862331-11, -15, -19, -27, -7
Method Blank	Total-PeCDF	[U]	L1862331-11, -15, -19, -27, -7
Method Blank	Total-TCDD	[U]	L1862331-11, -15, -19, -27, -7
Method Blank	Total-TCDF	[U]	L1862331-11, -15, -19, -27, -7

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLQ	Detection Limit raised due to co-eluting interference. GCMS qualifier ion ratio did not meet acceptance criteria.
G	QC result did not meet ALS DQO. Refer to narrative comments for further information.
J,R	The analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M,J	A peak has been manually integrated, and the analyte was detected below the calibrated range but above the EDL.
M,J,R	A peak has been manually integrated, the analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M,U	A peak has been manually integrated, and the analyte was not detected above the EDL.
PSAL	Limited sample was available for PSA (100g minimum is standard). Measurement Uncertainty for PSA results may be higher than usual.
RM-ND	Reference Material recovery was slightly outside ALS DQO. Reported non-detect results for associated samples were unaffected.
[J]	The analyte was detected below the calibrated range but above the EDL.
[U]	The analyte was not detected above the EDL.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BR-LEACH-IC-VA	Soil	Bromide leach (1:10) by IC	APHA 4110 IC

Leachable Anions in Sediment/Soil Method analysis is carried out using a leaching procedure which involves the gentle tumbling of the sample in a specified leaching solution (typically deionized water) for a specific length of time. The resulting extract is then analysed anions by ion chromatography

Reference Information

with conductivity or UV detection. The method is applicable to the following anions: fluoride, chloride, phosphate, bromide, nitrate, sulphate.

C-TIC-PCT-SK	Soil	Total Inorganic Carbon in Soil	CSSS (2008) P216-217
A known quantity of acetic acid is consumed by reaction with carbonates in the soil. The pH of the resulting solution is measured and compared against a standard curve relating pH to weight of carbonate.			
C-TOC-CALC-SK	Soil	Total Organic Carbon Calculation	CSSS (2008) 21.2
Total Organic Carbon (TOC) is calculated by the difference between total carbon (TC) and total inorganic carbon. (TIC)			
C-TOT-LECO-SK	Soil	Total Carbon by combustion method	SSSA (1996) P. 973-974
The sample is ignited in a combustion analyzer where carbon in the reduced CO ₂ gas is determined using a thermal conductivity detector.			
CL-LEACH-IC-VA	Soil	Chloride leach (1:10) by IC	APHA 4110 IC
Leachable Anions in Sediment/Soil Method analysis is carried out using a leaching procedure which involves the gentle tumbling of the sample in a specified leaching solution (typically deionized water) for a specific length of time. The resulting extract is then analysed anions by ion chromatography with conductivity or UV detection. The method is applicable to the following anions: fluoride, chloride, phosphate, bromide, nitrate, sulphate.			
CL-PASTE-IC-VA	Soil	Chloride in Soil (Paste) by IC	Carter-CSSS / EPA 300.1 (modified)
A soil extract produced by the saturated paste extraction procedure is analyzed for chloride by Ion Chromatography with conductivity detection.			
CLPHEN-TMB-MS-VA	Soil	Chlorinated Phenols by Tumbler/GCMS	EPA 3570, 8270D, Knapp(1979)
A subsample of the soil/sediment is rotary extracted by solvent, derivitized, and analysed by GC/MS.			
DX-1613B-HRMS-BU	Soil	Dioxins and Furans HR 1613B	USEPA 1613B
Samples are extracted by Soxhlet. The extracts are prepared using column chromatography, reduced in volume and analyzed by isotope-dilution GC/HRMS			
EPH-TUMB-FID-VA	Soil	EPH in Solids by Tumbler and GCFID	BC MOE EPH GCFID
Analysis is in accordance with BC MOE Lab Manual method "Extractable Petroleum Hydrocarbons in Solids by GC/FID", v2.1, July 1999. Soil samples are extracted with a 1:1 mixture of hexane and acetone using a rotary extraction technique modified from EPA 3570 prior to gas chromatography with flame ionization detection (GC-FID). EPH results include Polycyclic Aromatic Hydrocarbons (PAH) and are therefore not equivalent to Light and Heavy Extractable Petroleum Hydrocarbons (LEPH/HEPH).			
F1:5-DI-SIE-VA	Soil	Fluoride leach (1:5) by SIE	BCMoe/APHA Method 4500-F Fluoride
This analysis is carried out using procedures from the Method: "Fluoride in Soils by 5:1 Aqueous Extraction", BC Ministry of Environment, 22 January 2008, and procedures adapted from APHA Method 4500-F "Fluoride". The procedure involves mixing the dried (at <60 C) and sieved (2mm) sample with deionized/distilled water at a 1:5 ratio of soil to water. Fluoride is determined using a selective ion electrode			
F2F4-TUMB-H/A-FID-VA	Soil	CWS F2-F4 Hydrocarbons by Tumbler GCFID	CCME PETROLEUM HYDROCARBONS
This analysis is carried out in accordance with the "Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil - Tier 1 Method, Canadian Council of Ministers of the Environment, December 2000." For C10 to C50 hydrocarbons (F2, F3, F4) and gravimetric heavy hydrocarbons (F4G-sg), a subsample of the sediment/soil is extracted with 1:1 hexane:acetone using a rotary extractor. The extract undergoes a silica-gel clean-up to remove polar compounds. F2, F3 & F4 are analyzed by on-column GC/FID, and F4G-sg is analyzed gravimetrically.			
Notes:			
1. F2 (C10-C16): Sum of all hydrocarbons that elute between nC10 and nC16.			
2. F3 (C16-C34): Sum of all hydrocarbons that elute between nC16 and nC34.			
3. F4 (C34-C50): Sum of all hydrocarbons that elute between nC34 and nC50.			
4. F4G: Gravimetric Heavy Hydrocarbons			
5. F4G-sg: Gravimetric Heavy Hydrocarbons (F4G) after silica gel treatment.			
6. Where F4 (C34-C50) and F4G-sg results are reported for a sample, the larger of the reported values is used for comparison against the relevant CCME standard for F4.			
7. The gravimetric heavy hydrocarbon results (F4G-sg), cannot be added to the C6 to C50 hydrocarbon results.			
8. This method is validated for use.			
9. Data from analysis of quality control samples is available upon request.			
10. Reported results are expressed as milligrams per dry kilogram.			
HG-200.2-CVAF-VA	Soil	Mercury in Soil by CVAFS	EPA 200.2/1631E (mod)
Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CVAFS.			
IC-CACO3-CALC-SK	Soil	Inorganic Carbon as CaCO ₃ Equivalent	Calculation

Reference Information

LEPH/HEPH-CALC-VA	Soil	LEPHs and HEPHs	BC MOE LABORATORY MANUAL (2005)
<p>Light and Heavy Extractable Petroleum Hydrocarbons in Solids. These results are determined according to the British Columbia Ministry of Environment, Lands, and Parks Analytical Method for Contaminated Sites "Calculation of Light and Heavy Extractable Petroleum Hydrocarbons in Solids or Water". According to this method, LEPH and HEPH are calculated by subtracting selected Polycyclic Aromatic Hydrocarbon results from Extractable Petroleum Hydrocarbon results. To calculate LEPH, the individual results for Naphthalene and Phenanthrene are subtracted from EPH(C10-19). To calculate HEPH, the individual results for Benz(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Dibenz(a,h)anthracene, Indeno(1,2,3-c,d)pyrene, and Pyrene are subtracted from EPH(C19-32). Analysis of Extractable Petroleum Hydrocarbons adheres to all prescribed elements of the BCMELP method "Extractable Petroleum Hydrocarbons in Solids by GC/FID" (Version 2.1, July 20, 1999).</p>			
MET-200.2-CCMS-VA	Soil	Metals in Soil by CRC ICPMS	EPA 200.2/6020A (mod)
<p>Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CRC ICPMS.</p>			
<p>Method Limitation: This method is not a total digestion technique. It is a very strong acid digestion that is intended to dissolve those metals that may be environmentally available. This method does not dissolve all silicate materials and may result in a partial extraction. depending on the sample matrix, for some metals, including, but not limited to Al, Ba, Be, Cr, Sr, Ti, Tl, and V.</p>			
MET-PASTE-ICP-VA	Soil	Metals in Soil (Paste) by ICPOES	Carter-CSSS / EPA 6010B (modified)
<p>A soil extract produced by the saturated paste extraction procedure is analyzed for Sodium, Calcium, and Magnesium by ICPOES as per "Soil Sampling and Methods of Analysis" by M. Carter.</p>			
MOISTURE-VA	Soil	Moisture content	ASTM D2974-00 Method A
<p>This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of six hours.</p>			
NO2-LEACH-IC-VA	Soil	Nitrite leach (1:10) by IC	APHA 4110 IC
<p>Leachable Anions in Sediment/Soil Method analysis is carried out using a leaching procedure which involves the gentle tumbling of the sample in a specified leaching solution (typically deionized water) for a specific length of time. The resulting extract is then analysed anions by ion chromatography with conductivity or UV detection. The method is applicable to the following anions: fluoride, chloride, phosphate, bromide, nitrate, sulphate.</p>			
NO3-LEACH-IC-VA	Soil	Nitrate leach (1:10) by IC	APHA 4110 IC
<p>Leachable Anions in Sediment/Soil Method analysis is carried out using a leaching procedure which involves the gentle tumbling of the sample in a specified leaching solution (typically deionized water) for a specific length of time. The resulting extract is then analysed anions by ion chromatography with conductivity or UV detection. The method is applicable to the following anions: fluoride, chloride, phosphate, bromide, nitrate, sulphate.</p>			
PAH-TMB-H/A-MS-VA	Soil	PAH - Rotary Extraction (Hexane/Acetone)	EPA 3570/8270
<p>This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Methods 3570 & 8270, published by the United States Environmental Protection Agency (EPA). The procedure uses a mechanical shaking technique to extract a subsample of the sediment/soil with a 1:1 mixture of hexane and acetone. The extract is then solvent exchanged to toluene. The final extract is analysed by capillary column gas chromatography with mass spectrometric detection (GC/MS). Surrogate recoveries may not be reported in cases where interferences from the sample matrix prevent accurate quantitation. Because the two isomers cannot be readily chromatographically separated, benzo(j)fluoranthene is reported as part of the benzo(b)fluoranthene parameter.</p>			
PCB-CSR-SUM-CALC-VA	Soil	Total PCB (BC CSR) in soil	BC Contaminated Sites Regulation
<p>Calculation of Total PCB to meet BC Contaminated Sites Regulation. Total PCB (BC CSR) is the sum of the concentrations of PCB aroclors 1242, 1248, 1254 and 1260. Results below detection limit (DL) are treated as zero. The Total PCB detection limit is equal to the highest of the aroclor detection limits used in the sum.</p>			
PCB-SE-ECD-VA	Soil	PCB by Extraction with GCECD	EPA8082, 3630
<p>This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Methods 3500, 3620, 3630, 3660, 3665 & 8082, published by the United States Environmental Protection Agency (EPA). The procedure involves a solid-liquid extraction of a subsample of the sediment/soil using a mixture of hexane and acetone. Water is added to the extract and the resulting hexane extract undergoes one or more of the following clean-up procedures (if required): florisil clean-up, silica gel clean-up, sulphur clean-up and/or sulphuric acid clean-up. The final extract is analysed by capillary column gas chromatography with electron capture detection (GC/ECD).</p>			
PCB-SUM-CALC-VA	Soil	Total PCBs in soil	CALCULATION
<p>Calculation of Total PCB. Total PCB is the sum of the concentrations of PCB aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260, 1262, and 1268. Results below detection limit (DL) are treated as zero. The Total PCB detection limit is equal to the highest of the aroclor detection limits used in the sum.</p>			
PH-1:2-VA	Soil	pH in Soil (1:2 Soil:Water Extraction)	BC WLAP METHOD: PH, ELECTROMETRIC, SOIL
<p>This analysis is carried out in accordance with procedures described in the pH, Electrometric in Soil and Sediment method - Section B Physical/Inorganic and Misc. Constituents, BC Environmental Laboratory Manual 2007. The procedure involves mixing the dried (at <60 C) and sieved (No. 10 / 2mm) sample with deionized/distilled water at a 1:2 ratio of sediment to water. The pH of the solution is then measured using a standard pH probe.</p>			
PHEN-TMB-MS-VA	Soil	Phenolics by Tumbler/GC-MS	EPA 3570, 8270D, Knapp(1979)
<p>A subsample of the soil/sediment is rotary extracted by solvent, derivitized, and analysed by GC/MS.</p>			

Reference Information

PSA-MUST-SK Soil % Particles > 75um (Coarse/Fine) ASTM D422-63-SIEVE

An air-dried sample is reduced to < 2 mm size and mixed with a dispersing agent (Calgon solution). The sample is washed through a 200 mesh (75 m) sieve. The retained mass of sample is used to determine % sand fraction.

Reference: ASTM D422-63

SAT-PCNT-VA Soil Saturation Percentage Carter-CSSS

Saturation Percentage (SP) is the total volume of water present in a saturated paste (in mL) divided by the dry weight of the sample (in grams), expressed as a percentage, as described in "Soil Sampling and Methods of Analysis" by M. Carter.

SO4-LEACH-IC-VA Soil Sulfate leach (1:10) by IC EPA 300.1 (mod)

Leachable Anions in Sediment/Soil Method analysis is carried out using a leaching procedure which involves the gentle tumbling of the sample in a specified leaching solution (typically deionized water) for a specific length of time. The resulting extract is then analysed anions by ion chromatography with conductivity or UV detection. The method is applicable to the following anions: fluoride, chloride, phosphate, bromide, nitrate, sulfate.

** ALS test methods may incorporate modifications from specified 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
SK	ALS ENVIRONMENTAL - SASKATOON, SASKATCHEWAN, CANADA
BU	ALS ENVIRONMENTAL - BURLINGTON, ONTARIO, CANADA
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

02044 02045 02046

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

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 of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

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.

Quality Control Report

Workorder: L1862331

Report Date: 03-JAN-17

Page 1 of 15

Client: GOLDER ASSOCIATES LTD.
200-2920 Virtual Way
Vancouver BC V5M 0C4

Contact: Jim Laidlaw

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BR-LEACH-IC-VA								
	Soil							
Batch	R3615526							
WG2449022-4	LCS							
Bromide (Br)			103.6		%		70-130	09-DEC-16
WG2449022-1	MB							
Bromide (Br)			<0.50		mg/kg		0.5	09-DEC-16
CL-LEACH-IC-VA								
	Soil							
Batch	R3615526							
WG2449022-4	LCS							
Chloride (Cl)			102.2		%		70-130	09-DEC-16
WG2449022-1	MB							
Chloride (Cl)			<5.0		mg/kg		5	09-DEC-16
CL-PASTE-IC-VA								
	Soil							
Batch	R3616173							
WG2448560-2	LCS							
Chloride (Cl)			97.1		%		70-130	12-DEC-16
WG2448560-1	MB							
Chloride (Cl)			<2.0		mg/L		2	12-DEC-16
CLPHEN-TMB-MS-VA								
	Soil							
Batch	R3608069							
WG2447443-3	CRM	CRM 143						
2,4,5-Trichlorophenol			122.4		%		60-130	12-DEC-16
2,4,6-Trichlorophenol			127.4		%		60-130	12-DEC-16
Pentachlorophenol			119.8		%		60-130	12-DEC-16
WG2447443-2	LCS							
2,3,4,5-Tetrachlorophenol			110.2		%		60-130	12-DEC-16
2,3,4,6-Tetrachlorophenol			118.2		%		60-130	12-DEC-16
2,3,4-Trichlorophenol			112.3		%		60-130	12-DEC-16
2,3,5,6-Tetrachlorophenol			113.6		%		60-130	12-DEC-16
2,3,5-Trichlorophenol			118.2		%		60-130	12-DEC-16
2,3,6-Trichlorophenol			118.7		%		60-130	12-DEC-16
2,4,5-Trichlorophenol			120.3		%		60-130	12-DEC-16
2,4,6-Trichlorophenol			109.1		%		60-130	12-DEC-16
3,4,5-Trichlorophenol			117.9		%		60-130	12-DEC-16
Pentachlorophenol			107.1		%		60-130	12-DEC-16
WG2447443-1	MB							
2,3,4,5-Tetrachlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,3,4,6-Tetrachlorophenol			<0.020		mg/kg		0.02	12-DEC-16



Quality Control Report

Workorder: L1862331

Report Date: 03-JAN-17

Page 2 of 15

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CLPHEN-TMB-MS-VA		Soil						
Batch	R3608069							
WG2447443-1	MB							
2,3,4-Trichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,3,5,6-Tetrachlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,3,5-Trichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,3,6-Trichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,4,5-Trichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,4,6-Trichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
3,4,5-Trichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
Pentachlorophenol			<0.020		mg/kg		0.02	12-DEC-16
DX-1613B-HRMS-BU		Soil						
Batch	R3626951							
WG2450443-2	LCS							
2,3,7,8-TCDD			107.0		%		67-158	31-DEC-16
1,2,3,7,8-PeCDD			105.0		%		70-142	31-DEC-16
1,2,3,4,7,8-HxCDD			93.0		%		70-164	31-DEC-16
1,2,3,6,7,8-HxCDD			95.0		%		76-134	31-DEC-16
1,2,3,7,8,9-HxCDD			135.0		%		64-162	31-DEC-16
1,2,3,4,6,7,8-HpCDD			95.0		%		70-140	31-DEC-16
OCDD			94.0		%		78-144	31-DEC-16
2,3,7,8-TCDF			93.0		%		75-158	31-DEC-16
1,2,3,7,8-PeCDF			95.0		%		80-134	31-DEC-16
2,3,4,7,8-PeCDF			90.0		%		68-160	31-DEC-16
1,2,3,4,7,8-HxCDF			104.0		%		72-134	31-DEC-16
1,2,3,6,7,8-HxCDF			97.0		%		84-130	31-DEC-16
2,3,4,6,7,8-HxCDF			97.0		%		78-130	31-DEC-16
1,2,3,7,8,9-HxCDF			102.0		%		70-156	31-DEC-16
1,2,3,4,6,7,8-HpCDF			102.0		%		82-122	31-DEC-16
1,2,3,4,7,8,9-HpCDF			96.0		%		78-138	31-DEC-16
OCDF			89.0		%		63-170	31-DEC-16
WG2450443-1	MB							
2,3,7,8-TCDD			<0.15	[U]	pg/g		0.15	31-DEC-16
1,2,3,7,8-PeCDD			<0.074	[U]	pg/g		0.074	31-DEC-16
1,2,3,4,7,8-HxCDD			<0.10	[U]	pg/g		0.1	31-DEC-16
1,2,3,6,7,8-HxCDD			<0.075	[U]	pg/g		0.075	31-DEC-16
1,2,3,7,8,9-HxCDD			<0.087	[U]	pg/g		0.087	31-DEC-16



Quality Control Report

Workorder: L1862331

Report Date: 03-JAN-17

Page 3 of 15

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU	Soil							
Batch	R3626951							
WG2450443-1 MB								
1,2,3,4,6,7,8-HpCDD			<0.12	[U]	pg/g		0.12	31-DEC-16
OCDD			<0.12	M,U	pg/g		0.12	31-DEC-16
2,3,7,8-TCDF			<0.17	[U]	pg/g		0.17	31-DEC-16
1,2,3,7,8-PeCDF			<0.093	[U]	pg/g		0.093	31-DEC-16
2,3,4,7,8-PeCDF			<0.069	[U]	pg/g		0.069	31-DEC-16
1,2,3,4,7,8-HxCDF			<0.067	[U]	pg/g		0.067	31-DEC-16
1,2,3,6,7,8-HxCDF			<0.053	[U]	pg/g		0.053	31-DEC-16
2,3,4,6,7,8-HxCDF			<0.057	[U]	pg/g		0.057	31-DEC-16
1,2,3,7,8,9-HxCDF			<0.094	[U]	pg/g		0.094	31-DEC-16
1,2,3,4,6,7,8-HpCDF			<0.051	M,U	pg/g		0.051	31-DEC-16
1,2,3,4,7,8,9-HpCDF			<0.078	[U]	pg/g		0.078	31-DEC-16
OCDF			<0.11	[U]	pg/g		0.11	31-DEC-16
Total-TCDD			<0.15	[U]	pg/g		0.15	31-DEC-16
Total-PeCDD			<0.074	[U]	pg/g		0.074	31-DEC-16
Total-HxCDD			<0.10	[U]	pg/g		0.1	31-DEC-16
Total-HpCDD			<0.12	[U]	pg/g		0.12	31-DEC-16
Total-TCDF			<0.17	[U]	pg/g		0.17	31-DEC-16
Total-PeCDF			<0.093	[U]	pg/g		0.093	31-DEC-16
Total-HxCDF			<0.094	[U]	pg/g		0.094	31-DEC-16
Total-HpCDF			<0.078	[U]	pg/g		0.078	31-DEC-16
Surrogate: 13C12-2,3,7,8-TCDD			42.0		%		25-164	31-DEC-16
Surrogate: 13C12-1,2,3,7,8-PeCDD			52.0		%		25-181	31-DEC-16
Surrogate: 13C12-1,2,3,4,7,8-HxCDD			41.0		%		32-141	31-DEC-16
Surrogate: 13C12-1,2,3,6,7,8-HxCDD			67.0		%		28-130	31-DEC-16
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD			60.0		%		23-140	31-DEC-16
Surrogate: 13C12-OCDD			59.0		%		17-157	31-DEC-16
Surrogate: 13C12-2,3,7,8-TCDF			39.0		%		24-169	31-DEC-16
Surrogate: 13C12-1,2,3,7,8-PeCDF			49.0		%		24-185	31-DEC-16
Surrogate: 13C12-2,3,4,7,8-PeCDF			53.0		%		21-178	31-DEC-16
Surrogate: 13C12-1,2,3,4,7,8-HxCDF			35.0		%		26-152	31-DEC-16
Surrogate: 13C12-1,2,3,6,7,8-HxCDF			73.0		%		26-123	31-DEC-16
Surrogate: 13C12-2,3,4,6,7,8-HxCDF			60.0		%		29-147	31-DEC-16
Surrogate: 13C12-1,2,3,7,8,9-HxCDF			50.0		%		28-136	31-DEC-16
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF			57.0		%		28-143	31-DEC-16



Quality Control Report

Workorder: L1862331

Report Date: 03-JAN-17

Page 4 of 15

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU Soil								
Batch R3626951								
WG2450443-1 MB								
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF			51.0		%		26-138	31-DEC-16
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)			40.0		%		35-197	31-DEC-16
EPH-TUMB-FID-VA Soil								
Batch R3611778								
WG2447894-3 IRM		ALS PHC2 RM						
EPH10-19			83.7		%		70-130	08-DEC-16
EPH19-32			94.9		%		70-130	08-DEC-16
WG2447894-1 MB								
EPH10-19			<200		mg/kg		200	08-DEC-16
EPH19-32			<200		mg/kg		200	08-DEC-16
F-1:5-DI-SIE-VA Soil								
Batch R3615433								
WG2448564-6 MB								
Fluoride (F)			<0.20		mg/kg		0.2	12-DEC-16
WG2448564-10 MS		L1862331-2						
Fluoride (F)			99.1		%		60-140	12-DEC-16
F2F4-TUMB-H/A-FID-VA Soil								
Batch R3614131								
WG2447196-4 DUP		L1862331-22						
F2 (C10-C16)		<30	<30	RPD-NA	mg/kg	N/A	40	10-DEC-16
F3 (C16-C34)		<50	<50	RPD-NA	mg/kg	N/A	40	10-DEC-16
F4 (C34-C50)		<50	<50	RPD-NA	mg/kg	N/A	40	10-DEC-16
WG2447165-3 IRM		ALS PHC2 RM						
F2 (C10-C16)			94.4		%		70-130	09-DEC-16
F3 (C16-C34)			104.1		%		70-130	09-DEC-16
F4 (C34-C50)			110.2		%		70-130	09-DEC-16
WG2447196-3 IRM		ALS PHC2 RM						
F2 (C10-C16)			85.6		%		70-130	10-DEC-16
F3 (C16-C34)			93.8		%		70-130	10-DEC-16
F4 (C34-C50)			102.6		%		70-130	10-DEC-16
WG2447165-2 LCS								
F2 (C10-C16)			105.8		%		70-130	09-DEC-16
F3 (C16-C34)			103.1		%		70-130	09-DEC-16
F4 (C34-C50)			115.3		%		70-130	09-DEC-16
WG2447196-2 LCS								
F2 (C10-C16)			99.8		%		70-130	10-DEC-16



Quality Control Report

Workorder: L1862331

Report Date: 03-JAN-17

Page 5 of 15

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F2F4-TUMB-H/A-FID-VA Soil								
Batch	R3614131							
WG2447196-2	LCS							
F3 (C16-C34)			93.6		%		70-130	10-DEC-16
F4 (C34-C50)			93.3		%		70-130	10-DEC-16
WG2447165-1	MB							
F2 (C10-C16)			<30		mg/kg		30	09-DEC-16
F3 (C16-C34)			<50		mg/kg		50	09-DEC-16
F4 (C34-C50)			<50		mg/kg		50	09-DEC-16
WG2447196-1	MB							
F2 (C10-C16)			<30		mg/kg		30	10-DEC-16
F3 (C16-C34)			<50		mg/kg		50	10-DEC-16
F4 (C34-C50)			<50		mg/kg		50	10-DEC-16
HG-200.2-CVAF-VA Soil								
Batch	R3614892							
WG2447892-4	CRM	VA-NRC-STSD-3						
Mercury (Hg)			95.9		%		70-130	11-DEC-16
WG2447892-2	DUP	L1862331-1						
Mercury (Hg)		0.0162	0.0171		mg/kg	4.9	40	11-DEC-16
WG2447892-3	LCS							
Mercury (Hg)			106.0		%		70-130	11-DEC-16
WG2447892-1	MB							
Mercury (Hg)			<0.0050		mg/kg		0.005	11-DEC-16
MET-200.2-CCMS-VA Soil								
Batch	R3614675							
WG2447892-4	CRM	VA-NRC-STSD-3						
Antimony (Sb)			112.8		%		70-130	09-DEC-16
Arsenic (As)			92.6		%		70-130	09-DEC-16
Barium (Ba)			101.7		%		70-130	09-DEC-16
Beryllium (Be)			107.7		%		70-130	09-DEC-16
Cadmium (Cd)			115.2		%		70-130	09-DEC-16
Chromium (Cr)			102.6		%		70-130	09-DEC-16
Cobalt (Co)			101.4		%		70-130	09-DEC-16
Copper (Cu)			95.2		%		70-130	09-DEC-16
Lead (Pb)			106.4		%		70-130	09-DEC-16
Molybdenum (Mo)			104.0		%		70-130	09-DEC-16
Nickel (Ni)			94.7		%		70-130	09-DEC-16
Selenium (Se)			101.8		%		70-130	09-DEC-16



Quality Control Report

Workorder: L1862331

Report Date: 03-JAN-17

Page 6 of 15

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA		Soil						
Batch	R3614675							
WG2447892-4	CRM	VA-NRC-STSD-3						
Silver (Ag)			105.3		%		70-130	09-DEC-16
Thallium (Tl)			112.0		%		70-130	09-DEC-16
Uranium (U)			107.5		%		70-130	09-DEC-16
Vanadium (V)			106.2		%		70-130	09-DEC-16
Zinc (Zn)			97.0		%		70-130	09-DEC-16
WG2447892-2	DUP	L1862331-1						
Antimony (Sb)		0.22	0.20		mg/kg	9.0	30	09-DEC-16
Arsenic (As)		3.16	3.37		mg/kg	6.4	30	09-DEC-16
Barium (Ba)		48.5	49.0		mg/kg	1.0	40	09-DEC-16
Beryllium (Be)		0.20	0.18		mg/kg	12	30	09-DEC-16
Cadmium (Cd)		0.109	0.111		mg/kg	1.4	30	09-DEC-16
Chromium (Cr)		31.5	26.2		mg/kg	18	30	09-DEC-16
Cobalt (Co)		8.08	7.28		mg/kg	10	30	09-DEC-16
Copper (Cu)		13.5	13.1		mg/kg	2.8	30	09-DEC-16
Lead (Pb)		2.11	2.11		mg/kg	0.1	40	09-DEC-16
Molybdenum (Mo)		0.33	0.41		mg/kg	21	40	09-DEC-16
Nickel (Ni)		35.1	30.9		mg/kg	13	30	09-DEC-16
Selenium (Se)		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	09-DEC-16
Silver (Ag)		<0.10	<0.10	RPD-NA	mg/kg	N/A	40	09-DEC-16
Thallium (Tl)		<0.050	<0.050	RPD-NA	mg/kg	N/A	30	09-DEC-16
Tin (Sn)		<2.0	<2.0	RPD-NA	mg/kg	N/A	40	09-DEC-16
Uranium (U)		0.256	0.257		mg/kg	0.5	30	09-DEC-16
Vanadium (V)		47.6	40.2		mg/kg	17	30	09-DEC-16
Zinc (Zn)		36.3	34.9		mg/kg	4.0	30	09-DEC-16
WG2447892-3	LCS							
Antimony (Sb)			107.0		%		80-120	09-DEC-16
Arsenic (As)			103.7		%		80-120	09-DEC-16
Barium (Ba)			107.3		%		80-120	09-DEC-16
Beryllium (Be)			103.4		%		80-120	09-DEC-16
Cadmium (Cd)			102.9		%		80-120	09-DEC-16
Chromium (Cr)			100.3		%		80-120	09-DEC-16
Cobalt (Co)			101.7		%		80-120	09-DEC-16
Copper (Cu)			98.2		%		80-120	09-DEC-16
Lead (Pb)			103.0		%		80-120	09-DEC-16
Molybdenum (Mo)			102.8		%		80-120	09-DEC-16



Quality Control Report

Workorder: L1862331

Report Date: 03-JAN-17

Page 7 of 15

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA		Soil						
Batch	R3614675							
WG2447892-3	LCS							
Nickel (Ni)			99.0		%		80-120	09-DEC-16
Selenium (Se)			100.9		%		80-120	09-DEC-16
Silver (Ag)			103.6		%		80-120	09-DEC-16
Thallium (Tl)			101.2		%		80-120	09-DEC-16
Tin (Sn)			101.4		%		80-120	09-DEC-16
Uranium (U)			105.6		%		80-120	09-DEC-16
Vanadium (V)			102.3		%		80-120	09-DEC-16
Zinc (Zn)			95.5		%		80-120	09-DEC-16
WG2447892-1	MB							
Antimony (Sb)			<0.10		mg/kg		0.1	09-DEC-16
Arsenic (As)			<0.10		mg/kg		0.1	09-DEC-16
Barium (Ba)			<0.50		mg/kg		0.5	09-DEC-16
Beryllium (Be)			<0.10		mg/kg		0.1	09-DEC-16
Cadmium (Cd)			<0.020		mg/kg		0.02	09-DEC-16
Chromium (Cr)			<0.50		mg/kg		0.5	09-DEC-16
Cobalt (Co)			<0.10		mg/kg		0.1	09-DEC-16
Copper (Cu)			<0.50		mg/kg		0.5	09-DEC-16
Lead (Pb)			<0.50		mg/kg		0.5	09-DEC-16
Molybdenum (Mo)			<0.10		mg/kg		0.1	09-DEC-16
Nickel (Ni)			<0.50		mg/kg		0.5	09-DEC-16
Selenium (Se)			<0.20		mg/kg		0.2	09-DEC-16
Silver (Ag)			<0.10		mg/kg		0.1	09-DEC-16
Thallium (Tl)			<0.050		mg/kg		0.05	09-DEC-16
Tin (Sn)			<2.0		mg/kg		2	09-DEC-16
Uranium (U)			<0.050		mg/kg		0.05	09-DEC-16
Vanadium (V)			<0.20		mg/kg		0.2	09-DEC-16
Zinc (Zn)			<2.0		mg/kg		2	09-DEC-16
MET-PASTE-ICP-VA		Soil						
Batch	R3615623							
WG2448560-2	LCS							
Sodium (Na)			100.8		%		80-120	12-DEC-16
WG2448560-1	MB							
Sodium (Na)			<0.50		mg/kg		0.5	12-DEC-16
MOISTURE-VA		Soil						

Quality Control Report

Workorder: L1862331

Report Date: 03-JAN-17

Page 8 of 15

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-VA								
	Soil							
Batch	R3613017							
WG2447893-3	DUP	L1862331-7						
Moisture		20.8	21.5		%	3.6	20	07-DEC-16
WG2447893-2	LCS							
Moisture			100.3		%		90-110	07-DEC-16
WG2447893-1	MB							
Moisture			<0.25		%		0.25	07-DEC-16
Batch	R3613027							
WG2447854-4	DUP	L1862331-6						
Moisture		20.5	20.6		%	0.9	20	07-DEC-16
WG2447854-2	LCS							
Moisture			99.9		%		90-110	07-DEC-16
WG2447854-6	LCS							
Moisture			99.6		%		90-110	07-DEC-16
WG2447854-1	MB							
Moisture			<0.25		%		0.25	07-DEC-16
WG2447854-5	MB							
Moisture			<0.25		%		0.25	07-DEC-16
NO2-LEACH-IC-VA								
	Soil							
Batch	R3615526							
WG2449022-4	LCS							
Nitrite (as N)			99.2		%		70-130	09-DEC-16
WG2449022-1	MB							
Nitrite (as N)			<0.010		mg/kg		0.01	09-DEC-16
NO3-LEACH-IC-VA								
	Soil							
Batch	R3615526							
WG2449022-4	LCS							
Nitrate (as N)			101.9		%		70-130	09-DEC-16
WG2449022-1	MB							
Nitrate (as N)			<0.050		mg/kg		0.05	09-DEC-16
PAH-TMB-H/A-MS-VA								
	Soil							
Batch	R3613233							
WG2447894-2	LCS							
Acenaphthene			106.7		%		60-130	08-DEC-16
Acenaphthylene			103.2		%		60-130	08-DEC-16
Anthracene			94.8		%		60-130	08-DEC-16
Benz(a)anthracene			88.5		%		60-130	08-DEC-16
Benzo(a)pyrene			100.4		%		60-130	08-DEC-16

Quality Control Report

Workorder: L1862331

Report Date: 03-JAN-17

Page 9 of 15

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-TMB-H/A-MS-VA		Soil						
Batch	R3613233							
WG2447894-2	LCS							
Benzo(b)fluoranthene			100.2		%		60-130	08-DEC-16
Benzo(g,h,i)perylene			81.5		%		60-130	08-DEC-16
Benzo(k)fluoranthene			117.3		%		60-130	08-DEC-16
Chrysene			100.0		%		60-130	08-DEC-16
Dibenz(a,h)anthracene			91.1		%		60-130	08-DEC-16
Fluoranthene			102.8		%		60-130	08-DEC-16
Fluorene			100.1		%		60-130	08-DEC-16
Indeno(1,2,3-c,d)pyrene			86.6		%		60-130	08-DEC-16
2-Methylnaphthalene			90.4		%		60-130	08-DEC-16
Naphthalene			108.8		%		50-130	08-DEC-16
Phenanthrene			104.1		%		60-130	08-DEC-16
Pyrene			104.2		%		60-130	08-DEC-16
WG2447894-1	MB							
Acenaphthene			<0.0050		mg/kg		0.005	08-DEC-16
Acenaphthylene			<0.0050		mg/kg		0.005	08-DEC-16
Anthracene			<0.0040		mg/kg		0.004	08-DEC-16
Benz(a)anthracene			<0.010		mg/kg		0.01	08-DEC-16
Benzo(a)pyrene			<0.010		mg/kg		0.01	08-DEC-16
Benzo(b)fluoranthene			<0.010		mg/kg		0.01	08-DEC-16
Benzo(g,h,i)perylene			<0.010		mg/kg		0.01	08-DEC-16
Benzo(k)fluoranthene			<0.010		mg/kg		0.01	08-DEC-16
Chrysene			<0.010		mg/kg		0.01	08-DEC-16
Dibenz(a,h)anthracene			<0.0050		mg/kg		0.005	08-DEC-16
Fluoranthene			<0.010		mg/kg		0.01	08-DEC-16
Fluorene			<0.010		mg/kg		0.01	08-DEC-16
Indeno(1,2,3-c,d)pyrene			<0.010		mg/kg		0.01	08-DEC-16
2-Methylnaphthalene			<0.010		mg/kg		0.01	08-DEC-16
Naphthalene			<0.010		mg/kg		0.01	08-DEC-16
Phenanthrene			<0.010		mg/kg		0.01	08-DEC-16
Pyrene			<0.010		mg/kg		0.01	08-DEC-16
Surrogate: Naphthalene d8			88.8		%		50-130	08-DEC-16
Surrogate: Acenaphthene d10			94.2		%		60-130	08-DEC-16
Surrogate: Phenanthrene d10			87.5		%		60-130	08-DEC-16
Surrogate: Chrysene d12			84.1		%		60-130	08-DEC-16



Quality Control Report

Workorder: L1862331

Report Date: 03-JAN-17

Page 10 of 15

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-SE-ECD-VA		Soil						
Batch	R3606985							
WG2447771-2	CRM	VA-CRM911-050						
PCB-1254			107.5		%		65-130	13-DEC-16
WG2447906-2	CRM	VA-CRM911-050						
PCB-1254			94.6		%		65-130	13-DEC-16
WG2447771-1	MB							
PCB-1016			<0.020		mg/kg		0.02	13-DEC-16
PCB-1221			<0.020		mg/kg		0.02	13-DEC-16
PCB-1232			<0.020		mg/kg		0.02	13-DEC-16
PCB-1242			<0.020		mg/kg		0.02	13-DEC-16
PCB-1248			<0.020		mg/kg		0.02	13-DEC-16
PCB-1254			<0.020		mg/kg		0.02	13-DEC-16
PCB-1260			<0.020		mg/kg		0.02	13-DEC-16
PCB-1262			<0.020		mg/kg		0.02	13-DEC-16
PCB-1268			<0.020		mg/kg		0.02	13-DEC-16
WG2447906-1	MB							
PCB-1016			<0.020		mg/kg		0.02	13-DEC-16
PCB-1221			<0.020		mg/kg		0.02	13-DEC-16
PCB-1232			<0.020		mg/kg		0.02	13-DEC-16
PCB-1242			<0.020		mg/kg		0.02	13-DEC-16
PCB-1248			<0.020		mg/kg		0.02	13-DEC-16
PCB-1254			<0.020		mg/kg		0.02	13-DEC-16
PCB-1260			<0.020		mg/kg		0.02	13-DEC-16
PCB-1262			<0.020		mg/kg		0.02	13-DEC-16
PCB-1268			<0.020		mg/kg		0.02	13-DEC-16
PH-1:2-VA		Soil						
Batch	R3614160							
WG2447892-2	DUP	L1862331-1						
pH (1:2 soil:water)		7.82	7.78	J	pH	0.04	0.2	09-DEC-16
PHEN-TMB-MS-VA		Soil						
Batch	R3608069							
WG2447443-3	CRM	CRM 143						
4-Chloro-3-methylphenol			125.5		%		60-130	12-DEC-16
2-Chlorophenol			127.8		%		60-130	12-DEC-16
2,4 & 2,5-Dichlorophenol			133.6	RM-ND	%		60-130	12-DEC-16
p-Cresol			108.5		%		60-130	12-DEC-16



Quality Control Report

Workorder: L1862331

Report Date: 03-JAN-17

Page 11 of 15

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PHEN-TMB-MS-VA								
Soil								
Batch	R3608069							
WG2447443-3	CRM	CRM 143						
Phenol			108.1		%		60-130	12-DEC-16
WG2447443-2	LCS							
4-Chloro-3-methylphenol			109.5		%		60-130	12-DEC-16
2-Chlorophenol			106.7		%		60-130	12-DEC-16
3-Chlorophenol			106.0		%		60-130	12-DEC-16
4-Chlorophenol			108.7		%		60-130	12-DEC-16
2,3-Dichlorophenol			102.2		%		60-130	12-DEC-16
2,4 & 2,5-Dichlorophenol			104.7		%		60-130	12-DEC-16
2,6-Dichlorophenol			105.0		%		60-130	12-DEC-16
3,4-Dichlorophenol			112.0		%		60-130	12-DEC-16
3,5-Dichlorophenol			111.8		%		60-130	12-DEC-16
2,4-Dimethylphenol			104.7		%		30-130	12-DEC-16
o-Cresol			96.0		%		50-130	12-DEC-16
m-Cresol			103.4		%		50-130	12-DEC-16
p-Cresol			97.3		%		50-130	12-DEC-16
Phenol			108.1		%		50-130	12-DEC-16
WG2447443-1	MB							
4-Chloro-3-methylphenol			<0.020		mg/kg		0.02	12-DEC-16
2-Chlorophenol			<0.020		mg/kg		0.02	12-DEC-16
3-Chlorophenol			<0.020		mg/kg		0.02	12-DEC-16
4-Chlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,3-Dichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,4 & 2,5-Dichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,6-Dichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
3,4-Dichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
3,5-Dichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,4-Dimethylphenol			<0.020		mg/kg		0.02	12-DEC-16
o-Cresol			<0.020		mg/kg		0.02	12-DEC-16
m-Cresol			<0.020		mg/kg		0.02	12-DEC-16
p-Cresol			<0.020		mg/kg		0.02	12-DEC-16
Phenol			<0.020		mg/kg		0.02	12-DEC-16

PSA-MUST-SK

Soil



Quality Control Report

Workorder: L1862331

Report Date: 03-JAN-17

Page 12 of 15

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PSA-MUST-SK	Soil							
Batch	R3614017							
WG2447746-2	IRM	10-105_SOIL						
MUST PSA % > 75um			25.1		%		21-31	09-DEC-16
SAT-PCNT-VA	Soil							
Batch	R3615525							
WG2448560-3	IRM	VA-ALP-SRS1507						
% Saturation			102.5		%		80-120	12-DEC-16
WG2448560-1	MB							
% Saturation			50.0		%		50	12-DEC-16
SO4-LEACH-IC-VA	Soil							
Batch	R3615526							
WG2449022-4	LCS							
Sulfate (SO4)			103.3		%		70-130	09-DEC-16
WG2449022-1	MB							
Sulfate (SO4)			<10		mg/kg		10	09-DEC-16

Quality Control Report

Workorder: L1862331

Report Date: 03-JAN-17

Page 13 of 15

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
J	Duplicate results and limits are expressed in terms of absolute difference.
M,U	A peak has been manually integrated, and the analyte was not detected above the EDL.
RM-ND	Reference Material recovery was slightly outside ALS DQO. Reported non-detect results for associated samples were unaffected.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.
[U]	The analyte was not detected above the EDL.

Quality Control Report

Workorder: L1862331

Report Date: 03-JAN-17

Page 14 of 15

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Leachable Anions & Nutrients							
Nitrate leach (1:10) by IC							
	2	24-NOV-16	09-DEC-16 14:33	3	15	days	EHT
	6	24-NOV-16	09-DEC-16 14:33	3	15	days	EHT
	14	24-NOV-16	09-DEC-16 14:33	3	15	days	EHT
	22	24-NOV-16	09-DEC-16 14:33	3	15	days	EHT
	26	24-NOV-16	09-DEC-16 14:33	3	15	days	EHT
Nitrite leach (1:10) by IC							
	2	24-NOV-16	09-DEC-16 14:33	3	15	days	EHT
	6	24-NOV-16	09-DEC-16 14:33	3	15	days	EHT
	14	24-NOV-16	09-DEC-16 14:33	3	15	days	EHT
	22	24-NOV-16	09-DEC-16 14:33	3	15	days	EHT
	26	24-NOV-16	09-DEC-16 14:33	3	15	days	EHT
Phenolics							
Chlorinated Phenols by Tumbler/GCMS							
	1	24-NOV-16	09-DEC-16 16:57	14	15	days	EHT
	2	24-NOV-16	09-DEC-16 16:57	14	15	days	EHT
	5	24-NOV-16	09-DEC-16 16:57	14	15	days	EHT
	10	24-NOV-16	09-DEC-16 16:57	14	15	days	EHT
	14	24-NOV-16	09-DEC-16 16:57	14	15	days	EHT
	18	24-NOV-16	09-DEC-16 16:57	14	15	days	EHT
	22	24-NOV-16	09-DEC-16 16:57	14	15	days	EHT
	26	24-NOV-16	09-DEC-16 16:57	14	15	days	EHT
	27	24-NOV-16	09-DEC-16 16:57	14	15	days	EHT
Phenolics by Tumbler/GC-MS							
	1	24-NOV-16	09-DEC-16 16:57	14	15	days	EHT
	2	24-NOV-16	09-DEC-16 16:57	14	15	days	EHT
	5	24-NOV-16	09-DEC-16 16:57	14	15	days	EHT
	6	24-NOV-16	09-DEC-16 16:57	14	15	days	EHT
	10	24-NOV-16	09-DEC-16 16:57	14	15	days	EHT
	14	24-NOV-16	09-DEC-16 16:57	14	15	days	EHT
	18	24-NOV-16	09-DEC-16 16:57	14	15	days	EHT
	22	24-NOV-16	09-DEC-16 16:57	14	15	days	EHT
	26	24-NOV-16	09-DEC-16 16:57	14	15	days	EHT
	27	24-NOV-16	09-DEC-16 16:57	14	15	days	EHT

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 L1862331 were received on 24-NOV-16 15:40.

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.

Quality Control Report

Workorder: L1862331

Report Date: 03-JAN-17

Page 15 of 15

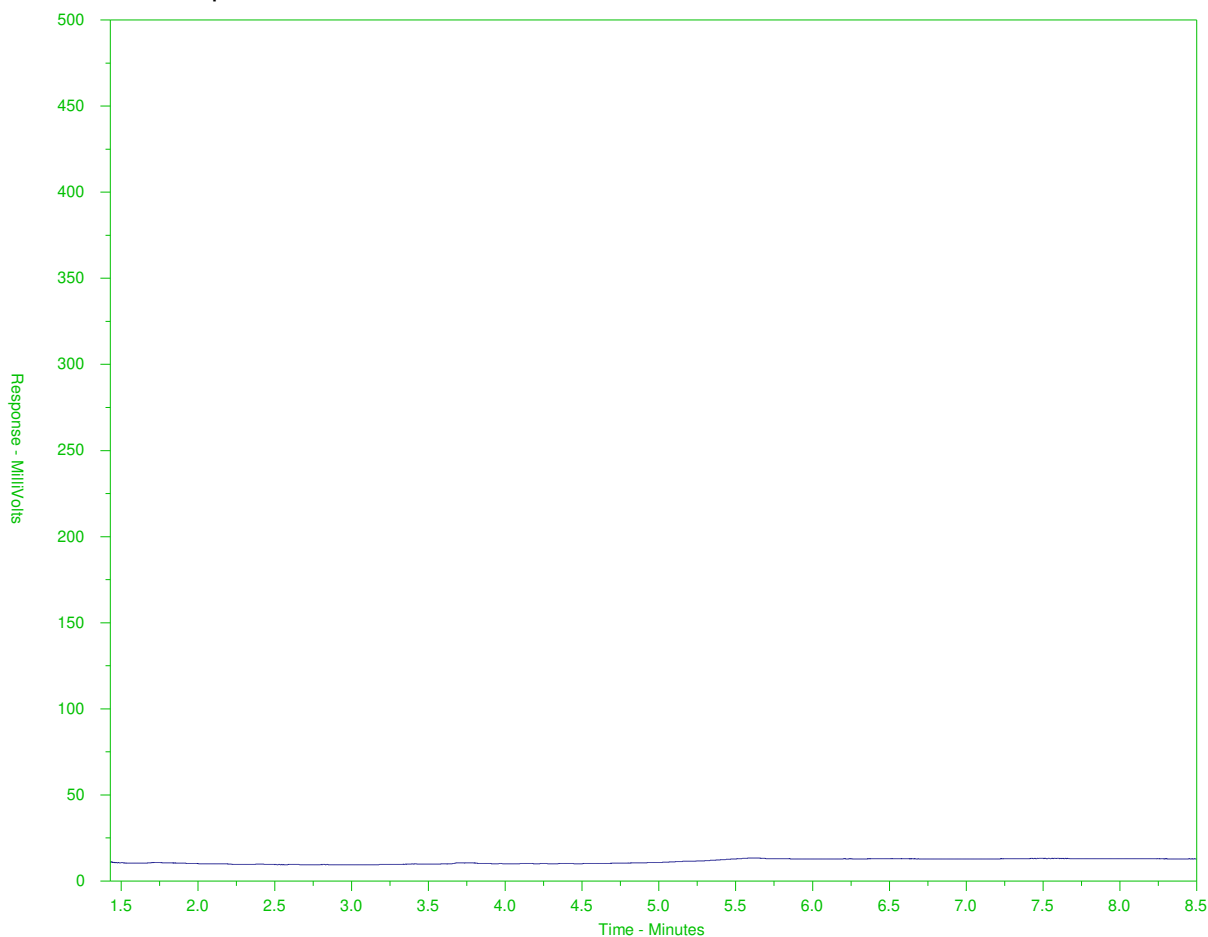
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide 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.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L1862331-C-5
 Client Sample ID: 02044-05



← F2 →		← F3 →		← F4 →	
nC10	nC16			nC34	nC50
174°C	287°C			481°C	575°C
346°F	549°F			898°F	1067°F
← Gasoline →			← Motor Oils/ Lube Oils/ Grease →		
← 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.

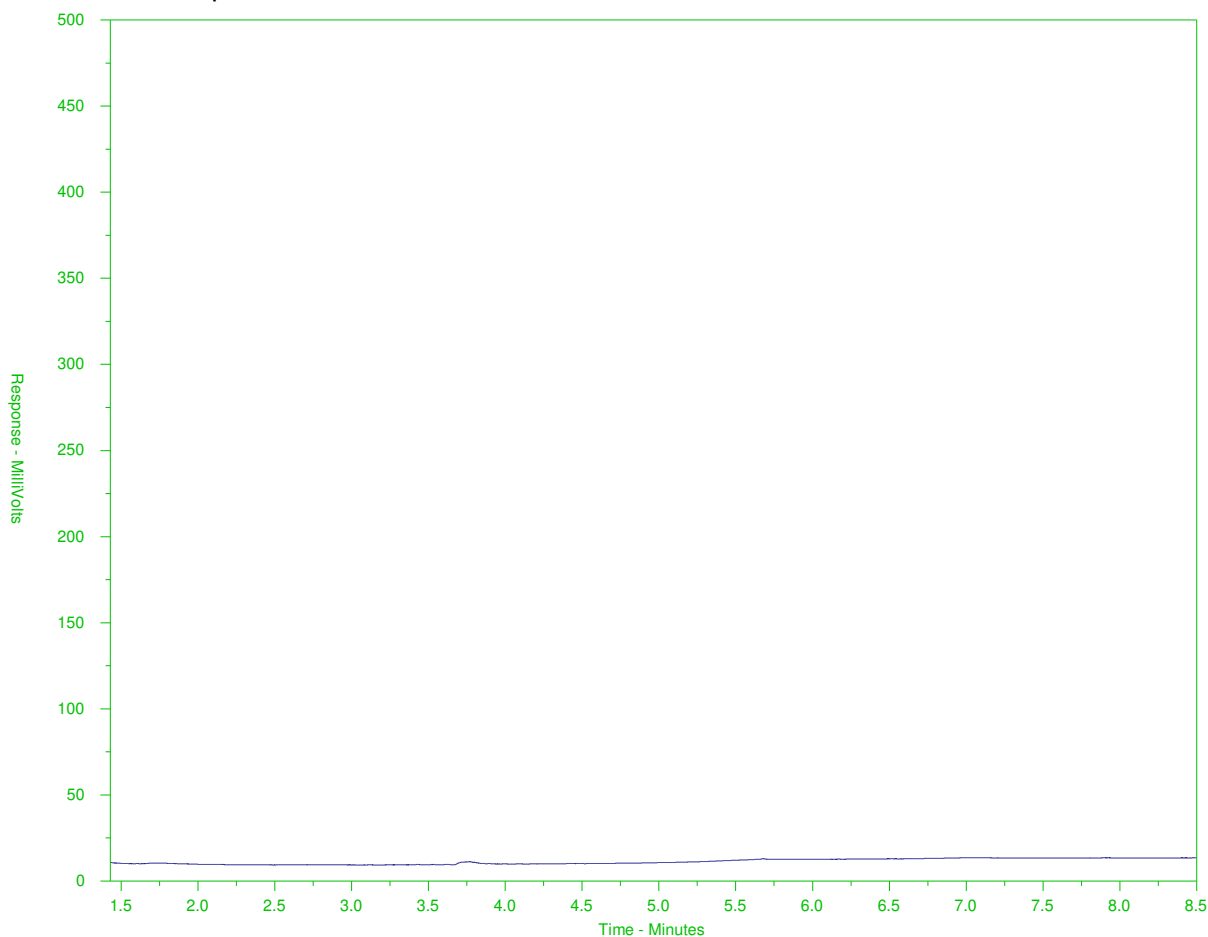
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

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.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L1862331-C-6
 Client Sample ID: 02044-06



← F2 →		← F3 →		← F4 →	
nC10	nC16			nC34	nC50
174°C	287°C			481°C	575°C
346°F	549°F			898°F	1067°F
← Gasoline →			← Motor Oils/ Lube Oils/ Grease →		
← 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.

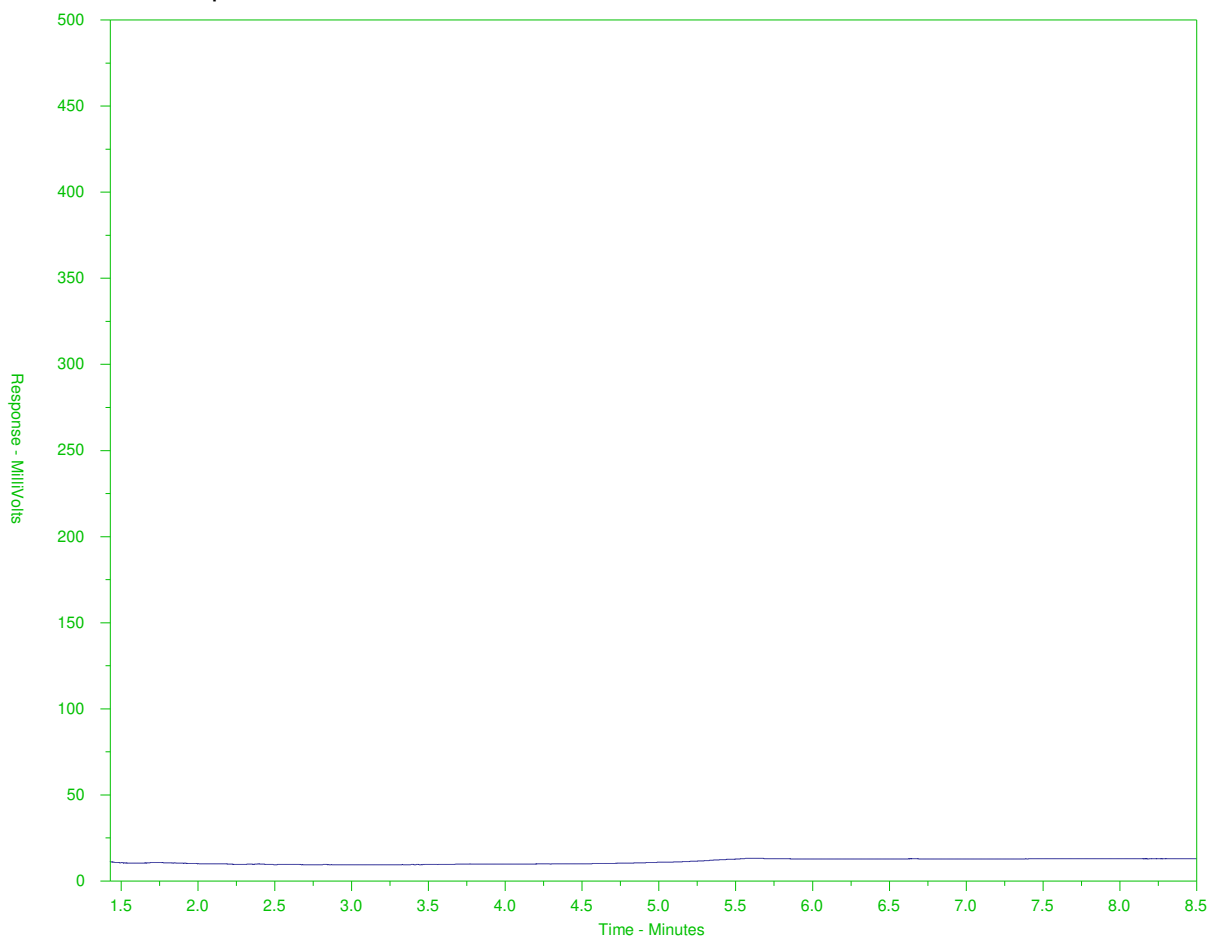
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

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.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L1862331-C-10
 Client Sample ID: 02044-10



← F2 →		← F3 →		← F4 →	
nC10	nC16		nC34		nC50
174°C	287°C		481°C		575°C
346°F	549°F		898°F		1067°F
← Gasoline →			← Motor Oils/ Lube Oils/ Grease →		
← 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.

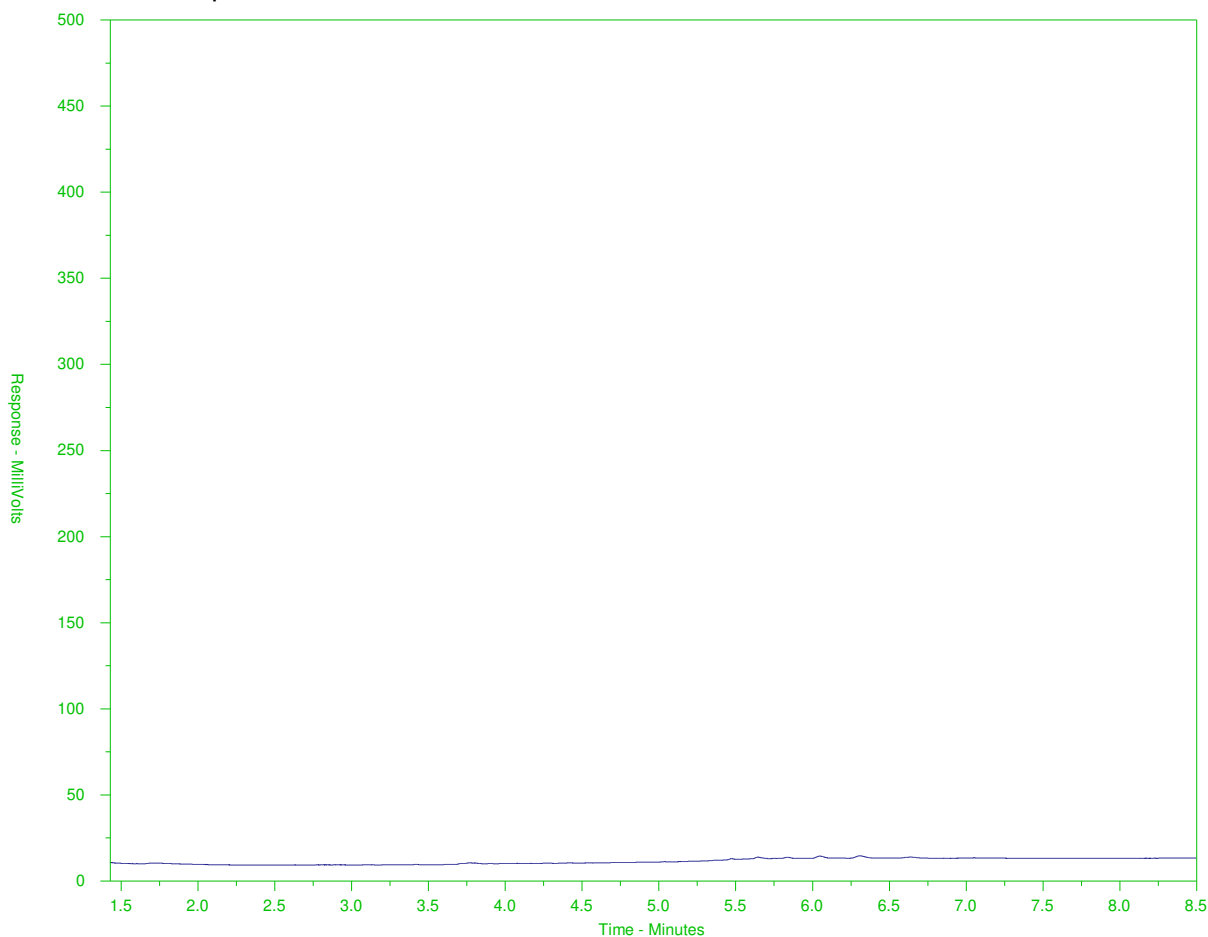
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

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.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L1862331-C-14
 Client Sample ID: 02045-02



← F2 →		← F3 →		← F4 →	
nC10	nC16			nC34	nC50
174°C	287°C			481°C	575°C
346°F	549°F			898°F	1067°F
← Gasoline →			← Motor Oils/ Lube Oils/ Grease →		
← 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.

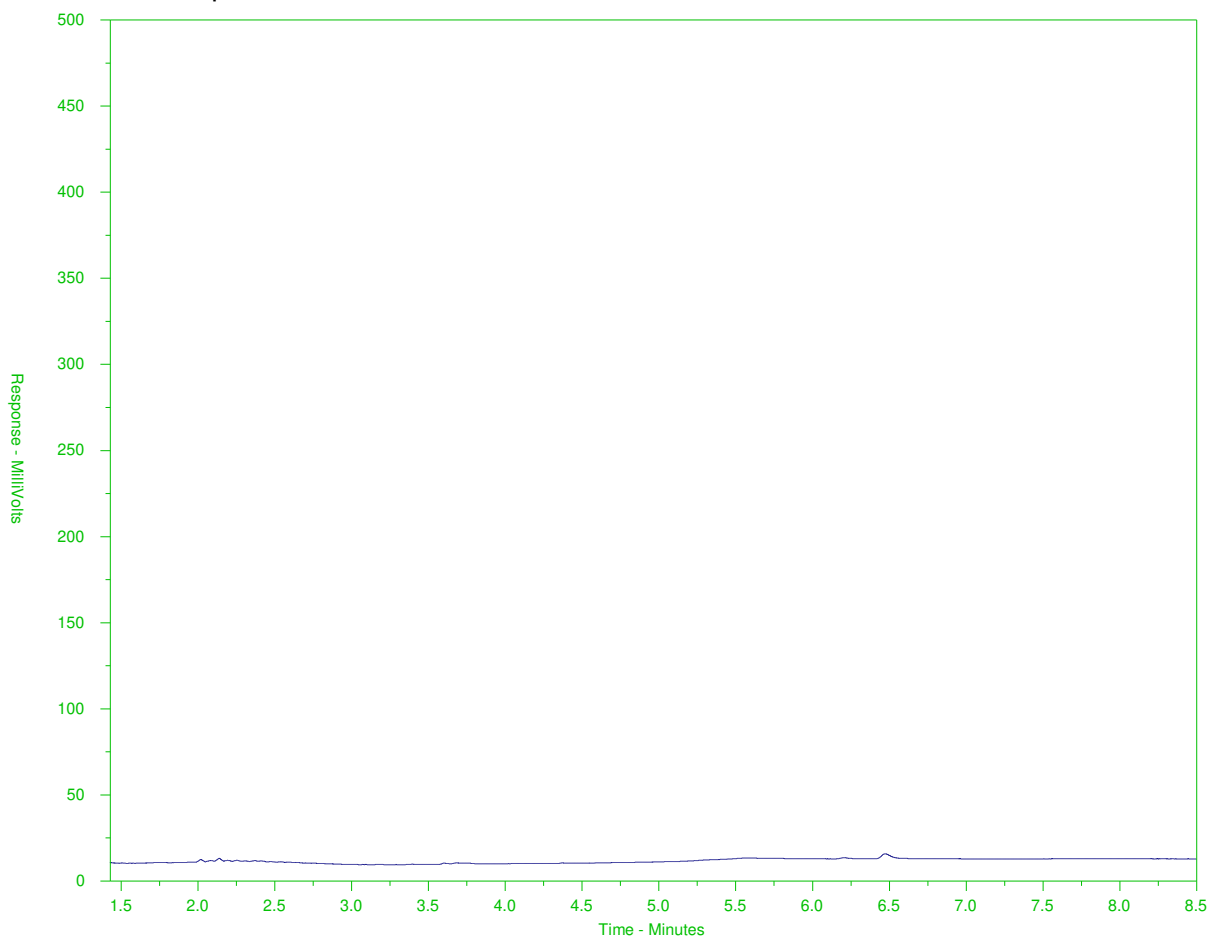
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

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.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L1862331-C-18
 Client Sample ID: 02045-06



← F2 →		← F3 →		← F4 →	
nC10	nC16		nC34		nC50
174°C	287°C		481°C		575°C
346°F	549°F		898°F		1067°F
← Gasoline →			← Motor Oils/ Lube Oils/ Grease →		
← 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.

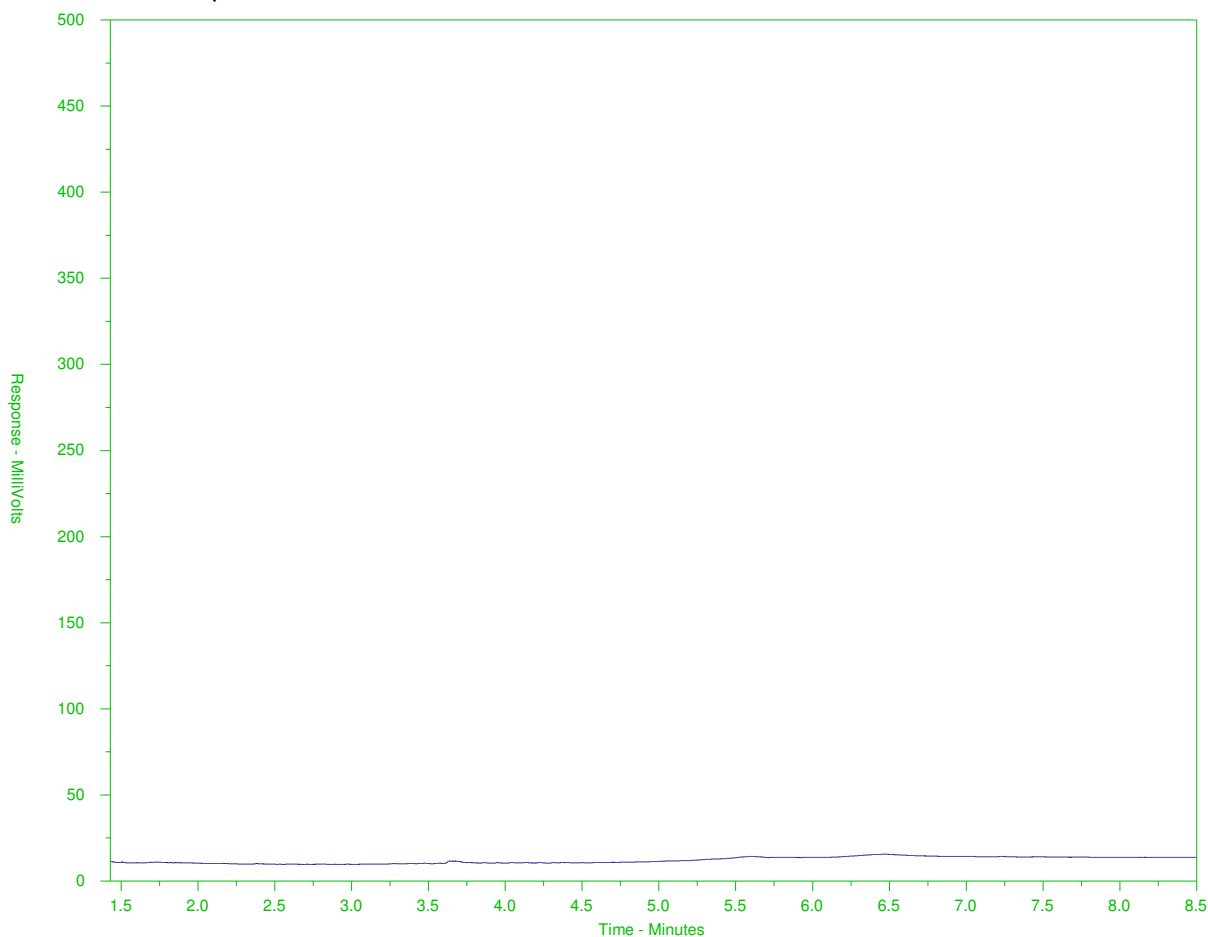
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

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.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L1862331-C-22
 Client Sample ID: 02045-10



← F2 →		← F3 →		← F4 →	
nC10	nC16			nC34	nC50
174°C	287°C			481°C	575°C
346°F	549°F			898°F	1067°F
← Gasoline →			← Motor Oils/ Lube Oils/ Grease →		
← 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.

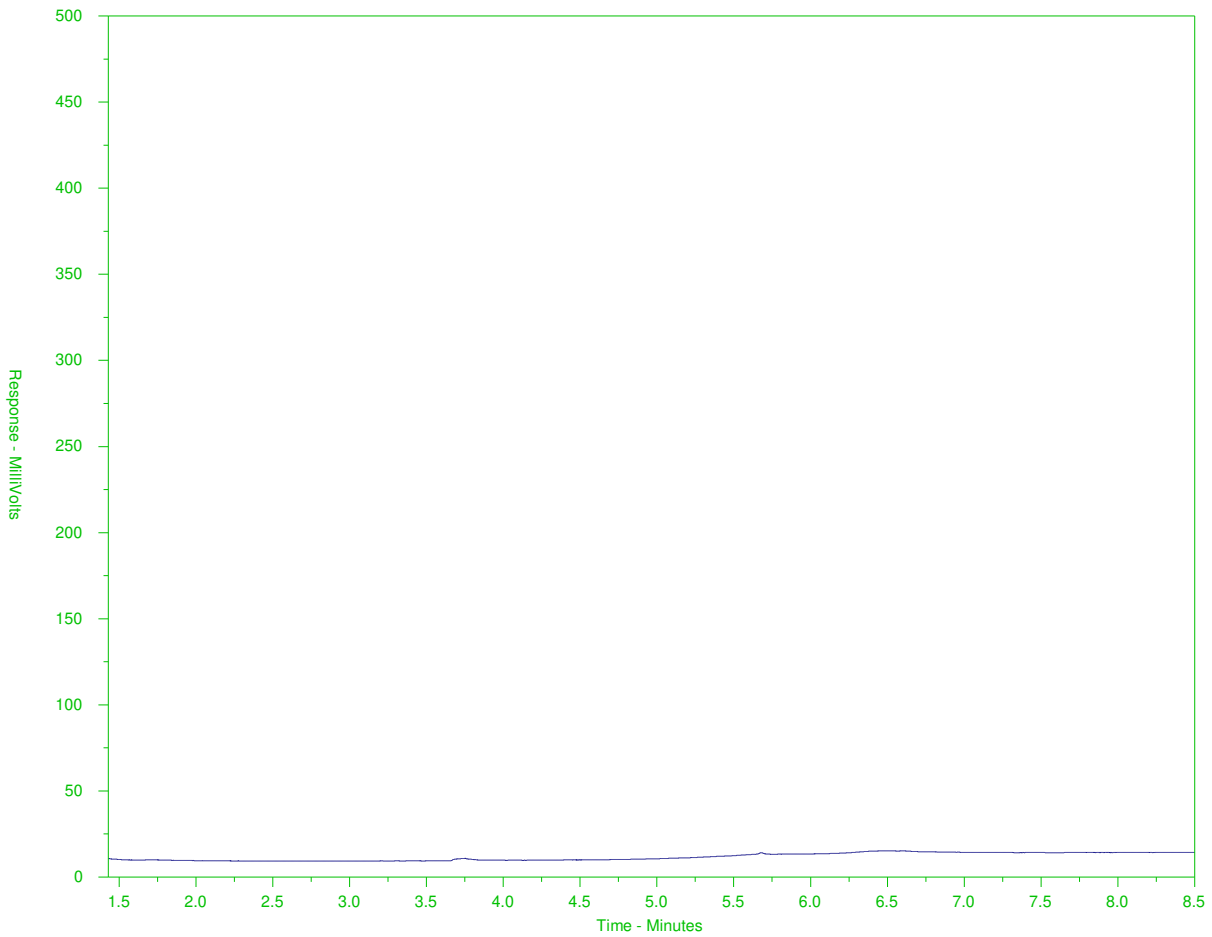
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

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.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: WG2447196-C-4#L1862331-C-22
 Client Sample ID: 02045-10



← F2 →		← F3 →		← F4 →	
nC10	nC16			nC34	nC50
174°C	287°C			481°C	575°C
346°F	549°F			898°F	1067°F
← Gasoline →			← Motor Oils/ Lube Oils/ Grease →		
← 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.

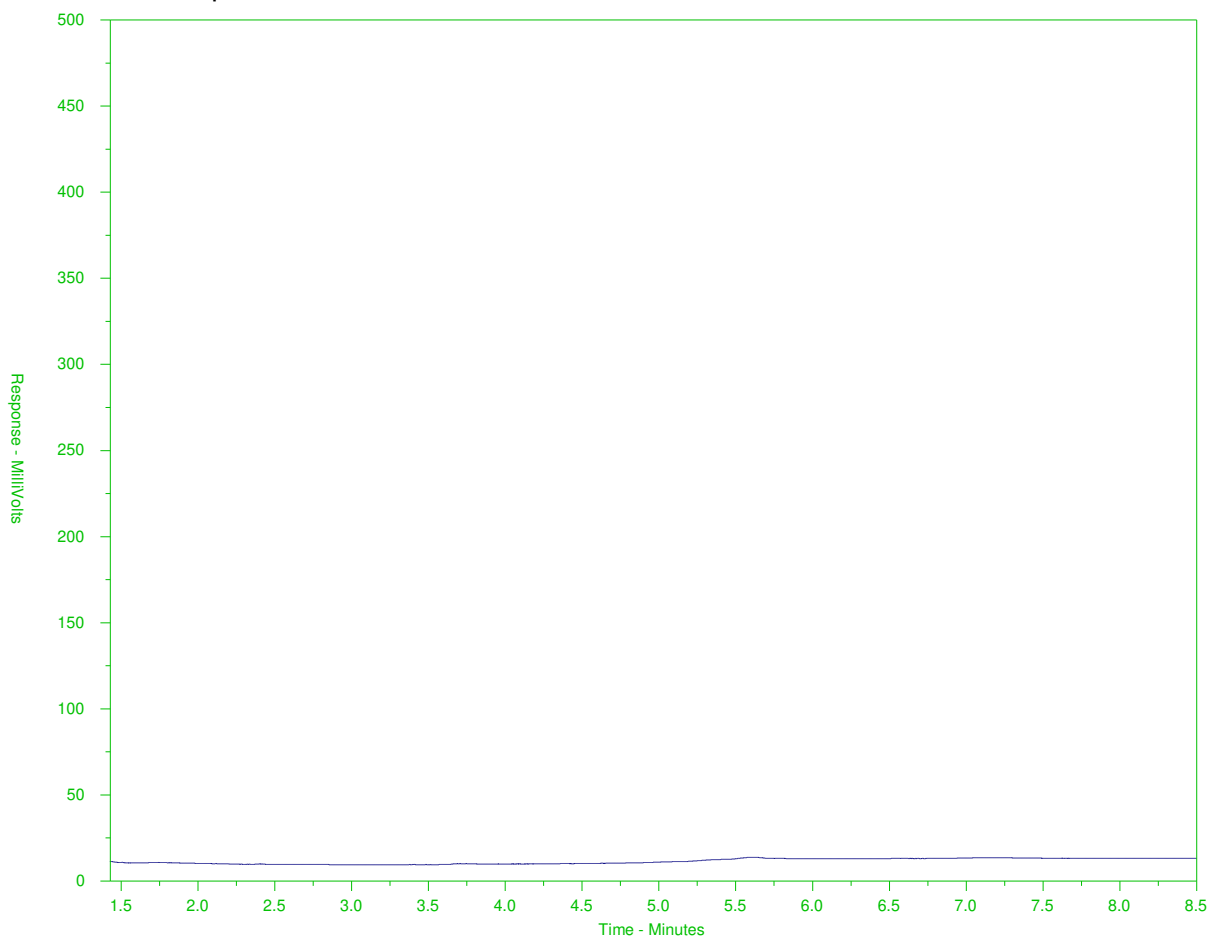
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

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.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L1862331-C-26
 Client Sample ID: 02046-02



← F2 →		← F3 →		← F4 →	
nC10	nC16			nC34	nC50
174°C	287°C			481°C	575°C
346°F	549°F			898°F	1067°F
← Gasoline →			← Motor Oils/ Lube Oils/ Grease →		
← 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.

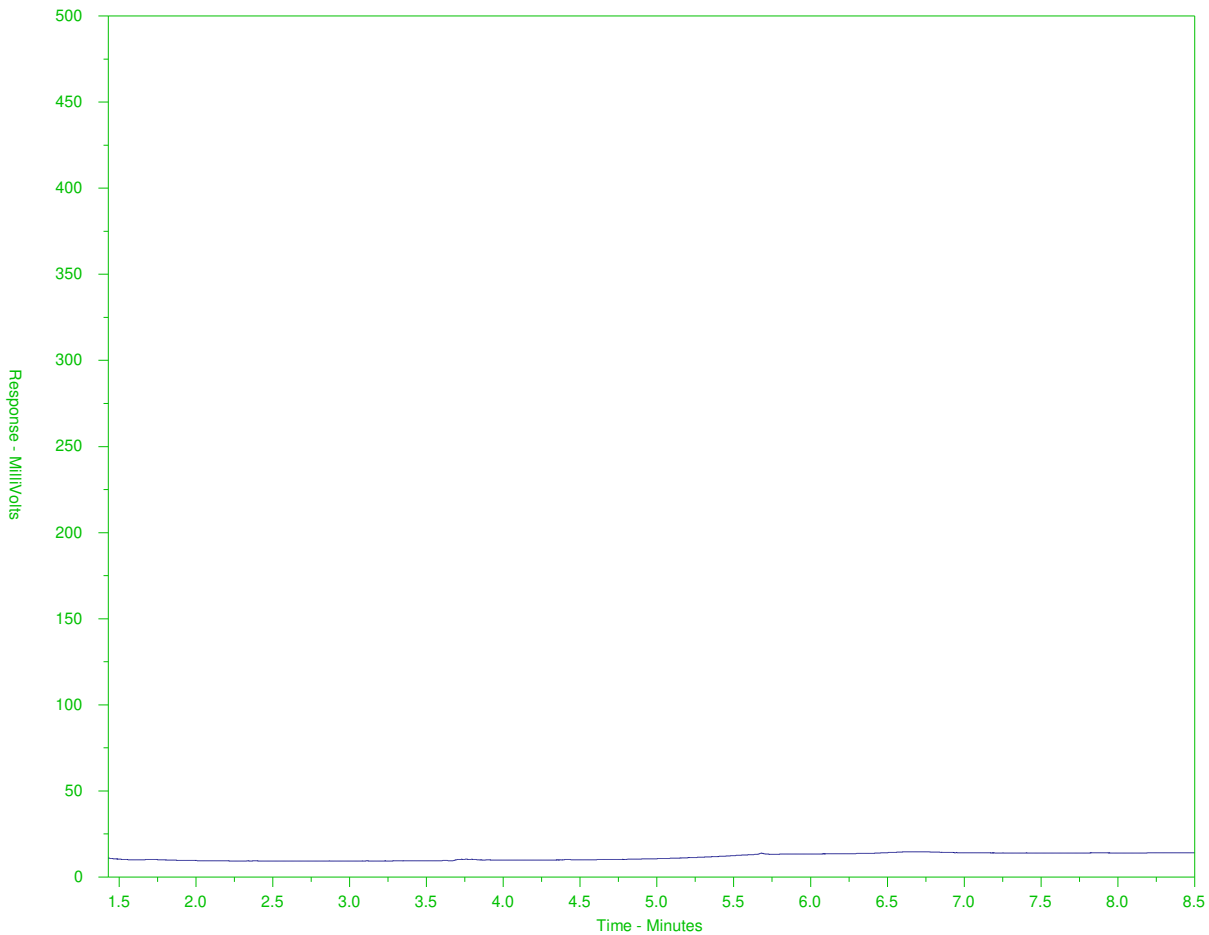
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

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.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L1862331-C-27
 Client Sample ID: 02046-03



← F2 →		← F3 →		← F4 →	
nC10	nC16			nC34	nC50
174°C	287°C			481°C	575°C
346°F	549°F			898°F	1067°F
← Gasoline →			← Motor Oils/ Lube Oils/ Grease →		
← 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.

Annex Outfall

L1862331 - due 12/12

Borehole	Sample Control Number	Date Submitted	Code	Requested Analyses													
				metals	CCME F2-F4	EPH	PAH	LEPH+HEPH	NC Phenols	Chlorophenols	Anions	Salinity	PCB	Grain Size	TOC	Dioxins+ Furans	
SH16-05	03020-01	23-Nov-16	f	X				X				X					
	03020-02	23-Nov-16	f	X				X				X					
	03020-05	23-Nov-16	n	X	X	X	X			X		X				X	
	03020-06	23-Nov-16	n										X	X			X
	03020-10	23-Nov-16	n										X	X	X		X
	03020-11	23-Nov-16	n	X	X	X	X			X		X			X	X	
	03020-12	23-Nov-16	n	X	X	X	X			X		X			X	X	
	02042-02	23-Nov-16	n	X	X		X					X				X	
	02042-03	23-Nov-16	n										X		X		X
	02042-06	23-Nov-16	n	X	X		X			X		X			X	X	
	02042-07	23-Nov-16	n										X				X
	02042-10	23-Nov-16	n										X	X			X
02042-11	23-Nov-16	n	X	X		X					X			X	X		
02043-03	23-Nov-16	t	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
02043-04	23-Nov-16	t	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
SH16-06	02047-01	26-Nov-16	t	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	02047-02	26-Nov-16	t	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	02047-03	26-Nov-16	t	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	02047-04	26-Nov-16	t	X	X	X	X	X	X	X	X	X	X	X	X	X	X
SH16-07	02044-01	24-Nov-16	f	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	02044-02	24-Nov-16	f	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	02044-05	24-Nov-16	n	X	X	X	X				X		X			X	
	02044-06	24-Nov-16	n	X	X		X			X		X				X	
	02044-07	24-Nov-16	n										X		X		X
	02044-10	24-Nov-16	n	X	X		X				X						X
	02044-11	24-Nov-16	n									X	X		X	X	
	02045-02	24-Nov-16	n	X	X		X			X		X			X	X	
	02045-03	24-Nov-16	n										X			X	X
	02045-06	24-Nov-16	n	X	X		X					X					X
	02045-07	24-Nov-16	n									X		X	X	X	X
	02045-10	24-Nov-16	n	X	X		X			X		X					X
	02045-11	24-Nov-16	n													X	
02046-02	24-Nov-16	t	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
02046-03	24-Nov-16	t	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

SH16-07

f	4	0	0	0	4	2	2	2	2	0	0	0	0
n	12	12	4	12	0	7	9	9	9	9	4	12	8
t	6	6	0	6	0	6	6	4	6	6	3	6	3

Notes:
 metals to CCME park land use limits
 chlorinated phenols = long list
 anions = leachable - ANIONS-LEACH-IC-VA + F: S- DT SIE-VA
 particle size = CCME
 LEPH/HEPH = report both EPH and PAH - CCME
 Salinity = Pig 4



L1862331-COFC



L1862331-COFC

AIN OF CUSTODY RECORD/ANALYSIS REQUEST

No. 02044 page 1 of 3

200 - 2920 Virtual Way
Vancouver, British Columbia, Canada V5M 0C4
Telephone (604) 296-4200 Fax (604) 298-5253

Project Number: K25010/3300/3300.3		Laboratory Name: ALS	
Short Title: ANNACIS ISLAND WWTP		Golder Contact: TIM LADDLAW	
Golder E-mail Address 1: j.laddlaw@golder.com		Golder E-mail Address 2: agattico@golder.com	
		Address: 2081 LOUGHEED HIGHWAY	
		Telephone/Fax:	
		Contact: AMBER SPINA	

Office Name: VAN COOVER	EQUIS Facility Code: _____ EQUIS upload: <input type="checkbox"/>	Analyses Required
--------------------------------	--	--------------------------

Turnaround Time: <input type="checkbox"/> 24 hr <input type="checkbox"/> 48 hr <input type="checkbox"/> 72 hr <input type="checkbox"/> Regular (5 Days)	
Criteria: <input checked="" type="checkbox"/> CSR <input type="checkbox"/> CCME <input type="checkbox"/> BC Water Quality <input type="checkbox"/> Other	
Note: Final Reports to be issued by e-mail	Quote No.:

Sample Control Number (SCN)	Sample Location	Sa. #	Sample Depth (over)	Sample Matrix (over)	Date Sampled (D / M / Y)	Time Sampled (HH:MM)	Sample Type (over)	QAQC Code (over)	Related SCN (over)	Number of Containers	RUSH (Select TAT above)	Remarks (over)
02044 01	SH16-07	8-9	50R	24/1/16			Dredge					
- 02			12-13'									
- 03			15-16'									
- 04			19-20'									
- 05			23-24'					FD 02044 06				
- 06			23-24'					FD 02044 05				
- 07			27-28'									
- 08			31-32'									
- 09			35-36'									
- 10			39-40'									
- 11			43-44'									
- 12			47-48'									

Sampler's Signature: ALAN GAVIN	Relinquished by: Signature:	Company: GOLDER	Date: 24-NOV-2016	Time:	Received by: Signature:	Company:
Comments:	Method of Shipment:	Waybill No.:	Received for Lab by:		Date:	Time:
	Shipped by:	Shipment Condition: Seal intact:	Temp (°C): 10.8	Cooler opened by: LAW	Date: Nov 24	Time: 15:40

WHITE: Golder Copy YELLOW: Lab Copy



L1862331-COFC

AIN OF CUSTODY RECORD/ANALYSIS REQUEST

No. 02045 page 2 of 3

200 - 2920 Virtual Way
Vancouver, British Columbia, Canada V5M 0C4
Telephone (604) 296-4200 Fax (604) 298-5253

Project Number: 1525010 / 3300 / 3350-3		Laboratory Name: ALS	
Short Title: ANNACIS ISLAND WWTP	Golder Contact: JIM LATLAU	Address: 8081 Lougheed Highway	
Golder E-mail Address 1: jlatlau@golder.com	Golder E-mail Address 2: agoruch@golder.com	Telephone/Fax:	Contact: AMBER SIMONS

Office Name: VANCOUVER					EQUIS Facility Code: EQUIS upload: <input type="checkbox"/>					Analyses Required					
Turnaround Time: <input type="checkbox"/> 24 hr <input type="checkbox"/> 48 hr <input type="checkbox"/> 72 hr <input type="checkbox"/> Regular (5 Days)					Criteria: <input checked="" type="checkbox"/> CSR <input type="checkbox"/> CCME <input type="checkbox"/> BC Water Quality <input type="checkbox"/> Other					Number of Containers					
Note: Final Reports to be issued by e-mail					Quote No.:										
Sample Control Number (SCN)	Sample Location	Sa. #	Sample Depth (m) Feet	Sample Matrix (over)	Date Sampled (D / M / Y)	Time Sampled (HH:MM)	Sample Type (over)	QAQC Code (over)	Related SCN (over)	Number of Containers	RUSH (Select TAT above)	Remarks (over)			
02045-01	S416-02	S152	51-52'	SMP	24/NOV		Dredge						3		
-02			55-56'												
-03			59-60'												
-04			63-64'												
-05			67-68'												
-06			71-72'												
-07			75-76'												
-08			79-80'												
-09			83-84'												
-10			87-88'												
-11			91-92'												
-12			91-92'												

Sampler's Signature: ALVARO GAVIÑO	Relinquished by: Signature 	Company GOLDER	Date 24-NOV-2015	Time	Received by: Signature	Company	
Comments:		Method of Shipment	Waybill No.:	Received for Lab by:	Date	Time	
		Shipped by:	Shipment Condition: Seal Intact:	Temp (°C) 10.8	Cooler opened by: WJW	Date NOV 24	Time 15:40

WHITE: Golder Copy YELLOW: Lab Copy



L1862331-COFC

CHAIN OF CUSTODY RECORD/ANALYSIS REQUEST

No. 02046 page 3 of 3

200 - 2920 Virtual Way
Vancouver, British Columbia, Canada V5M 0C4
Telephone (604) 296-4200 Fax (604) 298-5253

Project Number: 1525010/3300/3300.3
Laboratory Name: ALS
Short Title: ANNACIS ISLAND WWTTP
Golder Contact: JIM LATOAN
Address: 8081 Lougheed Highway
Golder E-mail Address 1: jlattoan@golder.com
Golder E-mail Address 2: agornick@golder.com
Telephone/Fax:
Contact: ANGEL SPRING

Office Name: VANCOUVER
EQuIS Facility Code:
EQuIS upload:
Turnaround Time: [] 24 hr [] 48 hr [] 72 hr [] Regular (5 Days)
Criteria: [x] CSR [] CCME [] BC Water Quality [] Other

Table with columns: Sample Control Number (SCN), Sample Location, Sa. #, Sample Depth (m), Sample Matrix (over), Date Sampled (D/M/Y), Time Sampled (HH:MM), Sample Type (over), QAQC Code (over), Related SCN (over), Number of Containers, Analyses Required, RUSH (Select TAT above), Remarks (over). Contains handwritten data for sample 02046 01 and subsequent rows.

Sampler's Signature: ANNO SANTO
Relinquished by: Signature
Company: GOLDER
Date: 24-10-2016
Received by: Signature
Company:
Comments:
Method of Shipment:
Waybill No.:
Received for Lab by:
Date:
Time:
Shipped by:
Shipment Condition:
Temp (C): 14.8
Cooler opened by:
Date: Nov 24
Time: 17:40

WHITE: Golder Copy YELLOW: Lab Copy



GOLDER ASSOCIATES LTD.
ATTN: Jm Laidlaw
200- 2920 Virtual Way
Vancouver BC V5M 0C4

Date Received: 26- NOV- 16
Report Date: 03- JAN- 17 16:22 (MT)
Version: FINAL

Client Phone: 604- 298- 6623

Certificate of Analysis

Lab Work Order #: L1863048

Project P.O. #: NOT SUBMITTED
Job Reference: 1525010/3300/33003
C of C Numbers: 02047
Legal Site Desc:

Amber Springer, B.Sc
Account Manager

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

ADDRESS: 8081 Lougheed Hwy, Suite 100, Burnaby, BC V5A 1W9 Canada | Phone: +1 604 253 4188 | Fax: +1 604 253 6700
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1863048-1 Soil 26-NOV-16 10:40 02047-01	L1863048-2 Soil 26-NOV-16 10:45 02047-02	L1863048-3 Soil 26-NOV-16 10:50 02047-03	L1863048-4 Soil 26-NOV-16 10:55 02047-04
Grouping	Analyte				
SOIL					
Physical Tests	Moisture (%)	15.5	30.5	19.5	19.7
	pH (1:2 soil:water) (pH)	8.82	8.34		8.44
Particle Size	General Texture Class		Fine		
	MUST PSA % > 75um (%)		45.3 ^{PSAL}		
Leachable Anions & Nutrients	Bromide (Br) (mg/kg)				2.21
	Chloride (Cl) (mg/kg)				686
	Fluoride (F) (mg/kg)				<0.20
	Nitrate (as N) (mg/kg)				<0.050
	Nitrite (as N) (mg/kg)				0.013
	Sulfate (SO4) (mg/kg)				60
Organic / Inorganic Carbon	Total Organic Carbon (%)		0.52	0.081	
Saturated Paste Extractables	Chloride (Cl) (mg/kg)		299	219	
	% Saturation (%)		35.1	29.7	
	Sodium (Na) (mg/kg)		146	94.2	
Metals	Antimony (Sb) (mg/kg)	0.21			0.23
	Arsenic (As) (mg/kg)	3.12			2.27
	Barium (Ba) (mg/kg)	40.8			65.6
	Beryllium (Be) (mg/kg)	0.18			0.18
	Cadmium (Cd) (mg/kg)	0.065			0.060
	Chromium (Cr) (mg/kg)	25.1			23.2
	Cobalt (Co) (mg/kg)	7.23			7.81
	Copper (Cu) (mg/kg)	13.8			16.3
	Lead (Pb) (mg/kg)	2.04			2.48
	Mercury (Hg) (mg/kg)	0.0186			0.0175
	Molybdenum (Mo) (mg/kg)	0.24			0.22
	Nickel (Ni) (mg/kg)	28.1			33.0
	Selenium (Se) (mg/kg)	<0.20			<0.20
	Silver (Ag) (mg/kg)	<0.10			<0.10
	Thallium (Tl) (mg/kg)	<0.050			<0.050
	Tin (Sn) (mg/kg)	<2.0			<2.0
	Uranium (U) (mg/kg)	0.221			0.236
	Vanadium (V) (mg/kg)	46.0			40.3
	Zinc (Zn) (mg/kg)	35.0			36.0
Hydrocarbons	F2 (C10-C16) (mg/kg)	271			<30
	F3 (C16-C34) (mg/kg)	105			<50
	F4 (C34-C50) (mg/kg)	<50			<50

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1863048-1 Soil 26-NOV-16 10:40 02047-01	L1863048-2 Soil 26-NOV-16 10:45 02047-02	L1863048-3 Soil 26-NOV-16 10:50 02047-03	L1863048-4 Soil 26-NOV-16 10:55 02047-04
Grouping	Analyte				
SOIL					
Hydrocarbons	F4G-SG (mg/kg)	<500			
	Chrom. to baseline at nC50	NO			YES
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)	<0.0050			<0.0050
	Acenaphthylene (mg/kg)	<0.0050			<0.0050
	Anthracene (mg/kg)	<0.0040			<0.0040
	Benz(a)anthracene (mg/kg)	<0.010			<0.010
	Benzo(a)pyrene (mg/kg)	<0.010			<0.010
	Benzo(b)fluoranthene (mg/kg)	<0.010			<0.010
	Benzo(b+j+k)fluoranthene (mg/kg)	<0.015			<0.015
	Benzo(g,h,i)perylene (mg/kg)	<0.010			<0.010
	Benzo(k)fluoranthene (mg/kg)	<0.010			<0.010
	Chrysene (mg/kg)	<0.010			<0.010
	Dibenz(a,h)anthracene (mg/kg)	<0.0050			<0.0050
	Fluoranthene (mg/kg)	<0.010			<0.010
	Fluorene (mg/kg)	<0.010			<0.010
	Indeno(1,2,3-c,d)pyrene (mg/kg)	<0.010			<0.010
	2-Methylnaphthalene (mg/kg)	<0.010			<0.010
	Naphthalene (mg/kg)	<0.010			<0.010
	Phenanthrene (mg/kg)	<0.010			<0.010
	Pyrene (mg/kg)	<0.010			<0.010
	Surrogate: Acenaphthene d10 (%)	111.3			81.2
	Surrogate: Chrysene d12 (%)	95.8			82.4
	Surrogate: Naphthalene d8 (%)	101.5			77.3
Surrogate: Phenanthrene d10 (%)	106.1			81.4	
B(a)P Total Potency Equivalent (mg/kg)	<0.020			<0.020	
IACR (CCME) (mg/kg)	<0.15			<0.15	
Phenolics	4-Chloro-3-methylphenol (mg/kg)		<0.020	<0.020	
	2-Chlorophenol (mg/kg)		<0.020	<0.15 ^{DLQ}	
	3-Chlorophenol (mg/kg)		<0.020	<0.020	
	4-Chlorophenol (mg/kg)		<0.020	<0.020	
	2,3-Dichlorophenol (mg/kg)		<0.020	<0.020	
	2,4 & 2,5-Dichlorophenol (mg/kg)		<0.020	<0.020	
	2,6-Dichlorophenol (mg/kg)		<0.020	<0.020	
	3,4-Dichlorophenol (mg/kg)		<0.020	<0.020	
	3,5-Dichlorophenol (mg/kg)		<0.020	<0.020	
	2,4-Dimethylphenol (mg/kg)		<0.020	<0.020	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1863048-1	L1863048-2	L1863048-3	L1863048-4
		Description	Soil	Soil	Soil	Soil
		Sampled Date	26-NOV-16	26-NOV-16	26-NOV-16	26-NOV-16
		Sampled Time	10:40	10:45	10:50	10:55
		Client ID	02047-01	02047-02	02047-03	02047-04
Grouping	Analyte					
SOIL						
Phenolics	o-Cresol (mg/kg)			<0.020	<0.020	
	m-Cresol (mg/kg)			<0.020	<0.020	
	p-Cresol (mg/kg)			<0.020	<0.020	
	Pentachlorophenol (mg/kg)			<0.020	<0.020	
	Phenol (mg/kg)			<0.020	<0.020	
	2,3,4,5-Tetrachlorophenol (mg/kg)			<0.020	<0.020	
	2,3,4,6-Tetrachlorophenol (mg/kg)			<0.020	<0.020	
	2,3,5,6-Tetrachlorophenol (mg/kg)			<0.020	<0.020	
	2,3,4-Trichlorophenol (mg/kg)			<0.020	<0.020	
	2,3,5-Trichlorophenol (mg/kg)			<0.020	<0.020	
	2,3,6-Trichlorophenol (mg/kg)			<0.020	<0.020	
	2,4,5-Trichlorophenol (mg/kg)			<0.020	<0.020	
	2,4,6-Trichlorophenol (mg/kg)			<0.020	<0.020	
	3,4,5-Trichlorophenol (mg/kg)			<0.020	<0.020	
Polychlorinated Biphenyls	PCB-1016 (mg/kg)	<0.020				<0.020
	PCB-1221 (mg/kg)	<0.020				<0.020
	PCB-1232 (mg/kg)	<0.020				<0.020
	PCB-1242 (mg/kg)	<0.020				<0.020
	PCB-1248 (mg/kg)	<0.020				<0.020
	PCB-1254 (mg/kg)	<0.020				<0.020
	PCB-1260 (mg/kg)	<0.020				<0.020
	PCB-1262 (mg/kg)	<0.020				<0.020
	PCB-1268 (mg/kg)	<0.020				<0.020
	Total PCB (BC CSR) (mg/kg)	<0.020				<0.020
	Total Polychlorinated Biphenyls (mg/kg)	<0.020				<0.020
Dioxins and Furans	2,3,7,8-TCDD (pg/g)				<0.051 ^[U]	
	1,2,3,7,8-PeCDD (pg/g)				<0.030 ^[U]	
	1,2,3,4,7,8-HxCDD (pg/g)				<0.034 ^[U]	
	1,2,3,6,7,8-HxCDD (pg/g)				<0.034 ^[U]	
	1,2,3,7,8,9-HxCDD (pg/g)				<0.036 ^[U]	
	1,2,3,4,6,7,8-HpCDD (pg/g)				0.150 ^{M,J,R}	
	OCDD (pg/g)				1.45 ^[J]	
	Total-TCDD (pg/g)				<0.051 ^[U]	
	Total TCDD # Homologues				0	
	Total-PeCDD (pg/g)				<0.030 ^[U]	
	Total PeCDD # Homologues				0	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1863048-1 Soil 26-NOV-16 10:40 02047-01	L1863048-2 Soil 26-NOV-16 10:45 02047-02	L1863048-3 Soil 26-NOV-16 10:50 02047-03	L1863048-4 Soil 26-NOV-16 10:55 02047-04
Grouping	Analyte				
SOIL					
Dioxins and Furans	Total-HxCDD (pg/g)			^[U] <0.036	
	Total HxCDD # Homologues			0	
	Total-HpCDD (pg/g)			0.250	
	Total HpCDD # Homologues			1	
	2,3,7,8-TCDF (pg/g)			0.071 ^{M,J,R}	
	1,2,3,7,8-PeCDF (pg/g)			^[U] <0.025	
	2,3,4,7,8-PeCDF (pg/g)			^[U] <0.020	
	1,2,3,4,7,8-HxCDF (pg/g)			^[U] <0.035	
	1,2,3,6,7,8-HxCDF (pg/g)			^[U] <0.032	
	1,2,3,7,8,9-HxCDF (pg/g)			^{M,U} <0.048	
	2,3,4,6,7,8-HxCDF (pg/g)			^[U] <0.034	
	1,2,3,4,6,7,8-HpCDF (pg/g)			^[U] <0.023	
	1,2,3,4,7,8,9-HpCDF (pg/g)			^[U] <0.033	
	OCDF (pg/g)			^[U] <0.026	
	Total-TCDF (pg/g)			0.040	
	Total TCDF # Homologues			1	
	Total-PeCDF (pg/g)			^[U] <0.025	
	Total PeCDF # Homologues			0	
	Total-HxCDF (pg/g)			^[U] <0.048	
	Total HxCDF # Homologues			0	
	Total-HpCDF (pg/g)			^[U] <0.033	
	Total HpCDF # Homologues			0	
	Surrogate: 13C12-2,3,7,8-TCDD (%)			81.0	
	Surrogate: 13C12-1,2,3,7,8-PeCDD (%)			84.0	
	Surrogate: 13C12-1,2,3,4,7,8-HxCDD (%)			77.0	
	Surrogate: 13C12-1,2,3,6,7,8-HxCDD (%)			91.0	
	Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD (%)			85.0	
	Surrogate: 13C12-OCDD (%)			84.0	
	Surrogate: 13C12-2,3,7,8-TCDF (%)			86.0	
	Surrogate: 13C12-1,2,3,7,8-PeCDF (%)			85.0	
Surrogate: 13C12-2,3,4,7,8-PeCDF (%)			87.0		
Surrogate: 13C12-1,2,3,4,7,8-HxCDF (%)			68.0		
Surrogate: 13C12-1,2,3,6,7,8-HxCDF (%)			96.0		
Surrogate: 13C12-2,3,4,6,7,8-HxCDF (%)			82.0		
Surrogate: 13C12-1,2,3,7,8,9-HxCDF (%)			81.0		
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF (%)			78.0		
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF (%)			81.0		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1863048-1 Soil 26-NOV-16 10:40 02047-01	L1863048-2 Soil 26-NOV-16 10:45 02047-02	L1863048-3 Soil 26-NOV-16 10:50 02047-03	L1863048-4 Soil 26-NOV-16 10:55 02047-04
Grouping	Analyte				
SOIL					
Dioxins and Furans	Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup) (%)			75.0	
Toxic Equivalency	Lower Bound PCDD/F TEQ (WHO 2005) (pg/g)			0.000435	
	Mid Point PCDD/F TEQ (WHO 2005) (pg/g)			0.0658	
	Upper Bound PCDD/F TEQ (WHO 2005) (pg/g)			0.123	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Duplicate	Total-HpCDD	G	L1863048-3
Comments:	Sample and duplicate RPD criteria outside method limits for select low level targets. It is expected that relative uncertainty increases with compounds detected at levels below the Lower Quantification Limit.		
Duplicate	Total-HxCDD	G	L1863048-3
Comments:	Sample and duplicate RPD criteria outside method limits for select low level targets. It is expected that relative uncertainty increases with compounds detected at levels below the Lower Quantification Limit.		
Method Blank	1,2,3,4,6,7,8-HpCDF	M,U	L1863048-3
Method Blank	OCDD	M,U	L1863048-3
Certified Reference Material	2,4 & 2,5-Dichlorophenol	RM-ND	L1863048-2, -3
Method Blank	1,2,3,4,6,7,8-HpCDD	[U]	L1863048-3
Method Blank	1,2,3,4,7,8,9-HpCDF	[U]	L1863048-3
Method Blank	1,2,3,4,7,8-HxCDD	[U]	L1863048-3
Method Blank	1,2,3,4,7,8-HxCDF	[U]	L1863048-3
Method Blank	1,2,3,6,7,8-HxCDD	[U]	L1863048-3
Method Blank	1,2,3,6,7,8-HxCDF	[U]	L1863048-3
Method Blank	1,2,3,7,8,9-HxCDD	[U]	L1863048-3
Method Blank	1,2,3,7,8,9-HxCDF	[U]	L1863048-3
Method Blank	1,2,3,7,8-PeCDD	[U]	L1863048-3
Method Blank	1,2,3,7,8-PeCDF	[U]	L1863048-3
Method Blank	2,3,4,6,7,8-HxCDF	[U]	L1863048-3
Method Blank	2,3,4,7,8-PeCDF	[U]	L1863048-3
Method Blank	2,3,7,8-TCDD	[U]	L1863048-3
Method Blank	2,3,7,8-TCDF	[U]	L1863048-3
Method Blank	OCDF	[U]	L1863048-3
Method Blank	Total-HpCDD	[U]	L1863048-3
Method Blank	Total-HpCDF	[U]	L1863048-3
Method Blank	Total-HxCDD	[U]	L1863048-3
Method Blank	Total-HxCDF	[U]	L1863048-3
Method Blank	Total-PeCDD	[U]	L1863048-3
Method Blank	Total-PeCDF	[U]	L1863048-3
Method Blank	Total-TCDD	[U]	L1863048-3
Method Blank	Total-TCDF	[U]	L1863048-3

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLQ	Detection Limit raised due to co-eluting interference. GCMS qualifier ion ratio did not meet acceptance criteria.
G	QC result did not meet ALS DQO. Refer to narrative comments for further information.
M,J,R	A peak has been manually integrated, the analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M,U	A peak has been manually integrated, and the analyte was not detected above the EDL.
PSAL	Limited sample was available for PSA (100g minimum is standard). Measurement Uncertainty for PSA results may be higher than usual.
RM-ND	Reference Material recovery was slightly outside ALS DQO. Reported non-detect results for associated samples were unaffected.
[J]	The analyte was detected below the calibrated range but above the EDL.
[U]	The analyte was not detected above the EDL.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BR-LEACH-IC-VA	Soil	Bromide leach (1:10) by IC	APHA 4110 IC
Leachable Anions in Sediment/Soil Method analysis is carried out using a leaching procedure which involves the gentle tumbling of the sample in a specified leaching solution (typically deionized water) for a specific length of time. The resulting extract is then analysed anions by ion chromatography with conductivity or UV detection. The method is applicable to the following anions: fluoride, chloride, phosphate, bromide, nitrate, sulphate.			
C-TIC-PCT-SK	Soil	Total Inorganic Carbon in Soil	CSSS (2008) P216-217

Reference Information

A known quantity of acetic acid is consumed by reaction with carbonates in the soil. The pH of the resulting solution is measured and compared against a standard curve relating pH to weight of carbonate.

C-TOC-CALC-SK Soil Total Organic Carbon Calculation CSSS (2008) 21.2

Total Organic Carbon (TOC) is calculated by the difference between total carbon (TC) and total inorganic carbon. (TIC)

C-TOT-LECO-SK Soil Total Carbon by combustion method SSSA (1996) P. 973-974

The sample is ignited in a combustion analyzer where carbon in the reduced CO₂ gas is determined using a thermal conductivity detector.

CL-LEACH-IC-VA Soil Chloride leach (1:10) by IC APHA 4110 IC

Leachable Anions in Sediment/Soil Method analysis is carried out using a leaching procedure which involves the gentle tumbling of the sample in a specified leaching solution (typically deionized water) for a specific length of time. The resulting extract is then analysed anions by ion chromatography with conductivity or UV detection. The method is applicable to the following anions: fluoride, chloride, phosphate, bromide, nitrate, sulphate.

CL-PASTE-IC-VA Soil Chloride in Soil (Paste) by IC Carter-CSSS / EPA 300.1 (modified)

A soil extract produced by the saturated paste extraction procedure is analyzed for chloride by Ion Chromatography with conductivity detection.

CLPHEN-TMB-MS-VA Soil Chlorinated Phenols by Tumbler/GCMS EPA 3570, 8270D, Knapp(1979)

A subsample of the soil/sediment is rotary extracted by solvent, derivitized, and analysed by GC/MS.

DX-1613B-HRMS-BU Soil Dioxins and Furans HR 1613B USEPA 1613B

Samples are extracted by Soxhlet. The extracts are prepared using column chromatography, reduced in volume and analyzed by isotope-dilution GC/HRMS

F-1:5-DI-SIE-VA Soil Fluoride leach (1:5) by SIE BCMOE/APHA Method 4500-F Fluoride

This analysis is carried out using procedures from the Method: "Fluoride in Soils by 5:1 Aqueous Extraction", BC Ministry of Environment, 22 January 2008, and procedures adapted from APHA Method 4500-F "Fluoride". The procedure involves mixing the dried (at <60 C) and sieved (2mm) sample with deionized/distilled water at a 1:5 ratio of soil to water. Fluoride is determined using a selective ion electrode

F2F4-TUMB-H/A-FID-VA Soil CWS F2-F4 Hydrocarbons by Tumbler GCFID CCME PETROLEUM HYDROCARBONS

This analysis is carried out in accordance with the "Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil - Tier 1 Method, Canadian Council of Ministers of the Environment, December 2000." For C10 to C50 hydrocarbons (F2, F3, F4) and gravimetric heavy hydrocarbons (F4G-sg), a subsample of the sediment/soil is extracted with 1:1 hexane:acetone using a rotary extractor. The extract undergoes a silica-gel clean-up to remove polar compounds. F2, F3 & F4 are analyzed by on-column GC/FID, and F4G-sg is analyzed gravimetrically.

Notes:

1. F2 (C10-C16): Sum of all hydrocarbons that elute between nC10 and nC16.
2. F3 (C16-C34): Sum of all hydrocarbons that elute between nC16 and nC34.
3. F4 (C34-C50): Sum of all hydrocarbons that elute between nC34 and nC50.
4. F4G: Gravimetric Heavy Hydrocarbons
5. F4G-sg: Gravimetric Heavy Hydrocarbons (F4G) after silica gel treatment.
6. Where F4 (C34-C50) and F4G-sg results are reported for a sample, the larger of the reported values is used for comparison against the relevant CCME standard for F4.
7. The gravimetric heavy hydrocarbon results (F4G-sg), cannot be added to the C6 to C50 hydrocarbon results.
8. This method is validated for use.
9. Data from analysis of quality control samples is available upon request.
10. Reported results are expressed as milligrams per dry kilogram.

HG-200.2-CVAF-VA Soil Mercury in Soil by CVAFS EPA 200.2/1631E (mod)

Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CVAFS.

IC-CACO3-CALC-SK Soil Inorganic Carbon as CaCO₃ Equivalent Calculation

MET-200.2-CCMS-VA Soil Metals in Soil by CRC ICPMS EPA 200.2/6020A (mod)

Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CRC ICPMS.

Method Limitation: This method is not a total digestion technique. It is a very strong acid digestion that is intended to dissolve those metals that may be environmentally available. This method does not dissolve all silicate materials and may result in a partial extraction. depending on the sample matrix, for some metals, including, but not limited to Al, Ba, Be, Cr, Sr, Ti, Tl, and V.

MET-PASTE-ICP-VA Soil Metals in Soil (Paste) by ICPOES Carter-CSSS / EPA 6010B (modified)

Reference Information

A soil extract produced by the saturated paste extraction procedure is analyzed for Sodium, Calcium, and Magnesium by ICPOES as per "Soil Sampling and Methods of Analysis" by M. Carter.

MOISTURE-VA Soil Moisture content ASTM D2974-00 Method A

This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of six hours.

NO2-LEACH-IC-VA Soil Nitrite leach (1:10) by IC APHA 4110 IC

Leachable Anions in Sediment/Soil Method analysis is carried out using a leaching procedure which involves the gentle tumbling of the sample in a specified leaching solution (typically deionized water) for a specific length of time. The resulting extract is then analysed anions by ion chromatography with conductivity or UV detection. The method is applicable to the following anions: fluoride, chloride, phosphate, bromide, nitrate, sulphate.

NO3-LEACH-IC-VA Soil Nitrate leach (1:10) by IC APHA 4110 IC

Leachable Anions in Sediment/Soil Method analysis is carried out using a leaching procedure which involves the gentle tumbling of the sample in a specified leaching solution (typically deionized water) for a specific length of time. The resulting extract is then analysed anions by ion chromatography with conductivity or UV detection. The method is applicable to the following anions: fluoride, chloride, phosphate, bromide, nitrate, sulphate.

OGG-F4G-TUMB-SG-VA Soil CWS F4G with Silica Gel CCME PETROLEUM HYDROCARBONS-
GRAVIMETRIC

This analysis is carried out in accordance with the "Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil - Tier 1 Method, Canadian Council of Ministers of the Environment, December 2000." For gravimetric heavy hydrocarbons (F4G-sg), a subsample of the sediment/soil is extracted with 1:1 hexane:acetone using a rotary extractor. The extract undergoes a silica-gel clean-up to remove polar compounds prior to gravimetric analysis.

Notes:

1. F4G-sg: Gravimetric Heavy Hydrocarbons (F4G) after silica gel treatment.
3. Where F4 (C34-C50) and F4G-sg results are reported for a sample, the larger of the reported values is used for comparison against the relevant CCME standard for F4.
4. The gravimetric heavy hydrocarbon (F4G-sg) result cannot be added to the C6 to C50 hydrocarbons results.
5. This method is validated for use.
6. Data from analysis of quality control samples is available upon request.
7. Reported results are expressed as milligrams per dry kilogram.

PAH-TMB-H/A-MS-VA Soil PAH - Rotary Extraction (Hexane/Acetone) EPA 3570/8270

This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Methods 3570 & 8270, published by the United States Environmental Protection Agency (EPA). The procedure uses a mechanical shaking technique to extract a subsample of the sediment/soil with a 1:1 mixture of hexane and acetone. The extract is then solvent exchanged to toluene. The final extract is analysed by capillary column gas chromatography with mass spectrometric detection (GC/MS). Surrogate recoveries may not be reported in cases where interferences from the sample matrix prevent accurate quantitation. Because the two isomers cannot be readily chromatographically separated, benzo(j)fluoranthene is reported as part of the benzo(b)fluoranthene parameter.

PCB-CSR-SUM-CALC-VA Soil Total PCB (BC CSR) in soil BC Contaminated Sites Regulation

Calculation of Total PCB to meet BC Contaminated Sites Regulation. Total PCB (BC CSR) is the sum of the concentrations of PCB aroclors 1242, 1248, 1254 and 1260. Results below detection limit (DL) are treated as zero. The Total PCB detection limit is equal to the highest of the aroclor detection limits used in the sum.

PCB-SE-ECD-VA Soil PCB by Extraction with GCECD EPA8082, 3630

This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Methods 3500, 3620, 3630, 3660, 3665 & 8082, published by the United States Environmental Protection Agency (EPA). The procedure involves a solid-liquid extraction of a subsample of the sediment/soil using a mixture of hexane and acetone. Water is added to the extract and the resulting hexane extract undergoes one or more of the following clean-up procedures (if required): florisil clean-up, silica gel clean-up, sulphur clean-up and/or sulphuric acid clean-up. The final extract is analysed by capillary column gas chromatography with electron capture detection (GC/ECD).

PCB-SUM-CALC-VA Soil Total PCBs in soil CALCULATION

Calculation of Total PCB. Total PCB is the sum of the concentrations of PCB aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260, 1262, and 1268. Results below detection limit (DL) are treated as zero. The Total PCB detection limit is equal to the highest of the aroclor detection limits used in the sum.

PH-1:2-VA Soil pH in Soil (1:2 Soil:Water Extraction) BC WLAP METHOD: PH, ELECTROMETRIC, SOIL

This analysis is carried out in accordance with procedures described in the pH, Electrometric in Soil and Sediment method - Section B Physical/Inorganic and Misc. Constituents, BC Environmental Laboratory Manual 2007. The procedure involves mixing the dried (at <60 C) and sieved (No. 10 / 2mm) sample with deionized/distilled water at a 1:2 ratio of sediment to water. The pH of the solution is then measured using a standard pH probe.

PHEN-TMB-MS-VA Soil Phenolics by Tumbler/GC-MS EPA 3570, 8270D, Knapp(1979)

A subsample of the soil/sediment is rotary extracted by solvent, derivitized, and analysed by GC/MS.

PSA-MUST-SK Soil % Particles > 75um (Coarse/Fine) ASTM D422-63-SIEVE

An air-dried sample is reduced to < 2 mm size and mixed with a dispersing agent (Calgon solution). The sample is washed through a 200 mesh (75 m) sieve. The retained mass of sample is used to determine % sand fraction.

Reference Information

Reference: ASTM D422-63

SAT-PCNT-VA Soil Saturation Percentage Carter-CSSS

Saturation Percentage (SP) is the total volume of water present in a saturated paste (in mL) divided by the dry weight of the sample (in grams), expressed as a percentage, as described in "Soil Sampling and Methods of Analysis" by M. Carter.

SO4-LEACH-IC-VA Soil Sulfate leach (1:10) by IC EPA 300.1 (mod)

Leachable Anions in Sediment/Soil Method analysis is carried out using a leaching procedure which involves the gentle tumbling of the sample in a specified leaching solution (typically deionized water) for a specific length of time. The resulting extract is then analysed anions by ion chromatography with conductivity or UV detection. The method is applicable to the following anions: fluoride, chloride, phosphate, bromide, nitrate, sulfate.

** ALS test methods may incorporate modifications from specified 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
SK	ALS ENVIRONMENTAL - SASKATOON, SASKATCHEWAN, CANADA
BU	ALS ENVIRONMENTAL - BURLINGTON, ONTARIO, CANADA
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

02047

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

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 of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

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.

Quality Control Report

Workorder: L1863048

Report Date: 03-JAN-17

Page 1 of 13

Client: GOLDER ASSOCIATES LTD.
 200-2920 Virtual Way
 Vancouver BC V5M 0C4

Contact: Jim Laidlaw

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BR-LEACH-IC-VA								
	Soil							
Batch	R3615526							
WG2449022-2	DUP	L1863048-4						
Bromide (Br)		2.21	2.38		mg/kg	7.3	30	09-DEC-16
WG2449022-4	LCS		103.6		%		70-130	09-DEC-16
Bromide (Br)								
WG2449022-1	MB		<0.50		mg/kg		0.5	09-DEC-16
Bromide (Br)								
CL-LEACH-IC-VA								
	Soil							
Batch	R3615526							
WG2449022-2	DUP	L1863048-4						
Chloride (Cl)		686	703		mg/kg	2.3	30	09-DEC-16
WG2449022-4	LCS		102.2		%		70-130	09-DEC-16
Chloride (Cl)								
WG2449022-1	MB		<5.0		mg/kg		5	09-DEC-16
Chloride (Cl)								
CL-PASTE-IC-VA								
	Soil							
Batch	R3616173							
WG2448560-2	LCS		97.1		%		70-130	12-DEC-16
Chloride (Cl)								
WG2448560-1	MB		<2.0		mg/L		2	12-DEC-16
Chloride (Cl)								
CLPHEN-TMB-MS-VA								
	Soil							
Batch	R3608069							
WG2447443-3	CRM	CRM 143						
2,4,5-Trichlorophenol			122.4		%		60-130	12-DEC-16
2,4,6-Trichlorophenol			127.4		%		60-130	12-DEC-16
Pentachlorophenol			119.8		%		60-130	12-DEC-16
WG2447443-2	LCS		110.2		%		60-130	12-DEC-16
2,3,4,5-Tetrachlorophenol								
2,3,4,6-Tetrachlorophenol			118.2		%		60-130	12-DEC-16
2,3,4-Trichlorophenol			112.3		%		60-130	12-DEC-16
2,3,5,6-Tetrachlorophenol			113.6		%		60-130	12-DEC-16
2,3,5-Trichlorophenol			118.2		%		60-130	12-DEC-16
2,3,6-Trichlorophenol			118.7		%		60-130	12-DEC-16
2,4,5-Trichlorophenol			120.3		%		60-130	12-DEC-16
2,4,6-Trichlorophenol			109.1		%		60-130	12-DEC-16
3,4,5-Trichlorophenol			117.9		%		60-130	12-DEC-16
Pentachlorophenol			107.1		%		60-130	12-DEC-16



Quality Control Report

Workorder: L1863048

Report Date: 03-JAN-17

Page 2 of 13

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CLPHEN-TMB-MS-VA		Soil						
Batch	R3608069							
WG2447443-1	MB							
2,3,4,5-Tetrachlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,3,4,6-Tetrachlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,3,4-Trichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,3,5,6-Tetrachlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,3,5-Trichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,3,6-Trichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,4,5-Trichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,4,6-Trichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
3,4,5-Trichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
Pentachlorophenol			<0.020		mg/kg		0.02	12-DEC-16
DX-1613B-HRMS-BU		Soil						
Batch	R3626951							
WG2450443-2	LCS							
2,3,7,8-TCDD			107.0		%		67-158	31-DEC-16
1,2,3,7,8-PeCDD			105.0		%		70-142	31-DEC-16
1,2,3,4,7,8-HxCDD			93.0		%		70-164	31-DEC-16
1,2,3,6,7,8-HxCDD			95.0		%		76-134	31-DEC-16
1,2,3,7,8,9-HxCDD			135.0		%		64-162	31-DEC-16
1,2,3,4,6,7,8-HpCDD			95.0		%		70-140	31-DEC-16
OCDD			94.0		%		78-144	31-DEC-16
2,3,7,8-TCDF			93.0		%		75-158	31-DEC-16
1,2,3,7,8-PeCDF			95.0		%		80-134	31-DEC-16
2,3,4,7,8-PeCDF			90.0		%		68-160	31-DEC-16
1,2,3,4,7,8-HxCDF			104.0		%		72-134	31-DEC-16
1,2,3,6,7,8-HxCDF			97.0		%		84-130	31-DEC-16
2,3,4,6,7,8-HxCDF			97.0		%		78-130	31-DEC-16
1,2,3,7,8,9-HxCDF			102.0		%		70-156	31-DEC-16
1,2,3,4,6,7,8-HpCDF			102.0		%		82-122	31-DEC-16
1,2,3,4,7,8,9-HpCDF			96.0		%		78-138	31-DEC-16
OCDF			89.0		%		63-170	31-DEC-16
WG2450443-1	MB							
2,3,7,8-TCDD			<0.15	[U]	pg/g		0.15	31-DEC-16
1,2,3,7,8-PeCDD			<0.074	[U]	pg/g		0.074	31-DEC-16
1,2,3,4,7,8-HxCDD			<0.10	[U]	pg/g		0.1	31-DEC-16

Quality Control Report

Workorder: L1863048

Report Date: 03-JAN-17

Page 3 of 13

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU	Soil							
Batch	R3626951							
WG2450443-1 MB								
1,2,3,6,7,8-HxCDD			<0.075	[U]	pg/g		0.075	31-DEC-16
1,2,3,7,8,9-HxCDD			<0.087	[U]	pg/g		0.087	31-DEC-16
1,2,3,4,6,7,8-HpCDD			<0.12	[U]	pg/g		0.12	31-DEC-16
OCDD			<0.12	M,U	pg/g		0.12	31-DEC-16
2,3,7,8-TCDF			<0.17	[U]	pg/g		0.17	31-DEC-16
1,2,3,7,8-PeCDF			<0.093	[U]	pg/g		0.093	31-DEC-16
2,3,4,7,8-PeCDF			<0.069	[U]	pg/g		0.069	31-DEC-16
1,2,3,4,7,8-HxCDF			<0.067	[U]	pg/g		0.067	31-DEC-16
1,2,3,6,7,8-HxCDF			<0.053	[U]	pg/g		0.053	31-DEC-16
2,3,4,6,7,8-HxCDF			<0.057	[U]	pg/g		0.057	31-DEC-16
1,2,3,7,8,9-HxCDF			<0.094	[U]	pg/g		0.094	31-DEC-16
1,2,3,4,6,7,8-HpCDF			<0.051	M,U	pg/g		0.051	31-DEC-16
1,2,3,4,7,8,9-HpCDF			<0.078	[U]	pg/g		0.078	31-DEC-16
OCDF			<0.11	[U]	pg/g		0.11	31-DEC-16
Total-TCDD			<0.15	[U]	pg/g		0.15	31-DEC-16
Total-PeCDD			<0.074	[U]	pg/g		0.074	31-DEC-16
Total-HxCDD			<0.10	[U]	pg/g		0.1	31-DEC-16
Total-HpCDD			<0.12	[U]	pg/g		0.12	31-DEC-16
Total-TCDF			<0.17	[U]	pg/g		0.17	31-DEC-16
Total-PeCDF			<0.093	[U]	pg/g		0.093	31-DEC-16
Total-HxCDF			<0.094	[U]	pg/g		0.094	31-DEC-16
Total-HpCDF			<0.078	[U]	pg/g		0.078	31-DEC-16
Surrogate: 13C12-2,3,7,8-TCDD			42.0		%		25-164	31-DEC-16
Surrogate: 13C12-1,2,3,7,8-PeCDD			52.0		%		25-181	31-DEC-16
Surrogate: 13C12-1,2,3,4,7,8-HxCDD			41.0		%		32-141	31-DEC-16
Surrogate: 13C12-1,2,3,6,7,8-HxCDD			67.0		%		28-130	31-DEC-16
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD			60.0		%		23-140	31-DEC-16
Surrogate: 13C12-OCDD			59.0		%		17-157	31-DEC-16
Surrogate: 13C12-2,3,7,8-TCDF			39.0		%		24-169	31-DEC-16
Surrogate: 13C12-1,2,3,7,8-PeCDF			49.0		%		24-185	31-DEC-16
Surrogate: 13C12-2,3,4,7,8-PeCDF			53.0		%		21-178	31-DEC-16
Surrogate: 13C12-1,2,3,4,7,8-HxCDF			35.0		%		26-152	31-DEC-16
Surrogate: 13C12-1,2,3,6,7,8-HxCDF			73.0		%		26-123	31-DEC-16
Surrogate: 13C12-2,3,4,6,7,8-HxCDF			60.0		%		29-147	31-DEC-16



Quality Control Report

Workorder: L1863048

Report Date: 03-JAN-17

Page 4 of 13

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU Soil								
Batch R3626951								
WG2450443-1 MB								
Surrogate: 13C12-1,2,3,7,8,9-HxCDF			50.0		%		28-136	31-DEC-16
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF			57.0		%		28-143	31-DEC-16
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF			51.0		%		26-138	31-DEC-16
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)			40.0		%		35-197	31-DEC-16
F-1:5-DI-SIE-VA Soil								
Batch R3615433								
WG2448564-6 MB								
Fluoride (F)			<0.20		mg/kg		0.2	12-DEC-16
F2F4-TUMB-H/A-FID-VA Soil								
Batch R3614131								
WG2447196-3 IRM		ALS PHC2 RM						
F2 (C10-C16)			85.6		%		70-130	10-DEC-16
F3 (C16-C34)			93.8		%		70-130	10-DEC-16
F4 (C34-C50)			102.6		%		70-130	10-DEC-16
WG2447196-2 LCS								
F2 (C10-C16)			99.8		%		70-130	10-DEC-16
F3 (C16-C34)			93.6		%		70-130	10-DEC-16
F4 (C34-C50)			93.3		%		70-130	10-DEC-16
WG2447196-1 MB								
F2 (C10-C16)			<30		mg/kg		30	10-DEC-16
F3 (C16-C34)			<50		mg/kg		50	10-DEC-16
F4 (C34-C50)			<50		mg/kg		50	10-DEC-16
HG-200.2-CVAF-VA Soil								
Batch R3614892								
WG2447892-4 CRM		VA-NRC-STSD-3						
Mercury (Hg)			95.9		%		70-130	11-DEC-16
WG2447892-3 LCS								
Mercury (Hg)			106.0		%		70-130	11-DEC-16
WG2447892-1 MB								
Mercury (Hg)			<0.0050		mg/kg		0.005	11-DEC-16
MET-200.2-CCMS-VA Soil								
Batch R3614675								
WG2447892-4 CRM		VA-NRC-STSD-3						
Antimony (Sb)			112.8		%		70-130	09-DEC-16



Quality Control Report

Workorder: L1863048

Report Date: 03-JAN-17

Page 5 of 13

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA								
	Soil							
Batch	R3614675							
WG2447892-4	CRM	VA-NRC-STSD-3						
Arsenic (As)			92.6		%		70-130	09-DEC-16
Barium (Ba)			101.7		%		70-130	09-DEC-16
Beryllium (Be)			107.7		%		70-130	09-DEC-16
Cadmium (Cd)			115.2		%		70-130	09-DEC-16
Chromium (Cr)			102.6		%		70-130	09-DEC-16
Cobalt (Co)			101.4		%		70-130	09-DEC-16
Copper (Cu)			95.2		%		70-130	09-DEC-16
Lead (Pb)			106.4		%		70-130	09-DEC-16
Molybdenum (Mo)			104.0		%		70-130	09-DEC-16
Nickel (Ni)			94.7		%		70-130	09-DEC-16
Selenium (Se)			101.8		%		70-130	09-DEC-16
Silver (Ag)			105.3		%		70-130	09-DEC-16
Thallium (Tl)			112.0		%		70-130	09-DEC-16
Uranium (U)			107.5		%		70-130	09-DEC-16
Vanadium (V)			106.2		%		70-130	09-DEC-16
Zinc (Zn)			97.0		%		70-130	09-DEC-16
WG2447892-3	LCS							
Antimony (Sb)			107.0		%		80-120	09-DEC-16
Arsenic (As)			103.7		%		80-120	09-DEC-16
Barium (Ba)			107.3		%		80-120	09-DEC-16
Beryllium (Be)			103.4		%		80-120	09-DEC-16
Cadmium (Cd)			102.9		%		80-120	09-DEC-16
Chromium (Cr)			100.3		%		80-120	09-DEC-16
Cobalt (Co)			101.7		%		80-120	09-DEC-16
Copper (Cu)			98.2		%		80-120	09-DEC-16
Lead (Pb)			103.0		%		80-120	09-DEC-16
Molybdenum (Mo)			102.8		%		80-120	09-DEC-16
Nickel (Ni)			99.0		%		80-120	09-DEC-16
Selenium (Se)			100.9		%		80-120	09-DEC-16
Silver (Ag)			103.6		%		80-120	09-DEC-16
Thallium (Tl)			101.2		%		80-120	09-DEC-16
Tin (Sn)			101.4		%		80-120	09-DEC-16
Uranium (U)			105.6		%		80-120	09-DEC-16
Vanadium (V)			102.3		%		80-120	09-DEC-16



Quality Control Report

Workorder: L1863048

Report Date: 03-JAN-17

Page 6 of 13

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA		Soil						
Batch	R3614675							
WG2447892-3	LCS							
Zinc (Zn)			95.5		%		80-120	09-DEC-16
WG2447892-1	MB							
Antimony (Sb)			<0.10		mg/kg		0.1	09-DEC-16
Arsenic (As)			<0.10		mg/kg		0.1	09-DEC-16
Barium (Ba)			<0.50		mg/kg		0.5	09-DEC-16
Beryllium (Be)			<0.10		mg/kg		0.1	09-DEC-16
Cadmium (Cd)			<0.020		mg/kg		0.02	09-DEC-16
Chromium (Cr)			<0.50		mg/kg		0.5	09-DEC-16
Cobalt (Co)			<0.10		mg/kg		0.1	09-DEC-16
Copper (Cu)			<0.50		mg/kg		0.5	09-DEC-16
Lead (Pb)			<0.50		mg/kg		0.5	09-DEC-16
Molybdenum (Mo)			<0.10		mg/kg		0.1	09-DEC-16
Nickel (Ni)			<0.50		mg/kg		0.5	09-DEC-16
Selenium (Se)			<0.20		mg/kg		0.2	09-DEC-16
Silver (Ag)			<0.10		mg/kg		0.1	09-DEC-16
Thallium (Tl)			<0.050		mg/kg		0.05	09-DEC-16
Tin (Sn)			<2.0		mg/kg		2	09-DEC-16
Uranium (U)			<0.050		mg/kg		0.05	09-DEC-16
Vanadium (V)			<0.20		mg/kg		0.2	09-DEC-16
Zinc (Zn)			<2.0		mg/kg		2	09-DEC-16
MET-PASTE-ICP-VA		Soil						
Batch	R3615623							
WG2448560-2	LCS							
Sodium (Na)			100.8		%		80-120	12-DEC-16
WG2448560-1	MB							
Sodium (Na)			<0.50		mg/kg		0.5	12-DEC-16
MOISTURE-VA		Soil						
Batch	R3613017							
WG2447893-2	LCS							
Moisture			100.3		%		90-110	07-DEC-16
WG2447893-1	MB							
Moisture			<0.25		%		0.25	07-DEC-16



Quality Control Report

Workorder: L1863048

Report Date: 03-JAN-17

Page 7 of 13

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-VA								
	Soil							
Batch	R3613853							
WG2448743-2	LCS							
Moisture			99.6		%		90-110	08-DEC-16
WG2448743-6	LCS							
Moisture			99.7		%		90-110	08-DEC-16
WG2448743-1	MB							
Moisture			<0.25		%		0.25	08-DEC-16
WG2448743-5	MB							
Moisture			<0.25		%		0.25	08-DEC-16
NO2-LEACH-IC-VA								
	Soil							
Batch	R3615526							
WG2449022-2	DUP	L1863048-4						
Nitrite (as N)		0.013	<0.010	RPD-NA	mg/kg	N/A	30	09-DEC-16
WG2449022-4	LCS							
Nitrite (as N)			99.2		%		70-130	09-DEC-16
WG2449022-1	MB							
Nitrite (as N)			<0.010		mg/kg		0.01	09-DEC-16
NO3-LEACH-IC-VA								
	Soil							
Batch	R3615526							
WG2449022-2	DUP	L1863048-4						
Nitrate (as N)		<0.050	<0.050	RPD-NA	mg/kg	N/A	30	09-DEC-16
WG2449022-4	LCS							
Nitrate (as N)			101.9		%		70-130	09-DEC-16
WG2449022-1	MB							
Nitrate (as N)			<0.050		mg/kg		0.05	09-DEC-16
OGG-F4G-TUMB-SG-VA								
	Soil							
Batch	R3616459							
WG2451134-2	IRM	ALS PHC2 RM						
F4G-SG			112.6		%		70-130	08-DEC-16
WG2451134-1	MB							
F4G-SG			<500		mg/kg		500	08-DEC-16
PAH-TMB-H/A-MS-VA								
	Soil							
Batch	R3613233							
WG2447894-2	LCS							
Acenaphthene			106.7		%		60-130	08-DEC-16
Acenaphthylene			103.2		%		60-130	08-DEC-16
Anthracene			94.8		%		60-130	08-DEC-16
Benz(a)anthracene			88.5		%		60-130	08-DEC-16



Quality Control Report

Workorder: L1863048

Report Date: 03-JAN-17

Page 8 of 13

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-TMB-H/A-MS-VA		Soil						
Batch	R3613233							
WG2447894-2	LCS							
Benzo(a)pyrene			100.4		%		60-130	08-DEC-16
Benzo(b)fluoranthene			100.2		%		60-130	08-DEC-16
Benzo(g,h,i)perylene			81.5		%		60-130	08-DEC-16
Benzo(k)fluoranthene			117.3		%		60-130	08-DEC-16
Chrysene			100.0		%		60-130	08-DEC-16
Dibenz(a,h)anthracene			91.1		%		60-130	08-DEC-16
Fluoranthene			102.8		%		60-130	08-DEC-16
Fluorene			100.1		%		60-130	08-DEC-16
Indeno(1,2,3-c,d)pyrene			86.6		%		60-130	08-DEC-16
2-Methylnaphthalene			90.4		%		60-130	08-DEC-16
Naphthalene			108.8		%		50-130	08-DEC-16
Phenanthrene			104.1		%		60-130	08-DEC-16
Pyrene			104.2		%		60-130	08-DEC-16
WG2447894-1	MB							
Acenaphthene			<0.0050		mg/kg		0.005	08-DEC-16
Acenaphthylene			<0.0050		mg/kg		0.005	08-DEC-16
Anthracene			<0.0040		mg/kg		0.004	08-DEC-16
Benz(a)anthracene			<0.010		mg/kg		0.01	08-DEC-16
Benzo(a)pyrene			<0.010		mg/kg		0.01	08-DEC-16
Benzo(b)fluoranthene			<0.010		mg/kg		0.01	08-DEC-16
Benzo(g,h,i)perylene			<0.010		mg/kg		0.01	08-DEC-16
Benzo(k)fluoranthene			<0.010		mg/kg		0.01	08-DEC-16
Chrysene			<0.010		mg/kg		0.01	08-DEC-16
Dibenz(a,h)anthracene			<0.0050		mg/kg		0.005	08-DEC-16
Fluoranthene			<0.010		mg/kg		0.01	08-DEC-16
Fluorene			<0.010		mg/kg		0.01	08-DEC-16
Indeno(1,2,3-c,d)pyrene			<0.010		mg/kg		0.01	08-DEC-16
2-Methylnaphthalene			<0.010		mg/kg		0.01	08-DEC-16
Naphthalene			<0.010		mg/kg		0.01	08-DEC-16
Phenanthrene			<0.010		mg/kg		0.01	08-DEC-16
Pyrene			<0.010		mg/kg		0.01	08-DEC-16
Surrogate: Naphthalene d8			88.8		%		50-130	08-DEC-16
Surrogate: Acenaphthene d10			94.2		%		60-130	08-DEC-16
Surrogate: Phenanthrene d10			87.5		%		60-130	08-DEC-16



Quality Control Report

Workorder: L1863048

Report Date: 03-JAN-17

Page 9 of 13

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-TMB-H/A-MS-VA Soil								
Batch	R3613233							
WG2447894-1	MB							
Surrogate: Chrysene d12			84.1		%		60-130	08-DEC-16
PCB-SE-ECD-VA Soil								
Batch	R3606985							
WG2447906-2	CRM	VA-CRM911-050						
PCB-1254			94.6		%		65-130	13-DEC-16
WG2447906-1	MB							
PCB-1016			<0.020		mg/kg		0.02	13-DEC-16
PCB-1221			<0.020		mg/kg		0.02	13-DEC-16
PCB-1232			<0.020		mg/kg		0.02	13-DEC-16
PCB-1242			<0.020		mg/kg		0.02	13-DEC-16
PCB-1248			<0.020		mg/kg		0.02	13-DEC-16
PCB-1254			<0.020		mg/kg		0.02	13-DEC-16
PCB-1260			<0.020		mg/kg		0.02	13-DEC-16
PCB-1262			<0.020		mg/kg		0.02	13-DEC-16
PCB-1268			<0.020		mg/kg		0.02	13-DEC-16
PHEN-TMB-MS-VA Soil								
Batch	R3608069							
WG2447443-3	CRM	CRM 143						
4-Chloro-3-methylphenol			125.5		%		60-130	12-DEC-16
2-Chlorophenol			127.8		%		60-130	12-DEC-16
2,4 & 2,5-Dichlorophenol			133.6	RM-ND	%		60-130	12-DEC-16
p-Cresol			108.5		%		60-130	12-DEC-16
Phenol			108.1		%		60-130	12-DEC-16
WG2447443-2	LCS							
4-Chloro-3-methylphenol			109.5		%		60-130	12-DEC-16
2-Chlorophenol			106.7		%		60-130	12-DEC-16
3-Chlorophenol			106.0		%		60-130	12-DEC-16
4-Chlorophenol			108.7		%		60-130	12-DEC-16
2,3-Dichlorophenol			102.2		%		60-130	12-DEC-16
2,4 & 2,5-Dichlorophenol			104.7		%		60-130	12-DEC-16
2,6-Dichlorophenol			105.0		%		60-130	12-DEC-16
3,4-Dichlorophenol			112.0		%		60-130	12-DEC-16
3,5-Dichlorophenol			111.8		%		60-130	12-DEC-16
2,4-Dimethylphenol			104.7		%		30-130	12-DEC-16

Quality Control Report

Workorder: L1863048

Report Date: 03-JAN-17

Page 10 of 13

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PHEN-TMB-MS-VA								
Soil								
Batch	R3608069							
WG2447443-2	LCS							
o-Cresol			96.0		%		50-130	12-DEC-16
m-Cresol			103.4		%		50-130	12-DEC-16
p-Cresol			97.3		%		50-130	12-DEC-16
Phenol			108.1		%		50-130	12-DEC-16
WG2447443-1	MB							
4-Chloro-3-methylphenol			<0.020		mg/kg		0.02	12-DEC-16
2-Chlorophenol			<0.020		mg/kg		0.02	12-DEC-16
3-Chlorophenol			<0.020		mg/kg		0.02	12-DEC-16
4-Chlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,3-Dichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,4 & 2,5-Dichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,6-Dichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
3,4-Dichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
3,5-Dichlorophenol			<0.020		mg/kg		0.02	12-DEC-16
2,4-Dimethylphenol			<0.020		mg/kg		0.02	12-DEC-16
o-Cresol			<0.020		mg/kg		0.02	12-DEC-16
m-Cresol			<0.020		mg/kg		0.02	12-DEC-16
p-Cresol			<0.020		mg/kg		0.02	12-DEC-16
Phenol			<0.020		mg/kg		0.02	12-DEC-16
PSA-MUST-SK								
Soil								
Batch	R3614017							
WG2447746-2	IRM	10-105 SOIL						
MUST PSA % > 75um			25.1		%		21-31	09-DEC-16
SAT-PCNT-VA								
Soil								
Batch	R3615525							
WG2448560-3	IRM	VA-ALP-SRS1507						
% Saturation			102.5		%		80-120	12-DEC-16
WG2448560-1	MB							
% Saturation			50.0		%		50	12-DEC-16
SO4-LEACH-IC-VA								
Soil								
Batch	R3615526							
WG2449022-2	DUP	L1863048-4						
Sulfate (SO4)		60	62		mg/kg	3.3	20	09-DEC-16
WG2449022-4	LCS							



Quality Control Report

Workorder: L1863048

Report Date: 03-JAN-17

Page 11 of 13

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SO4-LEACH-IC-VA	Soil							
Batch	R3615526							
WG2449022-4	LCS							
Sulfate (SO4)			103.3		%		70-130	09-DEC-16
WG2449022-1	MB							
Sulfate (SO4)			<10		mg/kg		10	09-DEC-16

Quality Control Report

Workorder: L1863048

Report Date: 03-JAN-17

Page 12 of 13

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
M,U	A peak has been manually integrated, and the analyte was not detected above the EDL.
RM-ND	Reference Material recovery was slightly outside ALS DQO. Reported non-detect results for associated samples were unaffected.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.
[U]	The analyte was not detected above the EDL.

Quality Control Report

Workorder: L1863048

Report Date: 03-JAN-17

Page 13 of 13

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Leachable Anions & Nutrients							
Nitrate leach (1:10) by IC	4	26-NOV-16 10:55	09-DEC-16 14:33	3	13	days	EHT
Nitrite leach (1:10) by IC	4	26-NOV-16 10:55	09-DEC-16 14:33	3	13	days	EHT

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 L1863048 were received on 26-NOV-16 13:55.

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.

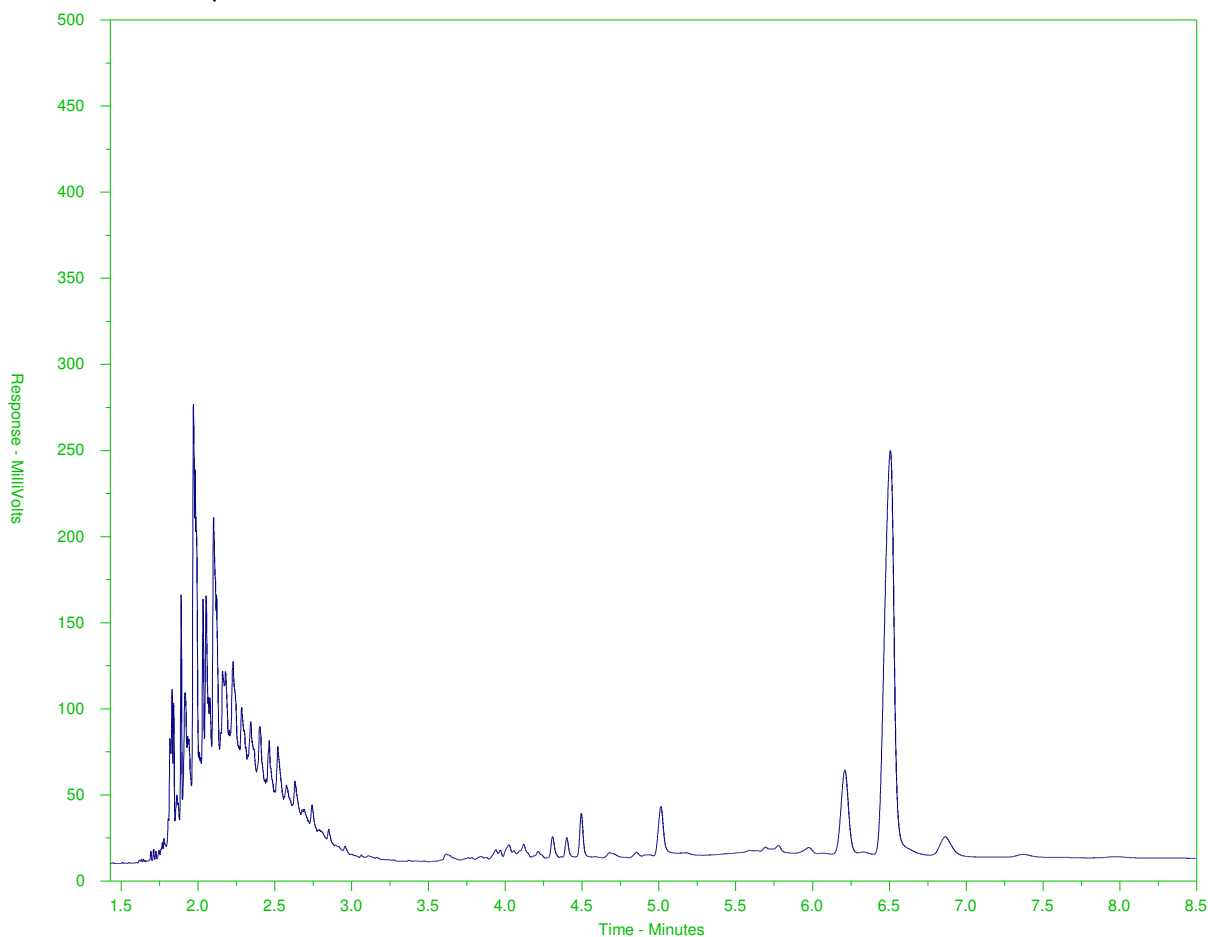
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide 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.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L1863048-C-1
 Client Sample ID: 02047-01



F2		F3		F4	
nC10	nC16			nC34	nC50
174°C	287°C			481°C	575°C
346°F	549°F			898°F	1067°F
← Gasoline →			← Motor Oils/ Lube Oils/ Grease →		
← 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.

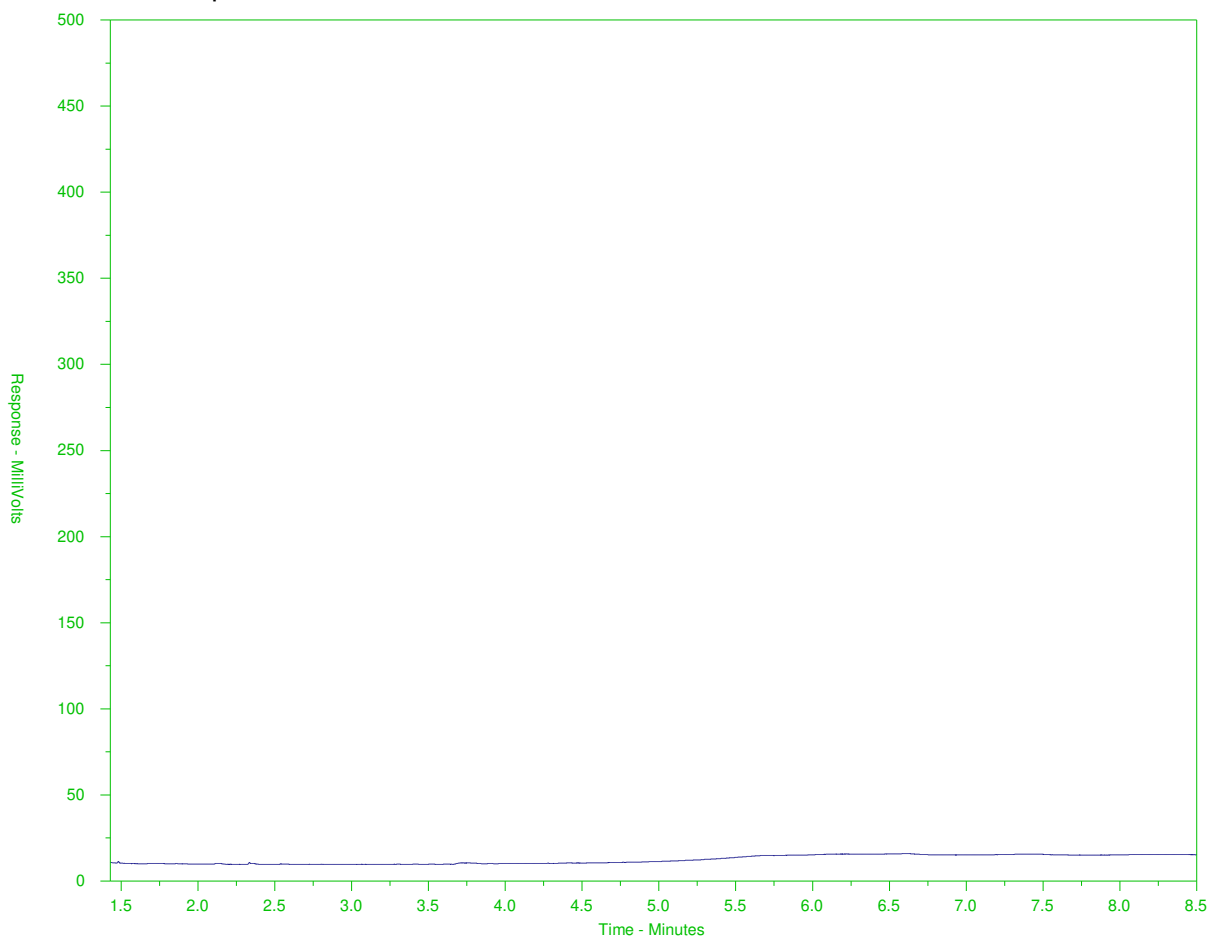
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the scale at left.

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.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L1863048-C-4
 Client Sample ID: 02047-04



← F2 →		← F3 →		← F4 →	
nC10	nC16			nC34	nC50
174°C	287°C			481°C	575°C
346°F	549°F			898°F	1067°F
← Gasoline →			← Motor Oils/ Lube Oils/ Grease →		
← 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.

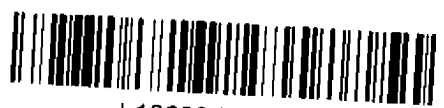
L186304-8 - due 12/12

Borehole	Sample Control Number	Date Submitted	Code	Requested Analyses													
				metals	CCME F2-F4	EPH	PAH	LEPH+HEPH	NC Phenols	Chlorophenols	Anions	Salinity	PCB	Grain Size	TOC	Dioxins+Furans	
SH16-05	03020-01	23-Nov-16	f	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	03020-02	23-Nov-16	f	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	03020-05	23-Nov-16	n	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	03020-06	23-Nov-16	n										X	X			X
	03020-10	23-Nov-16	n										X	X	X		X
	03020-11	23-Nov-16	n	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	03020-12	23-Nov-16	n	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	02042-02	23-Nov-16	n	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	02042-03	23-Nov-16	n											X	X		X
	02042-06	23-Nov-16	n	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	02042-07	23-Nov-16	n											X	X		X
	02042-10	23-Nov-16	n											X	X		X
02042-11	23-Nov-16	n	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
02043-03	23-Nov-16	t	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
02043-04	23-Nov-16	t	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
SH16-06	02047-01	26-Nov-16	t	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	02047-02	26-Nov-16	t	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	02047-03	26-Nov-16	t	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	02047-04	26-Nov-16	t	X	X	X	X	X	X	X	X	X	X	X	X	X	X
SH16-07	02044-01	24-Nov-16	f	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	02044-02	24-Nov-16	f	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	02044-05	24-Nov-16	n	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	02044-06	24-Nov-16	n	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	02044-07	24-Nov-16	n											X	X		X
	02044-10	24-Nov-16	n	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	02044-11	24-Nov-16	n											X	X		X
	02045-02	24-Nov-16	n	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	02045-03	24-Nov-16	n											X	X		X
	02045-06	24-Nov-16	n	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	02045-07	24-Nov-16	n											X	X		X
	02045-10	24-Nov-16	n	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	02045-11	24-Nov-16	n											X	X		X
	02046-02	24-Nov-16	t	X	X	X	X	X	X	X	X	X	X	X	X	X	X
02046-03	24-Nov-16	t	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

COFC

f	4	0	0	0	4	2	2	2	2	2	0	0	0	0
n	12	12	4	12	0	7	9	9	9	9	9	4	12	8
t	6	6	0	6	0	6	6	4	6	6	6	3	6	3

Notes:
 metals to CCME park land use limits
 chlorinated phenols = long list
 anions = leachable
 particle size = ccme
 LEPH/HEPH = report both EPH and PAH
 Salinity = PEJ-47
 ANIONS-LEACH-10-VA + F1:5-DI-SIE-VA
 PSA-MUST
 CCME



L1863048-COFC



200 - 2920 Virtual Way
 Vancouver, British Columbia, Canada V5M 0C4
 Telephone (604) 296-4200 Fax (604) 298-5253

CHAIN OF CUSTODY RECORD/ANALYSIS REQUEST

No. 02047 page 1 of 1

Project Number: IS25010 / 3300 / 3300-3		Laboratory Name: ALS	
Short Title: ANNACIS ISLAND WWTP		Golder Contact: JIM LAIDLAW	
Golder E-mail Address 1: j.laidlaw@golder.com		Golder E-mail Address 2: agarrudo@golder.com	
		Address: 8081 Lougheed Highway	Telephone/Fax: Contact: AMBER SPRINGS

Office Name: VANCOUVER		EQUIS Facility Code: EQUIS upload: <input type="checkbox"/>		Analyses Required											
Turnaround Time: <input type="checkbox"/> 24 hr <input type="checkbox"/> 48 hr <input type="checkbox"/> 72 hr <input type="checkbox"/> Regular (5 Days)												Number of Containers	Remarks (over)		
Criteria: <input checked="" type="checkbox"/> CSR <input type="checkbox"/> CCME <input type="checkbox"/> BC Water Quality <input type="checkbox"/> Other															
Note: Final Reports to be issued by e-mail						Quote No.:									
Sample Control Number (SCN)	Sample Location	Sa. #	Sample Depth (m)	Sample Matrix (over)	Date Sampled (D/M/Y)	Time Sampled (HH:MM)	Sample Type (over)	QAQC Code (over)	Related SCN (over)	RUSH (Select TAT above)					
02047-01	SH16-05	100-b1	100-b1	SOP	26/11/16	10:40	Direct			3	X				
-02			104-105			10:45					X				
-03			107-108			10:50					X				
-04			111-112			10:55					X				
-05															
-06															
-07															
-08															
-09															
-10															
-11															
-12															



Sampler's Signature: ALVARO GARCIA		Relinquished by: Signature		Company GOLDER		Date 26-NOV-2016		Time		Received by: Signature		Company	
Comments:				Method of Shipment:		Waybill No.:		Received for Lab by: Laidlaw		Date Nov. 26		Time 1:55 PM	
				Shipped by:		Shipment Condition: Seal Intact:		Temp (°C) 11.2		Cooler opened by:		Date	

WHITE: Golder Copy YELLOW: Lab Copy



GOLDER ASSOCIATES LTD.
ATTN: Jm Laidlaw
200- 2920 Virtual Way
Vancouver BC V5M 0C4

Date Received: 27- DEC- 16
Report Date: 24- JAN- 17 13:27 (MT)
Version: FINAL

Client Phone: 604- 298- 6623

Certificate of Analysis

Lab Work Order #: L1873891

Project P.O. #: NOT SUBMITTED
Job Reference: 1525010/3300/3300.3
C of C Numbers: 02048
Legal Site Desc:

Amber Springer, B.Sc
Account Manager

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

ADDRESS: 8081 Lougheed Hwy, Suite 100, Burnaby, BC V5A 1W9 Canada | Phone: +1 604 253 4188 | Fax: +1 604 253 6700
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1873891-1 SOIL 27-DEC-16 02048-01	L1873891-2 SOIL 27-DEC-16 02048-02	L1873891-7 SOIL 27-DEC-16 02048-07	L1873891-8 SOIL 27-DEC-16 02048-08	L1873891-9 SOIL 27-DEC-16 02048-09	
Grouping	Analyte					
SOIL						
Physical Tests	Moisture (%)	22.1	17.9	20.5	19.1	21.0
	pH (1:2 soil:water) (pH)	8.59	8.41	8.46	8.28	
Leachable Anions & Nutrients	Bromide (Br) (mg/kg)	2.00			2.75	2.48
	Chloride (Cl) (mg/kg)	571			782	737
	Fluoride (F) (mg/kg)	<0.20			0.47	<0.20
	Nitrate (as N) (mg/kg)	<0.050			<0.050	<0.050
	Nitrite (as N) (mg/kg)	<0.010			0.029	<0.010
	Sulfate (SO4) (mg/kg)	146			215	121
Organic / Inorganic Carbon	Total Organic Carbon (%)	0.161		0.135		
Saturated Paste Extractables	Chloride (Cl) (mg/kg)		724		816	812
	% Saturation (%)		29.5		26.9	28.0
	Sodium (Na) (mg/kg)		424		424	400
Metals	Antimony (Sb) (mg/kg)	0.22		0.22		
	Arsenic (As) (mg/kg)	2.58		2.83		
	Barium (Ba) (mg/kg)	52.9		53.1		
	Beryllium (Be) (mg/kg)	0.20		0.19		
	Cadmium (Cd) (mg/kg)	0.073		0.240		
	Chromium (Cr) (mg/kg)	29.0		23.2		
	Cobalt (Co) (mg/kg)	7.62		7.58		
	Copper (Cu) (mg/kg)	15.1		15.3		
	Lead (Pb) (mg/kg)	2.46		2.18		
	Mercury (Hg) (mg/kg)	0.0218		0.0189		
	Molybdenum (Mo) (mg/kg)	0.38		0.37		
	Nickel (Ni) (mg/kg)	33.9		33.1		
	Selenium (Se) (mg/kg)	<0.20		<0.20		
	Silver (Ag) (mg/kg)	<0.10		<0.10		
	Thallium (Tl) (mg/kg)	<0.050		<0.050		
	Tin (Sn) (mg/kg)	<2.0		<2.0		
	Uranium (U) (mg/kg)	0.281		0.354		
	Vanadium (V) (mg/kg)	43.0		41.7		
	Zinc (Zn) (mg/kg)	40.9		37.4		
Organometallics	Dibutyltin (ug/kg)	<1				
	Diocetyltn (ug/kg)	<1				
	Diphenyltin (ug/kg)	<1				
	Monobutyltin (ug/kg)	<1				
	Monooctyltin (ug/kg)	<1				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1873891-10			
Grouping	Analyte				
SOIL					
Physical Tests	Moisture (%)	18.9			
	pH (1:2 soil:water) (pH)	8.66			
Leachable Anions & Nutrients	Bromide (Br) (mg/kg)				
	Chloride (Cl) (mg/kg)				
	Fluoride (F) (mg/kg)				
	Nitrate (as N) (mg/kg)				
	Nitrite (as N) (mg/kg)				
	Sulfate (SO4) (mg/kg)				
Organic / Inorganic Carbon	Total Organic Carbon (%)	<0.064			
Saturated Paste Extractables	Chloride (Cl) (mg/kg)				
	% Saturation (%)				
	Sodium (Na) (mg/kg)				
Metals	Antimony (Sb) (mg/kg)	0.26			
	Arsenic (As) (mg/kg)	3.11			
	Barium (Ba) (mg/kg)	44.7			
	Beryllium (Be) (mg/kg)	0.20			
	Cadmium (Cd) (mg/kg)	0.063			
	Chromium (Cr) (mg/kg)	30.5			
	Cobalt (Co) (mg/kg)	8.13			
	Copper (Cu) (mg/kg)	17.0			
	Lead (Pb) (mg/kg)	2.57			
	Mercury (Hg) (mg/kg)	0.0157			
	Molybdenum (Mo) (mg/kg)	0.40			
	Nickel (Ni) (mg/kg)	34.3			
	Selenium (Se) (mg/kg)	<0.20			
	Silver (Ag) (mg/kg)	<0.10			
	Thallium (Tl) (mg/kg)	<0.050			
	Tin (Sn) (mg/kg)	<2.0			
	Uranium (U) (mg/kg)	0.271			
	Vanadium (V) (mg/kg)	49.4			
Zinc (Zn) (mg/kg)	39.8				
Organometallics	Dibutyltin (ug/kg)				
	Diocetyltn (ug/kg)				
	Diphenyltin (ug/kg)				
	Monobutyltin (ug/kg)				
	Monooctyltin (ug/kg)				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	Sampled Date	Sampled Time	Client ID	L1873891-1	L1873891-2	L1873891-7	L1873891-8	L1873891-9
					SOIL	SOIL	SOIL	SOIL	SOIL
					27-DEC-16	27-DEC-16	27-DEC-16	27-DEC-16	27-DEC-16
					02048-01	02048-02	02048-07	02048-08	02048-09
Grouping	Analyte								
SOIL									
Organometallics	Monophenyltin (ug/kg)				<1				
	Tetrabutyltin (ug/kg)				<1				
	Tributyltin (ug/kg)				<1				
	Tricyclohexyltin (ug/kg)				<1				
	Triphenyltin (ug/kg)				<1				
Hydrocarbons	EPH10-19 (mg/kg)				<200		<200		<200
	EPH19-32 (mg/kg)				<200		<200		<200
	LEPH (mg/kg)				<200		<200		<200
	HEPH (mg/kg)				<200		<200		<200
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)				<0.0050		<0.0050		<0.0050
	Acenaphthylene (mg/kg)				<0.0050		<0.0050		<0.0050
	Anthracene (mg/kg)				<0.0040		<0.0040		<0.0040
	Benz(a)anthracene (mg/kg)				<0.010		<0.010		<0.010
	Benzo(a)pyrene (mg/kg)				<0.010		<0.010		<0.010
	Benzo(b)fluoranthene (mg/kg)				<0.010		<0.010		<0.010
	Benzo(b+j+k)fluoranthene (mg/kg)				<0.015		<0.015		<0.015
	Benzo(g,h,i)perylene (mg/kg)				<0.010		<0.010		<0.010
	Benzo(k)fluoranthene (mg/kg)				<0.010		<0.010		<0.010
	Chrysene (mg/kg)				<0.010		<0.010		<0.010
	Dibenz(a,h)anthracene (mg/kg)				<0.0050		<0.0050		<0.0050
	Fluoranthene (mg/kg)				<0.010		<0.010		<0.010
	Fluorene (mg/kg)				<0.010		<0.010		<0.010
	Indeno(1,2,3-c,d)pyrene (mg/kg)				<0.010		<0.010		<0.010
	2-Methylnaphthalene (mg/kg)				<0.010		<0.010		<0.010
	Naphthalene (mg/kg)				<0.010		<0.010		<0.010
	Phenanthrene (mg/kg)				<0.010		<0.010		<0.010
	Pyrene (mg/kg)				<0.010		<0.010		<0.010
	Surrogate: Acenaphthene d10 (%)				80.4		86.2		88.1
	Surrogate: Chrysene d12 (%)				79.3		99.5		81.7
	Surrogate: Naphthalene d8 (%)				70.8		77.0		78.1
	Surrogate: Phenanthrene d10 (%)				81.2		93.0		82.6
	B(a)P Total Potency Equivalent (mg/kg)				<0.020		<0.020		<0.020
	IACR (CCME) (mg/kg)				<0.15		<0.15		<0.15
Phenolics	4-Chloro-3-methylphenol (mg/kg)					<0.020		<0.020	
	2-Chlorophenol (mg/kg)					<0.020		<0.020	
	3-Chlorophenol (mg/kg)					<0.020		<0.030 ^{DLQ}	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1873891-10	SOIL	27-DEC-16	02048-10
Grouping	Analyte				
SOIL					
Organometallics	Monophenyltin (ug/kg) Tetrabutyltin (ug/kg) Tributyltin (ug/kg) Tricyclohexyltin (ug/kg) Triphenyltin (ug/kg)				
Hydrocarbons	EPH10-19 (mg/kg) EPH19-32 (mg/kg) LEPH (mg/kg) HEPH (mg/kg)				
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg) Acenaphthylene (mg/kg) Anthracene (mg/kg) Benz(a)anthracene (mg/kg) Benzo(a)pyrene (mg/kg) Benzo(b)fluoranthene (mg/kg) Benzo(b+j+k)fluoranthene (mg/kg) Benzo(g,h,i)perylene (mg/kg) Benzo(k)fluoranthene (mg/kg) Chrysene (mg/kg) Dibenz(a,h)anthracene (mg/kg) Fluoranthene (mg/kg) Fluorene (mg/kg) Indeno(1,2,3-c,d)pyrene (mg/kg) 2-Methylnaphthalene (mg/kg) Naphthalene (mg/kg) Phenanthrene (mg/kg) Pyrene (mg/kg) Surrogate: Acenaphthene d10 (%) Surrogate: Chrysene d12 (%) Surrogate: Naphthalene d8 (%) Surrogate: Phenanthrene d10 (%) B(a)P Total Potency Equivalent (mg/kg) IACR (CCME) (mg/kg)				
Phenolics	4-Chloro-3-methylphenol (mg/kg) 2-Chlorophenol (mg/kg) 3-Chlorophenol (mg/kg)	<0.020 <0.020 <0.020			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1873891-1	L1873891-2	L1873891-7	L1873891-8	L1873891-9
		Description	SOIL	SOIL	SOIL	SOIL	SOIL
		Sampled Date	27-DEC-16	27-DEC-16	27-DEC-16	27-DEC-16	27-DEC-16
		Sampled Time					
		Client ID	02048-01	02048-02	02048-07	02048-08	02048-09
Grouping	Analyte						
SOIL							
Phenolics	4-Chlorophenol (mg/kg)			<0.020		<0.020	
	2,3-Dichlorophenol (mg/kg)			<0.020		<0.020	
	2,4 & 2,5-Dichlorophenol (mg/kg)			<0.020		<0.020	
	2,6-Dichlorophenol (mg/kg)			<0.020		<0.020	
	3,4-Dichlorophenol (mg/kg)			<0.020		<0.020	
	3,5-Dichlorophenol (mg/kg)			<0.020		<0.020	
	2,4-Dimethylphenol (mg/kg)			<0.020	<0.020		
	o-Cresol (mg/kg)			<0.020	<0.020		
	m-Cresol (mg/kg)			<0.040 ^{DLCI}	<0.020		
	p-Cresol (mg/kg)			<0.030 ^{DLCI}	<0.040 ^{DLQ}		
	Pentachlorophenol (mg/kg)			<0.020		<0.020	
	Phenol (mg/kg)			<0.020	<0.020		
	2,3,4,5-Tetrachlorophenol (mg/kg)			<0.020		<0.020	
	2,3,4,6-Tetrachlorophenol (mg/kg)			<0.020		<0.020	
	2,3,5,6-Tetrachlorophenol (mg/kg)			<0.020		<0.020	
	2,3,4-Trichlorophenol (mg/kg)			<0.020		<0.020	
	2,3,5-Trichlorophenol (mg/kg)			<0.020		<0.020	
	2,3,6-Trichlorophenol (mg/kg)			<0.020		<0.020	
	2,4,5-Trichlorophenol (mg/kg)			<0.020		<0.020	
	2,4,6-Trichlorophenol (mg/kg)			<0.020		<0.020	
3,4,5-Trichlorophenol (mg/kg)			<0.020		<0.020		
Polychlorinated Biphenyls	PCB-1016 (mg/kg)	<0.020		<0.020			
	PCB-1221 (mg/kg)	<0.020		<0.020			
	PCB-1232 (mg/kg)	<0.020		<0.020			
	PCB-1242 (mg/kg)	<0.020		<0.020			
	PCB-1248 (mg/kg)	<0.020		<0.020			
	PCB-1254 (mg/kg)	<0.020		<0.020			
	PCB-1260 (mg/kg)	<0.020		<0.020			
	PCB-1262 (mg/kg)	<0.020		<0.020			
	PCB-1268 (mg/kg)	<0.020		<0.020			
	Total PCB (BC CSR) (mg/kg)	<0.020		<0.020			
	Total Polychlorinated Biphenyls (mg/kg)	<0.020		<0.020			
	Dioxins and Furans	2,3,7,8-TCDD (pg/g)	<0.21 ^[U]				<0.36 ^[U]
1,2,3,7,8-PeCDD (pg/g)		<0.13 ^[U]				<0.18 ^[U]	
1,2,3,4,7,8-HxCDD (pg/g)		<0.11 ^[U]				<0.23 ^[U]	
1,2,3,6,7,8-HxCDD (pg/g)		<0.10 ^[U]				<0.23 ^[U]	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	Sample ID	Description	Sampled Date	Sampled Time	Client ID
		L1873891-10	SOIL	27-DEC-16		02048-10
SOIL						
Phenolics	4-Chlorophenol (mg/kg)			<0.020		
	2,3-Dichlorophenol (mg/kg)			<0.020		
	2,4 & 2,5-Dichlorophenol (mg/kg)			<0.020		
	2,6-Dichlorophenol (mg/kg)			<0.020		
	3,4-Dichlorophenol (mg/kg)			<0.020		
	3,5-Dichlorophenol (mg/kg)			<0.020		
	2,4-Dimethylphenol (mg/kg)			<0.020		
	o-Cresol (mg/kg)			<0.020		
	m-Cresol (mg/kg)			<0.020		
	p-Cresol (mg/kg)			<0.060 ^{DLQ}		
	Pentachlorophenol (mg/kg)			<0.020		
	Phenol (mg/kg)			<0.020		
	2,3,4,5-Tetrachlorophenol (mg/kg)			<0.020		
	2,3,4,6-Tetrachlorophenol (mg/kg)			<0.020		
	2,3,5,6-Tetrachlorophenol (mg/kg)			<0.020		
	2,3,4-Trichlorophenol (mg/kg)			<0.020		
	2,3,5-Trichlorophenol (mg/kg)			<0.020		
	2,3,6-Trichlorophenol (mg/kg)			<0.020		
	2,4,5-Trichlorophenol (mg/kg)			<0.020		
	2,4,6-Trichlorophenol (mg/kg)			<0.020		
	3,4,5-Trichlorophenol (mg/kg)			<0.020		
Polychlorinated Biphenyls	PCB-1016 (mg/kg)			<0.020		
	PCB-1221 (mg/kg)			<0.020		
	PCB-1232 (mg/kg)			<0.020		
	PCB-1242 (mg/kg)			<0.020		
	PCB-1248 (mg/kg)			<0.020		
	PCB-1254 (mg/kg)			<0.020		
	PCB-1260 (mg/kg)			<0.020		
	PCB-1262 (mg/kg)			<0.020		
	PCB-1268 (mg/kg)			<0.020		
	Total PCB (BC CSR) (mg/kg)			<0.020		
	Total Polychlorinated Biphenyls (mg/kg)			<0.020		
Dioxins and Furans	2,3,7,8-TCDD (pg/g)					
	1,2,3,7,8-PeCDD (pg/g)					
	1,2,3,4,7,8-HxCDD (pg/g)					
	1,2,3,6,7,8-HxCDD (pg/g)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1873891-1	L1873891-2	L1873891-7	L1873891-8	L1873891-9
		Description	SOIL	SOIL	SOIL	SOIL	SOIL
		Sampled Date	27-DEC-16	27-DEC-16	27-DEC-16	27-DEC-16	27-DEC-16
		Sampled Time					
		Client ID	02048-01	02048-02	02048-07	02048-08	02048-09
Grouping	Analyte						
SOIL							
Dioxins and Furans	1,2,3,7,8,9-HxCDD (pg/g)	<0.10 ^[U]				<0.23 ^[U]	
	1,2,3,4,6,7,8-HpCDD (pg/g)	0.32 ^{M,J}				0.58 ^[U]	
	OCDD (pg/g)	2.08 ^{M,J}				7.51 ^[U]	
	Total-TCDD (pg/g)	<0.21 ^[U]				<0.36 ^[U]	
	Total TCDD # Homologues	0				0	
	Total-PeCDD (pg/g)	<0.13 ^[U]				<0.18 ^[U]	
	Total PeCDD # Homologues	0				0	
	Total-HxCDD (pg/g)	<0.11 ^[U]				<0.23 ^[U]	
	Total HxCDD # Homologues	0				0	
	Total-HpCDD (pg/g)	0.32				0.58	
	Total HpCDD # Homologues	1				1	
	2,3,7,8-TCDF (pg/g)	<0.22 ^[U]				<0.35 ^[U]	
	1,2,3,7,8-PeCDF (pg/g)	<0.090 ^[U]				<0.15 ^[U]	
	2,3,4,7,8-PeCDF (pg/g)	<0.080 ^[U]				<0.13 ^[U]	
	1,2,3,4,7,8-HxCDF (pg/g)	<0.085 ^[U]				<0.14 ^[U]	
	1,2,3,6,7,8-HxCDF (pg/g)	<0.073 ^[U]				<0.13 ^[U]	
	1,2,3,7,8,9-HxCDF (pg/g)	<0.095 ^[U]				<0.16 ^[U]	
	2,3,4,6,7,8-HxCDF (pg/g)	<0.071 ^[U]				<0.11 ^[U]	
	1,2,3,4,6,7,8-HpCDF (pg/g)	<0.084 ^[U]				<0.11 ^[U]	
	1,2,3,4,7,8,9-HpCDF (pg/g)	<0.11 ^[U]				<0.17 ^[U]	
	OCDF (pg/g)	0.18 ^{M,J,R}				<0.27 ^[U]	
	Total-TCDF (pg/g)	<0.22 ^[U]				<0.35 ^[U]	
	Total TCDF # Homologues	0				0	
	Total-PeCDF (pg/g)	<0.090 ^[U]				<0.15 ^[U]	
	Total PeCDF # Homologues	0				0	
	Total-HxCDF (pg/g)	<0.095 ^[U]				<0.16 ^[U]	
	Total HxCDF # Homologues	0				0	
	Total-HpCDF (pg/g)	<0.11 ^[U]				<0.17 ^[U]	
	Total HpCDF # Homologues	0				0	
	Surrogate: 13C12-2,3,7,8-TCDD (%)	77.0				35.0	
	Surrogate: 13C12-1,2,3,7,8-PeCDD (%)	78.0				35.0	
	Surrogate: 13C12-1,2,3,4,7,8-HxCDD (%)	71.0				35.0	
	Surrogate: 13C12-1,2,3,6,7,8-HxCDD (%)	95.0				47.0	
	Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD (%)	88.0				39.0	
Surrogate: 13C12-OCDD (%)	83.0				36.0		
Surrogate: 13C12-2,3,7,8-TCDF (%)	75.0				33.0		
Surrogate: 13C12-1,2,3,7,8-PeCDF (%)	78.0				34.0		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1873891-10	SOIL	27-DEC-16	02048-10
Grouping	Analyte				
SOIL					
Dioxins and Furans	1,2,3,7,8,9-HxCDD (pg/g)				
	1,2,3,4,6,7,8-HpCDD (pg/g)				
	OCDD (pg/g)				
	Total-TCDD (pg/g)				
	Total TCDD # Homologues				
	Total-PeCDD (pg/g)				
	Total PeCDD # Homologues				
	Total-HxCDD (pg/g)				
	Total HxCDD # Homologues				
	Total-HpCDD (pg/g)				
	Total HpCDD # Homologues				
	2,3,7,8-TCDF (pg/g)				
	1,2,3,7,8-PeCDF (pg/g)				
	2,3,4,7,8-PeCDF (pg/g)				
	1,2,3,4,7,8-HxCDF (pg/g)				
	1,2,3,6,7,8-HxCDF (pg/g)				
	1,2,3,7,8,9-HxCDF (pg/g)				
	2,3,4,6,7,8-HxCDF (pg/g)				
	1,2,3,4,6,7,8-HpCDF (pg/g)				
	1,2,3,4,7,8,9-HpCDF (pg/g)				
	OCDF (pg/g)				
	Total-TCDF (pg/g)				
	Total TCDF # Homologues				
	Total-PeCDF (pg/g)				
	Total PeCDF # Homologues				
	Total-HxCDF (pg/g)				
	Total HxCDF # Homologues				
	Total-HpCDF (pg/g)				
	Total HpCDF # Homologues				
	Surrogate: 13C12-2,3,7,8-TCDD (%)				
	Surrogate: 13C12-1,2,3,7,8-PeCDD (%)				
	Surrogate: 13C12-1,2,3,4,7,8-HxCDD (%)				
	Surrogate: 13C12-1,2,3,6,7,8-HxCDD (%)				
	Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD (%)				
	Surrogate: 13C12-OCDD (%)				
	Surrogate: 13C12-2,3,7,8-TCDF (%)				
	Surrogate: 13C12-1,2,3,7,8-PeCDF (%)				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1873891-1	L1873891-2	L1873891-7	L1873891-8	L1873891-9
		Description	SOIL	SOIL	SOIL	SOIL	SOIL
		Sampled Date	27-DEC-16	27-DEC-16	27-DEC-16	27-DEC-16	27-DEC-16
		Sampled Time					
		Client ID	02048-01	02048-02	02048-07	02048-08	02048-09
Grouping	Analyte						
SOIL							
Dioxins and Furans	Surrogate: 13C12-2,3,4,7,8-PeCDF (%)	78.0				37.0	
	Surrogate: 13C12-1,2,3,4,7,8-HxCDF (%)	68.0				29.0	
	Surrogate: 13C12-1,2,3,6,7,8-HxCDF (%)	91.0				37.0	
	Surrogate: 13C12-2,3,4,6,7,8-HxCDF (%)	83.0				38.0	
	Surrogate: 13C12-1,2,3,7,8,9-HxCDF (%)	72.0				34.0	
	Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF (%)	83.0				40.0	
	Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF (%)	84.0				37.0	
	Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup (%))	63.0				83.0	
Toxic Equivalency	Lower Bound PCDD/F TEQ (WHO 2005) (pg/g)	0.00377				0.00803	
	Mid Point PCDD/F TEQ (WHO 2005) (pg/g)	0.231				0.380	
	Upper Bound PCDD/F TEQ (WHO 2005) (pg/g)	0.458				0.752	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1873891-10	SOIL	27-DEC-16	02048-10
Grouping	Analyte				
SOIL					
Dioxins and Furans	Surrogate: 13C12-2,3,4,7,8-PeCDF (%) Surrogate: 13C12-1,2,3,4,7,8-HxCDF (%) Surrogate: 13C12-1,2,3,6,7,8-HxCDF (%) Surrogate: 13C12-2,3,4,6,7,8-HxCDF (%) Surrogate: 13C12-1,2,3,7,8,9-HxCDF (%) Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF (%) Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF (%) Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup) (%)				
Toxic Equivalency	Lower Bound PCDD/F TEQ (WHO 2005) (pg/g) Mid Point PCDD/F TEQ (WHO 2005) (pg/g) Upper Bound PCDD/F TEQ (WHO 2005) (pg/g)				

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Duplicate	Cobalt (Co)	DUP-H	L1873891-1, -10, -7
Duplicate	Copper (Cu)	DUP-H	L1873891-1, -10, -7
Duplicate	Nickel (Ni)	DUP-H	L1873891-1, -10, -7
Duplicate	Tin (Sn)	DUP-H	L1873891-1, -10, -7
Duplicate	Zinc (Zn)	DUP-H	L1873891-1, -10, -7
Duplicate	Total-PeCDD	G	L1873891-1, -8
Comments:	Sample and duplicate are outside method RPD criteria for select targets. Sample was observed to consist primarily of rocks. Sample inhomogeneity is suspected.		
Duplicate	Total-TCDD	G	L1873891-1, -8
Comments:	Sample and duplicate are outside method RPD criteria for select targets. Sample was observed to consist primarily of rocks. Sample inhomogeneity is suspected.		
Method Blank	1,2,3,7,8-PeCDF	J,R	L1873891-1, -8
Method Blank	OCDD	J,R	L1873891-1, -8
Method Blank	OCDF	M,U	L1873891-1, -8
Method Blank	1,2,3,4,6,7,8-HpCDD	[U]	L1873891-1, -8
Method Blank	1,2,3,4,6,7,8-HpCDF	[U]	L1873891-1, -8
Method Blank	1,2,3,4,7,8,9-HpCDF	[U]	L1873891-1, -8
Method Blank	1,2,3,4,7,8-HxCDD	[U]	L1873891-1, -8
Method Blank	1,2,3,4,7,8-HxCDF	[U]	L1873891-1, -8
Method Blank	1,2,3,6,7,8-HxCDD	[U]	L1873891-1, -8
Method Blank	1,2,3,6,7,8-HxCDF	[U]	L1873891-1, -8
Method Blank	1,2,3,7,8,9-HxCDD	[U]	L1873891-1, -8
Method Blank	1,2,3,7,8,9-HxCDF	[U]	L1873891-1, -8
Method Blank	1,2,3,7,8-PeCDD	[U]	L1873891-1, -8
Method Blank	2,3,4,6,7,8-HxCDF	[U]	L1873891-1, -8
Method Blank	2,3,4,7,8-PeCDF	[U]	L1873891-1, -8
Method Blank	2,3,7,8-TCDD	[U]	L1873891-1, -8
Method Blank	2,3,7,8-TCDF	[U]	L1873891-1, -8
Method Blank	Total-HpCDD	[U]	L1873891-1, -8
Method Blank	Total-HpCDF	[U]	L1873891-1, -8
Method Blank	Total-HxCDD	[U]	L1873891-1, -8
Method Blank	Total-HxCDF	[U]	L1873891-1, -8
Method Blank	Total-PeCDD	[U]	L1873891-1, -8
Method Blank	Total-PeCDF	[U]	L1873891-1, -8
Method Blank	Total-TCDD	[U]	L1873891-1, -8
Method Blank	Total-TCDF	[U]	L1873891-1, -8

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLCI	Detection Limit Raised: Chromatographic Interference due to co-elution.
DLQ	Detection Limit raised due to co-eluting interference. GCMS qualifier ion ratio did not meet acceptance criteria.
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.
G	QC result did not meet ALS DQO. Refer to narrative comments for further information.
J,R	The analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M,J	A peak has been manually integrated, and the analyte was detected below the calibrated range but above the EDL.
M,J,R	A peak has been manually integrated, the analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M,U	A peak has been manually integrated, and the analyte was not detected above the EDL.
[J]	The analyte was detected below the calibrated range but above the EDL.
[U]	The analyte was not detected above the EDL.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
---------------	--------	------------------	--------------------

Reference Information

BR-LEACH-IC-VA	Soil	Bromide leach (1:10) by IC	APHA 4110 IC
Leachable Anions in Sediment/Soil Method analysis is carried out using a leaching procedure which involves the gentle tumbling of the sample in a specified leaching solution (typically deionized water) for a specific length of time. The resulting extract is then analysed anions by ion chromatography with conductivity or UV detection. The method is applicable to the following anions: fluoride, chloride, phosphate, bromide, nitrate, sulphate.			
C-TIC-PCT-SK	Soil	Total Inorganic Carbon in Soil	CSSS (2008) P216-217
A known quantity of acetic acid is consumed by reaction with carbonates in the soil. The pH of the resulting solution is measured and compared against a standard curve relating pH to weight of carbonate.			
C-TOC-CALC-SK	Soil	Total Organic Carbon Calculation	CSSS (2008) 21.2
Total Organic Carbon (TOC) is calculated by the difference between total carbon (TC) and total inorganic carbon. (TIC)			
C-TOT-LECO-SK	Soil	Total Carbon by combustion method	SSSA (1996) P. 973-974
The sample is ignited in a combustion analyzer where carbon in the reduced CO ₂ gas is determined using a thermal conductivity detector.			
CL-LEACH-IC-VA	Soil	Chloride leach (1:10) by IC	APHA 4110 IC
Leachable Anions in Sediment/Soil Method analysis is carried out using a leaching procedure which involves the gentle tumbling of the sample in a specified leaching solution (typically deionized water) for a specific length of time. The resulting extract is then analysed anions by ion chromatography with conductivity or UV detection. The method is applicable to the following anions: fluoride, chloride, phosphate, bromide, nitrate, sulphate.			
CL-PASTE-IC-VA	Soil	Chloride in Soil (Paste) by IC	Carter-CSSS / EPA 300.1 (modified)
A soil extract produced by the saturated paste extraction procedure is analyzed for chloride by Ion Chromatography with conductivity detection.			
CLPHEN-TMB-MS-VA	Soil	Chlorinated Phenols by Tumbler/GCMS	EPA 3570, 8270D, Knapp(1979)
A subsample of the soil/sediment is rotary extracted by solvent, derivitized, and analysed by GC/MS.			
DX-1613B-HRMS-BU	Soil	Dioxins and Furans HR 1613B	USEPA 1613B
Samples are extracted by Soxhlet. The extracts are prepared using column chromatography, reduced in volume and analyzed by isotope-dilution GC/HRMS			
EPH-TUMB-FID-VA	Soil	EPH in Solids by Tumbler and GCFID	BC MOE EPH GCFID
Analysis is in accordance with BC MOE Lab Manual method "Extractable Petroleum Hydrocarbons in Solids by GC/FID", v2.1, July 1999. Soil samples are extracted with a 1:1 mixture of hexane and acetone using a rotary extraction technique modified from EPA 3570 prior to gas chromatography with flame ionization detection (GC-FID). EPH results include Polycyclic Aromatic Hydrocarbons (PAH) and are therefore not equivalent to Light and Heavy Extractable Petroleum Hydrocarbons (LEPH/HEPH).			
F-1:5-DI-SIE-VA	Soil	Fluoride leach (1:5) by SIE	BCMOE/APHA Method 4500-F Fluoride
This analysis is carried out using procedures from the Method: "Fluoride in Soils by 5:1 Aqueous Extraction", BC Ministry of Environment, 22 January 2008, and procedures adapted from APHA Method 4500-F "Fluoride". The procedure involves mixing the dried (at <60 C) and sieved (2mm) sample with deionized/distilled water at a 1:5 ratio of soil to water. Fluoride is determined using a selective ion electrode			
HG-200.2-CVAF-VA	Soil	Mercury in Soil by CVAFS	EPA 200.2/1631E (mod)
Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CVAFS.			
IC-CACO3-CALC-SK	Soil	Inorganic Carbon as CaCO ₃ Equivalent	Calculation
LEPH/HEPH-CALC-VA	Soil	LEPHs and HEPHs	BC MOE LABORATORY MANUAL (2005)
Light and Heavy Extractable Petroleum Hydrocarbons in Solids. These results are determined according to the British Columbia Ministry of Environment, Lands, and Parks Analytical Method for Contaminated Sites "Calculation of Light and Heavy Extractable Petroleum Hydrocarbons in Solids or Water". According to this method, LEPH and HEPH are calculated by subtracting selected Polycyclic Aromatic Hydrocarbon results from Extractable Petroleum Hydrocarbon results. To calculate LEPH, the individual results for Naphthalene and Phenanthrene are subtracted from EPH(C10-19). To calculate HEPH, the individual results for Benz(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Dibenz(a,h)anthracene, Indeno(1,2,3-c,d)pyrene, and Pyrene are subtracted from EPH(C19-32). Analysis of Extractable Petroleum Hydrocarbons adheres to all prescribed elements of the BCMELP method "Extractable Petroleum Hydrocarbons in Solids by GC/FID" (Version 2.1, July 20, 1999).			
MET-200.2-CCMS-VA	Soil	Metals in Soil by CRC ICPMS	EPA 200.2/6020A (mod)
Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CRC ICPMS.			

Method Limitation: This method is not a total digestion technique. It is a very strong acid digestion that is intended to dissolve those metals that may be environmentally available. This method does not dissolve all silicate materials and may result in a partial extraction. depending on the sample matrix, for some metals, including, but not limited to Al, Ba, Be, Cr, Sr, Ti, Tl, and V.

Reference Information

MET-PASTE-ICP-VA	Soil	Metals in Soil (Paste) by ICPOES	Carter-CSSS / EPA 6010B (modified)
A soil extract produced by the saturated paste extraction procedure is analyzed for Sodium, Calcium, and Magnesium by ICPOES as per "Soil Sampling and Methods of Analysis" by M. Carter.			
MOISTURE-BU	Soil	% Moisture	ASTM METHOD D2974-00
MOISTURE-VA	Soil	Moisture content	ASTM D2974-00 Method A
This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of six hours.			
NO2-LEACH-IC-VA	Soil	Nitrite leach (1:10) by IC	APHA 4110 IC
Leachable Anions in Sediment/Soil Method analysis is carried out using a leaching procedure which involves the gentle tumbling of the sample in a specified leaching solution (typically deionized water) for a specific length of time. The resulting extract is then analysed anions by ion chromatography with conductivity or UV detection. The method is applicable to the following anions: fluoride, chloride, phosphate, bromide, nitrate, sulphate.			
NO3-LEACH-IC-VA	Soil	Nitrate leach (1:10) by IC	APHA 4110 IC
Leachable Anions in Sediment/Soil Method analysis is carried out using a leaching procedure which involves the gentle tumbling of the sample in a specified leaching solution (typically deionized water) for a specific length of time. The resulting extract is then analysed anions by ion chromatography with conductivity or UV detection. The method is applicable to the following anions: fluoride, chloride, phosphate, bromide, nitrate, sulphate.			
ORGANOTINS-FULL-LE	Soil	Organotins full standard	GC-ICPMS according to SS-EN 23161 (mod).
The analysis is carried out by GC-ICPMS according to SS-EN 23161 (mod).			
PAH-TMB-H/A-MS-VA	Soil	PAH - Rotary Extraction (Hexane/Acetone)	EPA 3570/8270
This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Methods 3570 & 8270, published by the United States Environmental Protection Agency (EPA). The procedure uses a mechanical shaking technique to extract a subsample of the sediment/soil with a 1:1 mixture of hexane and acetone. The extract is then solvent exchanged to toluene. The final extract is analysed by capillary column gas chromatography with mass spectrometric detection (GC/MS). Surrogate recoveries may not be reported in cases where interferences from the sample matrix prevent accurate quantitation. Because the two isomers cannot be readily chromatographically separated, benzo(j)fluoranthene is reported as part of the benzo(b)fluoranthene parameter.			
PCB-CSR-SUM-CALC-VA	Soil	Total PCB (BC CSR) in soil	BC Contaminated Sites Regulation
Calculation of Total PCB to meet BC Contaminated Sites Regulation. Total PCB (BC CSR) is the sum of the concentrations of PCB aroclors 1242, 1248, 1254 and 1260. Results below detection limit (DL) are treated as zero. The Total PCB detection limit is equal to the highest of the aroclor detection limits used in the sum.			
PCB-SE-ECD-VA	Soil	PCB by Extraction with GCECD	EPA8082, 3630
This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Methods 3500, 3620, 3630, 3660, 3665 & 8082, published by the United States Environmental Protection Agency (EPA). The procedure involves a solid-liquid extraction of a subsample of the sediment/soil using a mixture of hexane and acetone. Water is added to the extract and the resulting hexane extract undergoes one or more of the following clean-up procedures (if required): florisil clean-up, silica gel clean-up, sulphur clean-up and/or sulphuric acid clean-up. The final extract is analysed by capillary column gas chromatography with electron capture detection (GC/ECD).			
PCB-SUM-CALC-VA	Soil	Total PCBs in soil	CALCULATION
Calculation of Total PCB. Total PCB is the sum of the concentrations of PCB aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260, 1262, and 1268. Results below detection limit (DL) are treated as zero. The Total PCB detection limit is equal to the highest of the aroclor detection limits used in the sum.			
PH-1:2-VA	Soil	pH in Soil (1:2 Soil:Water Extraction)	BC WLAP METHOD: PH, ELECTROMETRIC, SOIL
This analysis is carried out in accordance with procedures described in the pH, Electrometric in Soil and Sediment method - Section B Physical/Inorganic and Misc. Constituents, BC Environmental Laboratory Manual 2007. The procedure involves mixing the dried (at <60 C) and sieved (No. 10 / 2mm) sample with deionized/distilled water at a 1:2 ratio of sediment to water. The pH of the solution is then measured using a standard pH probe.			
PHEN-TMB-MS-VA	Soil	Phenolics by Tumbler/GC-MS	EPA 3570, 8270D, Knapp(1979)
A subsample of the soil/sediment is rotary extracted by solvent, derivitized, and analysed by GC/MS.			
SAT-PCNT-VA	Soil	Saturation Percentage	Carter-CSSS
Saturation Percentage (SP) is the total volume of water present in a saturated paste (in mL) divided by the dry weight of the sample (in grams), expressed as a percentage, as described in "Soil Sampling and Methods of Analysis" by M. Carter.			
SO4-LEACH-IC-VA	Soil	Sulfate leach (1:10) by IC	EPA 300.1 (mod)
Leachable Anions in Sediment/Soil Method analysis is carried out using a leaching procedure which involves the gentle tumbling of the sample in a specified leaching solution (typically deionized water) for a specific length of time. The resulting extract is then analysed anions by ion chromatography with conductivity or UV detection. The method is applicable to the following anions: fluoride, chloride, phosphate, bromide, nitrate, sulfate.			

Reference Information

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
SK	ALS ENVIRONMENTAL - SASKATOON, SASKATCHEWAN, CANADA
BU	ALS ENVIRONMENTAL - BURLINGTON, ONTARIO, CANADA
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA
LE	ALS ENVIRONMENTAL - LULEÅ, SWEDEN

Chain of Custody Numbers:

02048

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

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 of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

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.

Quality Control Report

Workorder: L1873891

Report Date: 24-JAN-17

Page 1 of 13

Client: GOLDER ASSOCIATES LTD.
 200-2920 Virtual Way
 Vancouver BC V5M 0C4
 Contact: Jim Laidlaw

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BR-LEACH-IC-VA								
	Soil							
Batch	R3628252							
WG2459735-4	DUP	L1873891-1						
Bromide (Br)		2.00	2.07		mg/kg	3.3	30	04-JAN-17
WG2459735-2	LCS		99.3		%		70-130	04-JAN-17
Bromide (Br)								
WG2459735-1	MB		<0.50		mg/kg		0.5	04-JAN-17
Bromide (Br)								
CL-LEACH-IC-VA								
	Soil							
Batch	R3628252							
WG2459735-4	DUP	L1873891-1						
Chloride (Cl)		571	570		mg/kg	0.1	30	04-JAN-17
WG2459735-2	LCS		99.2		%		70-130	04-JAN-17
Chloride (Cl)								
WG2459735-1	MB		<5.0		mg/kg		5	04-JAN-17
Chloride (Cl)								
CL-PASTE-IC-VA								
	Soil							
Batch	R3628257							
WG2458883-2	LCS		96.0		%		70-130	04-JAN-17
Chloride (Cl)								
WG2458883-1	MB		<1.0		mg/kg		1	04-JAN-17
Chloride (Cl)								
CLPHEN-TMB-MS-VA								
	Soil							
Batch	R3627033							
WG2459242-3	CRM	CRM 143						
2,4,5-Trichlorophenol			107.1		%		60-130	05-JAN-17
2,4,6-Trichlorophenol			111.3		%		60-130	05-JAN-17
Pentachlorophenol			115.5		%		60-130	05-JAN-17
WG2459242-2	LCS		106.1		%		60-130	05-JAN-17
2,3,4,5-Tetrachlorophenol								
2,3,4,6-Tetrachlorophenol			96.4		%		60-130	05-JAN-17
2,3,4-Trichlorophenol			89.8		%		60-130	05-JAN-17
2,3,5,6-Tetrachlorophenol			101.6		%		60-130	05-JAN-17
2,3,5-Trichlorophenol			95.7		%		60-130	05-JAN-17
2,3,6-Trichlorophenol			91.8		%		60-130	05-JAN-17
2,4,5-Trichlorophenol			104.3		%		60-130	05-JAN-17
2,4,6-Trichlorophenol			98.8		%		60-130	05-JAN-17
3,4,5-Trichlorophenol			94.1		%		60-130	05-JAN-17
Pentachlorophenol			103.4		%		60-130	05-JAN-17



Quality Control Report

Workorder: L1873891

Report Date: 24-JAN-17

Page 2 of 13

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CLPHEN-TMB-MS-VA		Soil						
Batch	R3627033							
WG2459242-1	MB							
2,3,4,5-Tetrachlorophenol			<0.020		mg/kg		0.02	05-JAN-17
2,3,4,6-Tetrachlorophenol			<0.020		mg/kg		0.02	05-JAN-17
2,3,4-Trichlorophenol			<0.020		mg/kg		0.02	05-JAN-17
2,3,5,6-Tetrachlorophenol			<0.020		mg/kg		0.02	05-JAN-17
2,3,5-Trichlorophenol			<0.020		mg/kg		0.02	05-JAN-17
2,3,6-Trichlorophenol			<0.020		mg/kg		0.02	05-JAN-17
2,4,5-Trichlorophenol			<0.020		mg/kg		0.02	05-JAN-17
2,4,6-Trichlorophenol			<0.020		mg/kg		0.02	05-JAN-17
3,4,5-Trichlorophenol			<0.020		mg/kg		0.02	05-JAN-17
Pentachlorophenol			<0.020		mg/kg		0.02	05-JAN-17
DX-1613B-HRMS-BU		Soil						
Batch	R3632715							
WG2461855-2	LCS							
2,3,7,8-TCDD			97.0		%		67-158	11-JAN-17
1,2,3,7,8-PeCDD			100.0		%		70-142	11-JAN-17
1,2,3,4,7,8-HxCDD			94.0		%		70-164	11-JAN-17
1,2,3,6,7,8-HxCDD			92.0		%		76-134	11-JAN-17
1,2,3,7,8,9-HxCDD			101.0		%		64-162	11-JAN-17
1,2,3,4,6,7,8-HpCDD			93.0		%		70-140	11-JAN-17
OCDD			95.0		%		78-144	11-JAN-17
2,3,7,8-TCDF			94.0		%		75-158	11-JAN-17
1,2,3,7,8-PeCDF			97.0		%		80-134	11-JAN-17
2,3,4,7,8-PeCDF			88.0		%		68-160	11-JAN-17
1,2,3,4,7,8-HxCDF			98.0		%		72-134	11-JAN-17
1,2,3,6,7,8-HxCDF			98.0		%		84-130	11-JAN-17
2,3,4,6,7,8-HxCDF			91.0		%		78-130	11-JAN-17
1,2,3,7,8,9-HxCDF			89.0		%		70-156	11-JAN-17
1,2,3,4,6,7,8-HpCDF			95.0		%		82-122	11-JAN-17
1,2,3,4,7,8,9-HpCDF			90.0		%		78-138	11-JAN-17
OCDF			99.0		%		63-170	11-JAN-17
WG2461855-1	MB							
2,3,7,8-TCDD			<0.079	[U]	pg/g		0.079	11-JAN-17
1,2,3,7,8-PeCDD			<0.045	[U]	pg/g		0.045	11-JAN-17
1,2,3,4,7,8-HxCDD			<0.046	[U]	pg/g		0.046	11-JAN-17



Quality Control Report

Workorder: L1873891

Report Date: 24-JAN-17

Page 3 of 13

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU	Soil							
Batch	R3632715							
WG2461855-1 MB								
1,2,3,6,7,8-HxCDD			<0.042	[U]	pg/g		0.042	11-JAN-17
1,2,3,7,8,9-HxCDD			<0.044	[U]	pg/g		0.044	11-JAN-17
1,2,3,4,6,7,8-HpCDD			<0.040	[U]	pg/g		0.04	11-JAN-17
OCDD			0.110	J,R	pg/g		0.039	11-JAN-17
2,3,7,8-TCDF			<0.058	[U]	pg/g		0.058	11-JAN-17
1,2,3,7,8-PeCDF			0.062	J,R	pg/g		0.031	11-JAN-17
2,3,4,7,8-PeCDF			<0.028	[U]	pg/g		0.028	11-JAN-17
1,2,3,4,7,8-HxCDF			<0.032	[U]	pg/g		0.032	11-JAN-17
1,2,3,6,7,8-HxCDF			<0.030	[U]	pg/g		0.03	11-JAN-17
2,3,4,6,7,8-HxCDF			<0.031	[U]	pg/g		0.031	11-JAN-17
1,2,3,7,8,9-HxCDF			<0.043	[U]	pg/g		0.043	11-JAN-17
1,2,3,4,6,7,8-HpCDF			<0.048	[U]	pg/g		0.048	11-JAN-17
1,2,3,4,7,8,9-HpCDF			<0.064	[U]	pg/g		0.064	11-JAN-17
OCDF			<0.058	M,U	pg/g		0.058	11-JAN-17
Total-TCDD			<0.079	[U]	pg/g		0.079	11-JAN-17
Total-PeCDD			<0.045	[U]	pg/g		0.045	11-JAN-17
Total-HxCDD			<0.046	[U]	pg/g		0.046	11-JAN-17
Total-HpCDD			<0.040	[U]	pg/g		0.04	11-JAN-17
Total-TCDF			<0.058	[U]	pg/g		0.058	11-JAN-17
Total-PeCDF			<0.031	[U]	pg/g		0.031	11-JAN-17
Total-HxCDF			<0.043	[U]	pg/g		0.043	11-JAN-17
Total-HpCDF			<0.064	[U]	pg/g		0.064	11-JAN-17
Surrogate: 13C12-2,3,7,8-TCDD			74.0		%		25-164	11-JAN-17
Surrogate: 13C12-1,2,3,7,8-PeCDD			65.0		%		25-181	11-JAN-17
Surrogate: 13C12-1,2,3,4,7,8-HxCDD			64.0		%		32-141	11-JAN-17
Surrogate: 13C12-1,2,3,6,7,8-HxCDD			88.0		%		28-130	11-JAN-17
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD			75.0		%		23-140	11-JAN-17
Surrogate: 13C12-OCDD			78.0		%		17-157	11-JAN-17
Surrogate: 13C12-2,3,7,8-TCDF			69.0		%		24-169	11-JAN-17
Surrogate: 13C12-1,2,3,7,8-PeCDF			66.0		%		24-185	11-JAN-17
Surrogate: 13C12-2,3,4,7,8-PeCDF			64.0		%		21-178	11-JAN-17
Surrogate: 13C12-1,2,3,4,7,8-HxCDF			63.0		%		26-152	11-JAN-17
Surrogate: 13C12-1,2,3,6,7,8-HxCDF			80.0		%		26-123	11-JAN-17
Surrogate: 13C12-2,3,4,6,7,8-HxCDF			72.0		%		29-147	11-JAN-17



Quality Control Report

Workorder: L1873891

Report Date: 24-JAN-17

Page 4 of 13

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-1613B-HRMS-BU Soil								
Batch R3632715								
WG2461855-1 MB								
Surrogate: 13C12-1,2,3,7,8,9-HxCDF			67.0		%		28-136	11-JAN-17
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF			70.0		%		28-143	11-JAN-17
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF			73.0		%		26-138	11-JAN-17
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)			66.0		%		35-197	11-JAN-17
EPH-TUMB-FID-VA Soil								
Batch R3627598								
WG2459530-3 IRM ALS PHC2 RM								
EPH10-19			79.6		%		70-130	04-JAN-17
EPH19-32			86.2		%		70-130	04-JAN-17
WG2459530-1 MB								
EPH10-19			<200		mg/kg		200	04-JAN-17
EPH19-32			<200		mg/kg		200	04-JAN-17
F-1:5-DI-SIE-VA Soil								
Batch R3627731								
WG2458885-9 DUP L1873891-1								
Fluoride (F)			<0.20	RPD-NA	mg/kg	N/A	30	04-JAN-17
WG2458885-6 MB								
Fluoride (F)			<0.20		mg/kg		0.2	04-JAN-17
WG2458885-10 MS L1873891-9								
Fluoride (F)			100.4		%		60-140	04-JAN-17
HG-200.2-CVAF-VA Soil								
Batch R3628227								
WG2459499-4 CRM VA-NRC-STSD-3								
Mercury (Hg)			101.5		%		70-130	05-JAN-17
WG2459499-3 LCS								
Mercury (Hg)			108.3		%		70-130	05-JAN-17
WG2459499-1 MB								
Mercury (Hg)			<0.0050		mg/kg		0.005	05-JAN-17
MET-200.2-CCMS-VA Soil								
Batch R3628303								
WG2459499-4 CRM VA-NRC-STSD-3								
Antimony (Sb)			115.1		%		70-130	05-JAN-17
Arsenic (As)			96.6		%		70-130	05-JAN-17
Barium (Ba)			103.9		%		70-130	05-JAN-17
Beryllium (Be)			109.4		%		70-130	05-JAN-17



Quality Control Report

Workorder: L1873891

Report Date: 24-JAN-17

Page 5 of 13

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA		Soil						
Batch	R3628303							
WG2459499-4	CRM	VA-NRC-STSD-3						
Cadmium (Cd)			119.7		%		70-130	05-JAN-17
Chromium (Cr)			108.7		%		70-130	05-JAN-17
Cobalt (Co)			104.4		%		70-130	05-JAN-17
Copper (Cu)			100.7		%		70-130	05-JAN-17
Lead (Pb)			107.2		%		70-130	05-JAN-17
Molybdenum (Mo)			106.4		%		70-130	05-JAN-17
Nickel (Ni)			99.9		%		70-130	05-JAN-17
Selenium (Se)			108.0		%		70-130	05-JAN-17
Silver (Ag)			105.0		%		70-130	05-JAN-17
Thallium (Tl)			115.9		%		70-130	05-JAN-17
Uranium (U)			109.5		%		70-130	05-JAN-17
Vanadium (V)			108.6		%		70-130	05-JAN-17
Zinc (Zn)			104.2		%		70-130	05-JAN-17
WG2459499-3	LCS							
Antimony (Sb)			103.2		%		80-120	05-JAN-17
Arsenic (As)			100.4		%		80-120	05-JAN-17
Barium (Ba)			102.0		%		80-120	05-JAN-17
Beryllium (Be)			100.7		%		80-120	05-JAN-17
Cadmium (Cd)			100.4		%		80-120	05-JAN-17
Chromium (Cr)			98.9		%		80-120	05-JAN-17
Cobalt (Co)			97.9		%		80-120	05-JAN-17
Copper (Cu)			96.1		%		80-120	05-JAN-17
Lead (Pb)			100.1		%		80-120	05-JAN-17
Molybdenum (Mo)			100.3		%		80-120	05-JAN-17
Nickel (Ni)			98.1		%		80-120	05-JAN-17
Selenium (Se)			99.0		%		80-120	05-JAN-17
Silver (Ag)			103.6		%		80-120	05-JAN-17
Thallium (Tl)			98.7		%		80-120	05-JAN-17
Tin (Sn)			99.4		%		80-120	05-JAN-17
Uranium (U)			105.7		%		80-120	05-JAN-17
Vanadium (V)			97.5		%		80-120	05-JAN-17
Zinc (Zn)			95.3		%		80-120	05-JAN-17
WG2459499-1	MB							
Antimony (Sb)			<0.10		mg/kg		0.1	05-JAN-17
Arsenic (As)			<0.10		mg/kg		0.1	05-JAN-17



Quality Control Report

Workorder: L1873891

Report Date: 24-JAN-17

Page 6 of 13

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA								
	Soil							
Batch	R3628303							
WG2459499-1	MB							
Barium (Ba)			<0.50		mg/kg		0.5	05-JAN-17
Beryllium (Be)			<0.10		mg/kg		0.1	05-JAN-17
Cadmium (Cd)			<0.020		mg/kg		0.02	05-JAN-17
Chromium (Cr)			<0.50		mg/kg		0.5	05-JAN-17
Cobalt (Co)			<0.10		mg/kg		0.1	05-JAN-17
Copper (Cu)			<0.50		mg/kg		0.5	05-JAN-17
Lead (Pb)			<0.50		mg/kg		0.5	05-JAN-17
Molybdenum (Mo)			<0.10		mg/kg		0.1	05-JAN-17
Nickel (Ni)			<0.50		mg/kg		0.5	05-JAN-17
Selenium (Se)			<0.20		mg/kg		0.2	05-JAN-17
Silver (Ag)			<0.10		mg/kg		0.1	05-JAN-17
Thallium (Tl)			<0.050		mg/kg		0.05	05-JAN-17
Tin (Sn)			<2.0		mg/kg		2	05-JAN-17
Uranium (U)			<0.050		mg/kg		0.05	05-JAN-17
Vanadium (V)			<0.20		mg/kg		0.2	05-JAN-17
Zinc (Zn)			<2.0		mg/kg		2	05-JAN-17
MET-PASTE-ICP-VA								
	Soil							
Batch	R3627704							
WG2458883-3	IRM	VA-ALP-SRS1507						
Sodium (Na)			105.5		%		70-130	04-JAN-17
WG2458883-2	LCS							
Sodium (Na)			97.1		%		80-120	04-JAN-17
WG2458883-1	MB							
Sodium (Na)			<0.50		mg/kg		0.5	04-JAN-17
MOISTURE-VA								
	Soil							
Batch	R3627371							
WG2459522-3	DUP	L1873891-9						
Moisture		21.0	21.3		%	1.1	20	03-JAN-17
WG2459522-2	LCS							
Moisture			99.5		%		90-110	03-JAN-17
WG2459522-6	LCS							
Moisture			99.6		%		90-110	03-JAN-17
WG2459522-1	MB							
Moisture			<0.25		%		0.25	03-JAN-17
WG2459522-5	MB							
Moisture			<0.25		%		0.25	03-JAN-17



Quality Control Report

Workorder: L1873891

Report Date: 24-JAN-17

Page 8 of 13

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-TMB-H/A-MS-VA		Soil						
Batch	R3627626							
WG2459530-1	MB							
Acenaphthene			<0.0050		mg/kg		0.005	04-JAN-17
Acenaphthylene			<0.0050		mg/kg		0.005	04-JAN-17
Anthracene			<0.0040		mg/kg		0.004	04-JAN-17
Benz(a)anthracene			<0.010		mg/kg		0.01	04-JAN-17
Benzo(a)pyrene			<0.010		mg/kg		0.01	04-JAN-17
Benzo(b)fluoranthene			<0.010		mg/kg		0.01	04-JAN-17
Benzo(g,h,i)perylene			<0.010		mg/kg		0.01	04-JAN-17
Benzo(k)fluoranthene			<0.010		mg/kg		0.01	04-JAN-17
Chrysene			<0.010		mg/kg		0.01	04-JAN-17
Dibenz(a,h)anthracene			<0.0050		mg/kg		0.005	04-JAN-17
Fluoranthene			<0.010		mg/kg		0.01	04-JAN-17
Fluorene			<0.010		mg/kg		0.01	04-JAN-17
Indeno(1,2,3-c,d)pyrene			<0.010		mg/kg		0.01	04-JAN-17
2-Methylnaphthalene			<0.010		mg/kg		0.01	04-JAN-17
Naphthalene			<0.010		mg/kg		0.01	04-JAN-17
Phenanthrene			<0.010		mg/kg		0.01	04-JAN-17
Pyrene			<0.010		mg/kg		0.01	04-JAN-17
Surrogate: Naphthalene d8			70.2		%		50-130	04-JAN-17
Surrogate: Acenaphthene d10			77.1		%		60-130	04-JAN-17
Surrogate: Phenanthrene d10			73.5		%		60-130	04-JAN-17
Surrogate: Chrysene d12			87.4		%		60-130	04-JAN-17
PCB-SE-ECD-VA		Soil						
Batch	R3628101							
WG2459526-2	CRM	VA-CRM911-050						
PCB-1254			108.6		%		65-130	05-JAN-17
WG2459526-3	DUP	L1873891-7						
PCB-1016			<0.020	RPD-NA	mg/kg	N/A	50	05-JAN-17
PCB-1221			<0.020	RPD-NA	mg/kg	N/A	50	05-JAN-17
PCB-1232			<0.020	RPD-NA	mg/kg	N/A	50	05-JAN-17
PCB-1242			<0.020	RPD-NA	mg/kg	N/A	50	05-JAN-17
PCB-1248			<0.020	RPD-NA	mg/kg	N/A	50	05-JAN-17
PCB-1254			<0.020	RPD-NA	mg/kg	N/A	50	05-JAN-17
PCB-1260			<0.020	RPD-NA	mg/kg	N/A	50	05-JAN-17
PCB-1262			<0.020	RPD-NA	mg/kg	N/A	50	05-JAN-17



Quality Control Report

Workorder: L1873891

Report Date: 24-JAN-17

Page 9 of 13

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-SE-ECD-VA								
Soil								
Batch	R3628101							
WG2459526-3	DUP	L1873891-7						
PCB-1268		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-JAN-17
WG2459526-1	MB							
PCB-1016			<0.020		mg/kg		0.02	05-JAN-17
PCB-1221			<0.020		mg/kg		0.02	05-JAN-17
PCB-1232			<0.020		mg/kg		0.02	05-JAN-17
PCB-1242			<0.020		mg/kg		0.02	05-JAN-17
PCB-1248			<0.020		mg/kg		0.02	05-JAN-17
PCB-1254			<0.020		mg/kg		0.02	05-JAN-17
PCB-1260			<0.020		mg/kg		0.02	05-JAN-17
PCB-1262			<0.020		mg/kg		0.02	05-JAN-17
PCB-1268			<0.020		mg/kg		0.02	05-JAN-17
PH-1:2-VA								
Soil								
Batch	R3627676							
WG2459499-5	IRM	VA-ALP-SRS1507						
pH (1:2 soil:water)			6.44		pH		6.2-6.8	04-JAN-17
PHEN-TMB-MS-VA								
Soil								
Batch	R3627033							
WG2459242-3	CRM	CRM 143						
4-Chloro-3-methylphenol			107.8		%		60-130	05-JAN-17
2-Chlorophenol			107.1		%		60-130	05-JAN-17
2,4 & 2,5-Dichlorophenol			115.1		%		60-130	05-JAN-17
p-Cresol			97.6		%		60-130	05-JAN-17
Phenol			114.7		%		60-130	05-JAN-17
WG2459242-4	DUP	L1873891-7						
2,4-Dimethylphenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-JAN-17
o-Cresol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-JAN-17
m-Cresol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-JAN-17
p-Cresol		<0.040	<0.050	RPD-NA	mg/kg	N/A	50	05-JAN-17
Phenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-JAN-17
WG2459242-2	LCS							
4-Chloro-3-methylphenol			103.8		%		60-130	05-JAN-17
2-Chlorophenol			91.9		%		60-130	05-JAN-17
3-Chlorophenol			88.8		%		60-130	05-JAN-17
4-Chlorophenol			101.7		%		60-130	05-JAN-17



Quality Control Report

Workorder: L1873891

Report Date: 24-JAN-17

Page 10 of 13

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PHEN-TMB-MS-VA								
	Soil							
Batch	R3627033							
WG2459242-2	LCS							
2,3-Dichlorophenol			92.9		%		60-130	05-JAN-17
2,4 & 2,5-Dichlorophenol			94.3		%		60-130	05-JAN-17
2,6-Dichlorophenol			96.3		%		60-130	05-JAN-17
3,4-Dichlorophenol			94.4		%		60-130	05-JAN-17
3,5-Dichlorophenol			82.7		%		60-130	05-JAN-17
2,4-Dimethylphenol			108.0		%		30-130	05-JAN-17
o-Cresol			84.6		%		50-130	05-JAN-17
m-Cresol			86.8		%		50-130	05-JAN-17
p-Cresol			96.7		%		50-130	05-JAN-17
Phenol			125.3		%		50-130	05-JAN-17
WG2459242-1	MB							
4-Chloro-3-methylphenol			<0.020		mg/kg		0.02	05-JAN-17
2-Chlorophenol			<0.020		mg/kg		0.02	05-JAN-17
3-Chlorophenol			<0.020		mg/kg		0.02	05-JAN-17
4-Chlorophenol			<0.020		mg/kg		0.02	05-JAN-17
2,3-Dichlorophenol			<0.020		mg/kg		0.02	05-JAN-17
2,4 & 2,5-Dichlorophenol			<0.020		mg/kg		0.02	05-JAN-17
2,6-Dichlorophenol			<0.020		mg/kg		0.02	05-JAN-17
3,4-Dichlorophenol			<0.020		mg/kg		0.02	05-JAN-17
3,5-Dichlorophenol			<0.020		mg/kg		0.02	05-JAN-17
2,4-Dimethylphenol			<0.020		mg/kg		0.02	05-JAN-17
o-Cresol			<0.020		mg/kg		0.02	05-JAN-17
m-Cresol			<0.020		mg/kg		0.02	05-JAN-17
p-Cresol			<0.020		mg/kg		0.02	05-JAN-17
Phenol			<0.020		mg/kg		0.02	05-JAN-17
SAT-PCNT-VA								
	Soil							
Batch	R3627619							
WG2458883-3	IRM	VA-ALP-SRS1507						
% Saturation			100.5		%		80-120	04-JAN-17
WG2458883-1	MB							
% Saturation			50.0		%		50	04-JAN-17
SO4-LEACH-IC-VA								
	Soil							



Quality Control Report

Workorder: L1873891

Report Date: 24-JAN-17

Page 11 of 13

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SO4-LEACH-IC-VA	Soil							
Batch	R3628252							
WG2459735-4	DUP	L1873891-1						
Sulfate (SO4)		146	147		mg/kg	0.6	20	04-JAN-17
WG2459735-2	LCS							
Sulfate (SO4)			98.9		%		70-130	04-JAN-17
WG2459735-1	MB							
Sulfate (SO4)			<10		mg/kg		10	04-JAN-17

Quality Control Report

Workorder: L1873891

Report Date: 24-JAN-17

Page 12 of 13

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
J,R	The analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M,U	A peak has been manually integrated, and the analyte was not detected above the EDL.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.
[U]	The analyte was not detected above the EDL.

Quality Control Report

Workorder: L1873891

Report Date: 24-JAN-17

Page 13 of 13

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Leachable Anions & Nutrients							
Nitrate leach (1:10) by IC							
	1	27-DEC-16	04-JAN-17 09:30	3	8	days	EHT
	8	27-DEC-16	04-JAN-17 09:30	3	8	days	EHT
	9	27-DEC-16	04-JAN-17 09:30	3	8	days	EHT
Nitrite leach (1:10) by IC							
	1	27-DEC-16	04-JAN-17 09:30	3	8	days	EHT
	8	27-DEC-16	04-JAN-17 09:30	3	8	days	EHT
	9	27-DEC-16	04-JAN-17 09:30	3	8	days	EHT

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 L1873891 were received on 27-DEC-16 13:45.

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 pre-determined 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.

Report

Page 1 (3)



L1700545

2BJ04BLZPHM



Date received **2017-01-10**
Issued **2017-01-19**

ALS Vancouver
Amber Springer
8081 Lougheed Highway
Burnaby
British Columbia V5A 1W9
Canada

Project **L1873891**

Analysis: OJ19A

Your ID	QC				
LabID	U11282307				
Analysis	Results	Unit	Method	Issuer	Sign
monobutyltin recovery	112.9	%	1	C	ANBE
dibutyltin recovery	75.6	%	1	C	ANBE
tributyltin recovery	90.2	%	1	C	ANBE
tetrabutyltin recovery	113.0	%	1	C	ANBE
monooctyltin recovery	103.5	%	1	C	ANBE
dioctyltin recovery	47.1	%	1	C	ANBE
tricyclohexyltin recovery	80.8	%	1	C	ANBE
monophenyltin recovery	83.2	%	1	C	ANBE
diphenyltin recovery	84.1	%	1	C	ANBE
triphenyltin recovery	83.7	%	1	C	ANBE

Your ID	Blanc				
LabID	U11282308				
Analysis	Results	Unit	Method	Issuer	Sign
monobutyltin	0	µg/kg DW	1	C	ANBE
dibutyltin	0	µg/kg DW	1	C	ANBE
tributyltin	0	µg/kg DW	1	C	ANBE
tetrabutyltin	0	µg/kg DW	1	C	ANBE
monooctyltin	0	µg/kg DW	1	C	ANBE
dioktyltn	0	µg/kg DW	1	C	ANBE
tricyclohexyltin	0	µg/kg DW	1	C	ANBE
monophenyltin	0	µg/kg DW	1	C	ANBE
diphenyltin	0	µg/kg DW	1	C	ANBE
triphenyltin	0	µg/kg DW	1	C	ANBE

Report

Page 2 (3)



L1700545

2BJ04BLZPHM



Your ID	L1873891-1 02048-01					
LabID	U11282309					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
TS 105°C	80.0	2%	%	2	V	JOGR
monobutyltin	<1		$\mu\text{g}/\text{kg DW}$	1	C	ANBE
dibutyltin	<1		$\mu\text{g}/\text{kg DW}$	1	C	ANBE
tributyltin	<1		$\mu\text{g}/\text{kg DW}$	1	C	ANBE
tetrabutyltin	<1		$\mu\text{g}/\text{kg DW}$	1	C	ANBE
monooktyltin	<1		$\mu\text{g}/\text{kg DW}$	1	C	ANBE
dioktyltin	<1		$\mu\text{g}/\text{kg DW}$	1	C	ANBE
tricyclohexyltin	<1		$\mu\text{g}/\text{kg DW}$	1	C	ANBE
monophenyltin	<1		$\mu\text{g}/\text{kg DW}$	1	C	ANBE
diphenyltin	<1		$\mu\text{g}/\text{kg DW}$	1	C	ANBE
triphenyltin	<1		$\mu\text{g}/\text{kg DW}$	1	C	ANBE

Your ID	L1873891-1 02048-01 Duplicate					
LabID	U11282310					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
TS 105°C	80.9	2%	%	2	V	JOGR
monobutyltin	<1		$\mu\text{g}/\text{kg DW}$	1	C	ANBE
dibutyltin	<1		$\mu\text{g}/\text{kg DW}$	1	C	ANBE
tributyltin	<1		$\mu\text{g}/\text{kg DW}$	1	C	ANBE
tetrabutyltin	<1		$\mu\text{g}/\text{kg DW}$	1	C	ANBE
monooktyltin	<1		$\mu\text{g}/\text{kg DW}$	1	C	ANBE
dioktyltin	<1		$\mu\text{g}/\text{kg DW}$	1	C	ANBE
tricyclohexyltin	<1		$\mu\text{g}/\text{kg DW}$	1	C	ANBE
monophenyltin	<1		$\mu\text{g}/\text{kg DW}$	1	C	ANBE
diphenyltin	<1		$\mu\text{g}/\text{kg DW}$	1	C	ANBE
triphenyltin	<1		$\mu\text{g}/\text{kg DW}$	1	C	ANBE

Report

Page 3 (3)



L1700545

2BJ04BLZPHM



Method specification	
1	Determination of organotin compounds according to ISO 23161:2011 with acidic extraction. The analyses are performed using GC-ICP-SFMS.
2	Analysed according to SS 028113.

Approver	
ANBE	Andreas Bernas
JOGR	Jonna Grundström

Issuer ¹	
C	GC-ICP-MS
V	Våtkemi

* indicates unaccredited analysis.

The uncertainty is given as extended uncertainty (according to the definition in "Guide to the Expression of Uncertainty in Measurement", JCGM 100:2008 Corrected version 2010) calculated with a coverage factor of 2, which gives a confidence level of approximately 95%.

Measurement of uncertainty is reported only for detected substances with levels above the reporting limits.

The uncertainty from subcontractors is often given as extended uncertainty calculated with a coverage factor of 2. Contact the laboratory for further information.

This report may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

The results apply only to the material that has been identified, received, and tested.

Regarding the laboratory's liability in relation to assignment, please refer to our latest product catalogue or website <http://www.alsglobal.se>

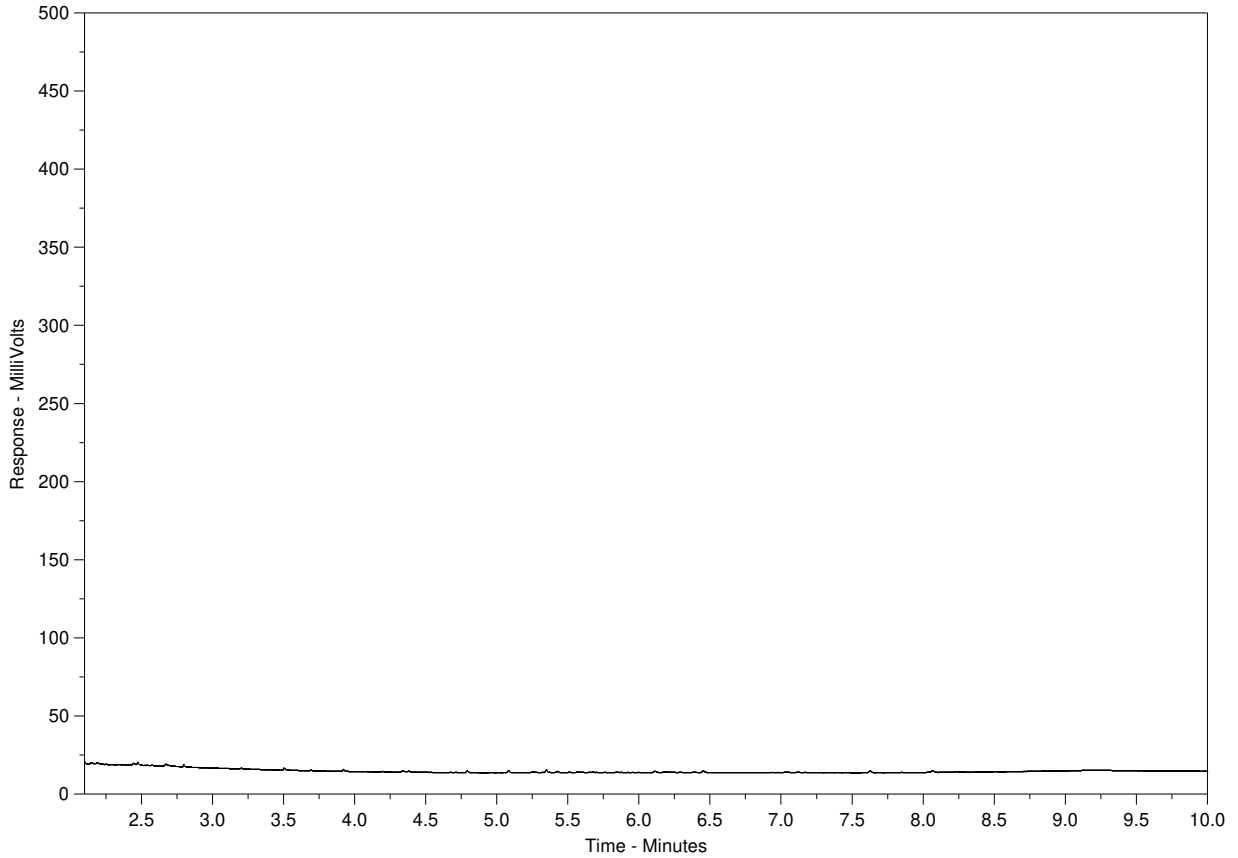
The digitally signed PDF file represents the original report. Any printouts are to be considered as copies.

¹ The technical unit within ALS Scandinavia where the analysis was carried out, alternatively the subcontractor for the analysis.

Hydrocarbon Distribution Report



ALS Sample ID: L1873891-1
 Client Sample ID: 02048-01



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

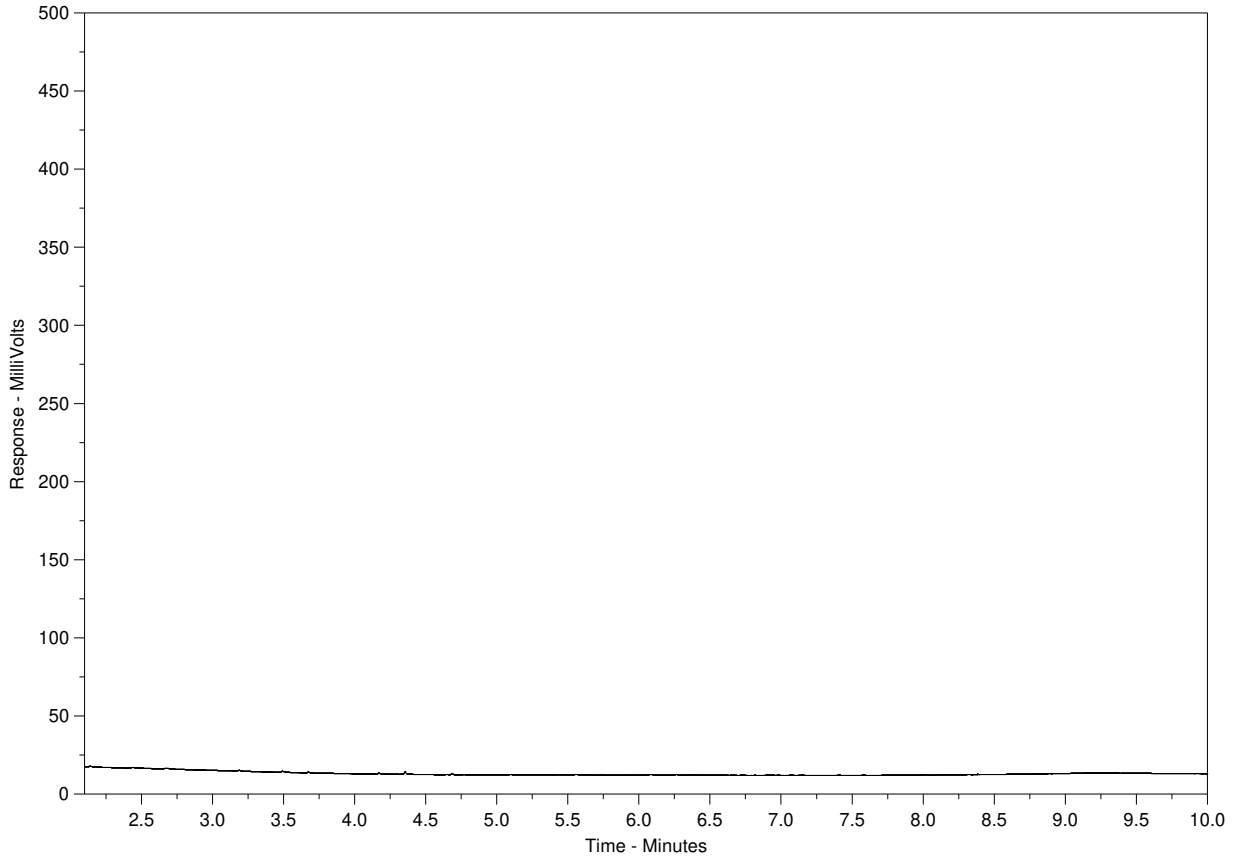
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Hydrocarbon Distribution Report



ALS Sample ID: L1873891-7
Client Sample ID: 02048-07



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →		
← Diesel / Jet Fuels →		
← Motor Oils / Lube Oils / Grease →		

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

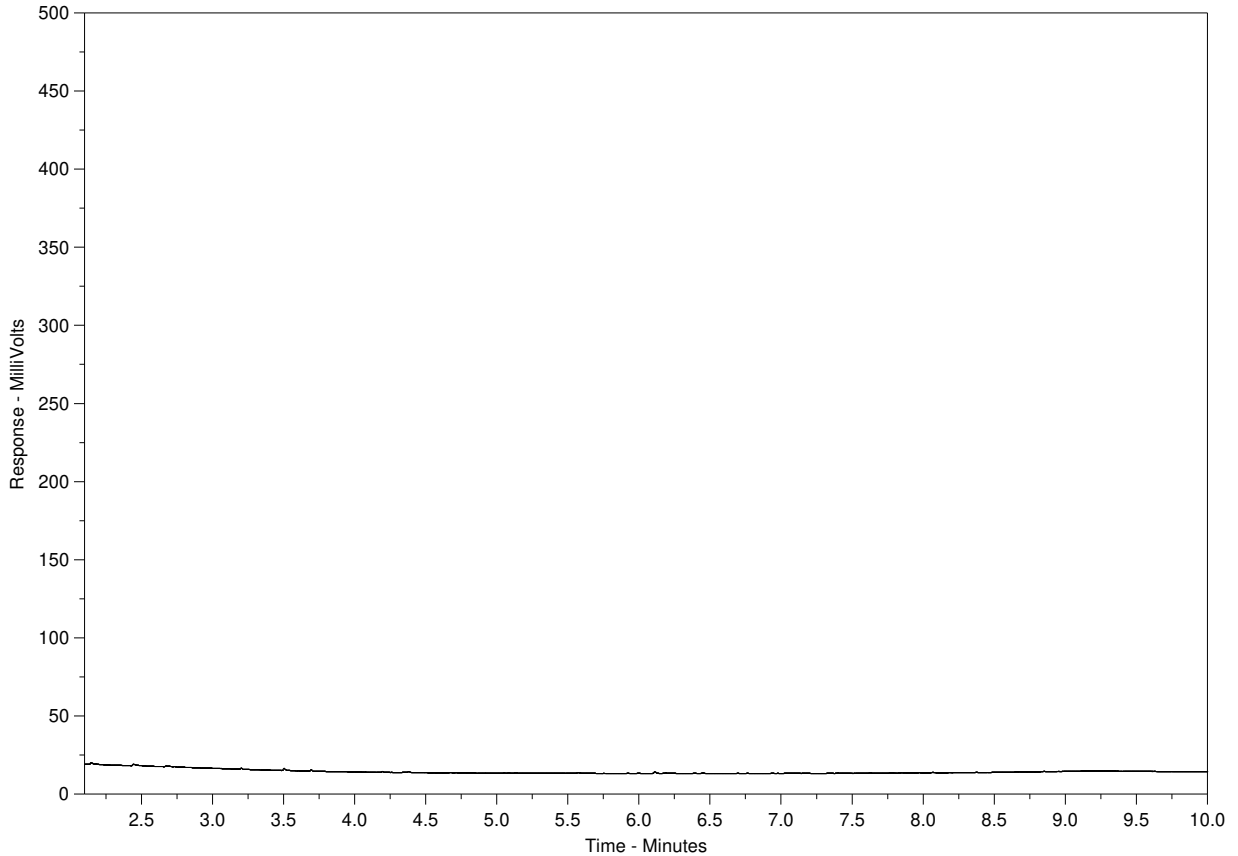
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Hydrocarbon Distribution Report



ALS Sample ID: L1873891-9
Client Sample ID: 02048-09



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →		
← Diesel / Jet Fuels →		
← Motor Oils / Lube Oils / Grease →		

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

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

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.



200 - 2920 Virtual Way
 Vancouver, British Columbia, Canada V5M 0C4
 Telephone (604) 296-4200 Fax (604) 298-5253

CHAIN OF CUSTODY RECORD/ANALYSIS REQUEST

Project Number: 1525010/3300/3300.3		Laboratory Name: ALS	
Short Title: ANNACTS ISLAND WTP		Golder Contact: JIM LATDIAW	Address: 8081 Lougheed Highway
Golder E-mail Address 1: j.laidlaw@golder.com	Golder E-mail Address 2: j.laidlaw@golder.com	Telephone/Fax:	Contact: AMBER SPENCE

Office Name: VANCOUVER					EQUS Facility Code: 41098320 EQUS upload: <input checked="" type="checkbox"/>					Analyses Required										
Turnaround Time: <input type="checkbox"/> 24 hr <input type="checkbox"/> 48 hr <input type="checkbox"/> 72 hr <input checked="" type="checkbox"/> Regular (5 Days)					Criteria: <input type="checkbox"/> CSR <input type="checkbox"/> CCME <input type="checkbox"/> BC Water Quality <input type="checkbox"/> Other					Note: Final Reports to be issued by e-mail										
Quote No.:					Number of Containers					Remarks (over)										
Sample Control Number (SCN)	Sample Location	Sa. #	Sample Depth (m)	Sample Matrix (over)	Date Sampled (D/M/Y)	Time Sampled (HH:MM)	Sample Type (over)	QAQC Code (over)	Related SCN (over)											
02048-01	BH 16-08	25-27	25-27	Soil	27/12/16		Doveb			2										
-02			30-32																	
-03			35-37																	
-04			40-42																	
-05			45-47																	
-06			50-52																	
-07			55-57																	
-08			60-62																	
-09			65-67																	
-10			70-72																	
-11																				
-12																				



Sampler's Signature: ALVARO GARCIA		Relinquished by: Signature		Company: GOLDER		Date: 27-DEC-2016		Time:		Received by: Signature		Company:	
Comments:		Method of Shipment:		Waybill No.:		Received for Lab by: VC		Date: Dec 27		Time: 13:45			
Shipped by:		Shipment Condition:		Temp (°C): 14.7C		Cooler opened by:		Date:		Time:			
		Seal intact:											

WHITE: Golder Copy YELLOW: Lab Copy



APPENDIX E

Groundwater Analysis Results



GOLDER ASSOCIATES LTD.
ATTN: Alvaro Garrido Hernan- Gomez
200- 2920 Virtual Way
Vancouver BC V5M 0C4

Date Received: 09- DEC- 16
Report Date: 21- DEC- 16 18:24 (MT)
Version: FINAL

Client Phone: 604- 298- 6623

Certificate of Analysis

Lab Work Order #: L1868575

Project P.O. #: NOT SUBMITTED
Job Reference: 1525010
C of C Numbers: 02333
Legal Site Desc:

Amber Springer, B.Sc
Account Manager

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

ADDRESS: 8081 Lougheed Hwy, Suite 100, Burnaby, BC V5A 1W9 Canada | Phone: +1 604 253 4188 | Fax: +1 604 253 6700
ALS CANADA LTD Part of the ALS Group A Campbell Brothers Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1868575-1 GW 08-DEC-16 11:40 02333-01	L1868575-2 GW 08-DEC-16 13:18 02333-02	L1868575-3 GW 08-DEC-16 14:26 02333-03	L1868575-4 GW 08-DEC-16 14:26 02333-04	L1868575-5 GW 08-DEC-16 09:25 02333-05	
Grouping	Analyte					
WATER						
Physical Tests	Hardness (as CaCO3) (mg/L)	141	156	38.2	39.3	332
	Salinity (psu)		<1.0	<1.0	<1.0	<1.0
Anions and Nutrients	Bromide (Br) (mg/L)	0.64	0.166	0.113	0.119	<0.25 ^{DLDS}
	Chloride (Cl) (mg/L)	176	38.9	34.9	35.4	25.6
	Fluoride (F) (mg/L)	0.35	0.386	0.057	0.059	0.12
	Nitrate (as N) (mg/L)	<0.025 ^{DLDS}	<0.0050	0.0075	0.0084	<0.025 ^{DLDS}
	Nitrite (as N) (mg/L)	<0.0050 ^{DLDS}	<0.0010	0.0191	0.0197	<0.0050 ^{DLDS}
	Sulfate (SO4) (mg/L)	118	24.2	41.1	41.5	7.7
Dissolved Metals	Dissolved Mercury Filtration Location		FIELD	FIELD	FIELD	FIELD
	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.045	<0.010	0.221	0.357	<0.010
	Antimony (Sb)-Dissolved (mg/L)	0.00090	<0.00050	<0.00050	<0.00050	<0.00050
	Arsenic (As)-Dissolved (mg/L)	0.0049	0.0038	0.0010	<0.0010	0.0069
	Barium (Ba)-Dissolved (mg/L)	0.080	0.050	0.023	0.024	0.107
	Beryllium (Be)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Boron (B)-Dissolved (mg/L)	<0.10	<0.10	<0.10	<0.10	0.12
	Cadmium (Cd)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Calcium (Ca)-Dissolved (mg/L)	40.6	44.2	11.2	11.6	91.9
	Chromium (Cr)-Dissolved (mg/L)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Cobalt (Co)-Dissolved (mg/L)	0.00077	0.00078	<0.00050	<0.00050	0.00237
	Copper (Cu)-Dissolved (mg/L)	<0.0010	<0.0010	0.0014	0.0014	<0.0010
	Iron (Fe)-Dissolved (mg/L)	2.52	1.76	0.120	0.117	18.2
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Magnesium (Mg)-Dissolved (mg/L)	9.60	11.0	2.49	2.54	24.9
	Manganese (Mn)-Dissolved (mg/L)	0.536	0.688	0.016	0.016	2.25
	Mercury (Hg)-Dissolved (mg/L)	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	Molybdenum (Mo)-Dissolved (mg/L)	0.0290	0.0061	0.0030	0.0030	0.0036
	Nickel (Ni)-Dissolved (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Potassium (K)-Dissolved (mg/L)	6.6	5.5	<2.0	<2.0	8.1
	Selenium (Se)-Dissolved (mg/L)	0.0015	<0.0010	<0.0010	<0.0010	<0.0010
	Silver (Ag)-Dissolved (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Sodium (Na)-Dissolved (mg/L)	215	73.5	56.7	59.3	84.0
	Thallium (Tl)-Dissolved (mg/L)	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	Titanium (Ti)-Dissolved (mg/L)	<0.050	<0.050	<0.050	<0.050	<0.050
	Uranium (U)-Dissolved (mg/L)	0.0146	0.00136	0.00170	0.00171	0.00185
	Vanadium (V)-Dissolved (mg/L)	<0.030	<0.030	<0.030	<0.030	<0.030

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1868575-6 GW 08-DEC-16 10:40 02333-06	L1868575-7 GW 08-DEC-16 16:15 02333-07		
Grouping	Analyte				
WATER					
Physical Tests	Hardness (as CaCO3) (mg/L)	163	214		
	Salinity (psu)	<1.0	<1.0		
Anions and Nutrients	Bromide (Br) (mg/L)	<0.050	0.121		
	Chloride (Cl) (mg/L)	68.1	24.0		
	Fluoride (F) (mg/L)	0.249	0.238		
	Nitrate (as N) (mg/L)	<0.0050	<0.0050		
	Nitrite (as N) (mg/L)	<0.0010	<0.0010		
	Sulfate (SO4) (mg/L)	8.20	41.9		
Dissolved Metals	Dissolved Mercury Filtration Location	FIELD	FIELD		
	Dissolved Metals Filtration Location	FIELD	FIELD		
	Aluminum (Al)-Dissolved (mg/L)	<0.010	<0.010		
	Antimony (Sb)-Dissolved (mg/L)	<0.00050	<0.00050		
	Arsenic (As)-Dissolved (mg/L)	0.0040	0.0039		
	Barium (Ba)-Dissolved (mg/L)	0.061	0.086		
	Beryllium (Be)-Dissolved (mg/L)	<0.0050	<0.0050		
	Boron (B)-Dissolved (mg/L)	<0.10	<0.10		
	Cadmium (Cd)-Dissolved (mg/L)	<0.000050	<0.000050		
	Calcium (Ca)-Dissolved (mg/L)	47.1	55.5		
	Chromium (Cr)-Dissolved (mg/L)	0.00097	<0.00050		
	Cobalt (Co)-Dissolved (mg/L)	0.00122	0.00172		
	Copper (Cu)-Dissolved (mg/L)	<0.0010	<0.0010		
	Iron (Fe)-Dissolved (mg/L)	3.05	8.93		
	Lead (Pb)-Dissolved (mg/L)	<0.0010	<0.0010		
	Lithium (Li)-Dissolved (mg/L)	<0.050	<0.050		
	Magnesium (Mg)-Dissolved (mg/L)	11.0	18.4		
	Manganese (Mn)-Dissolved (mg/L)	1.14	1.58		
	Mercury (Hg)-Dissolved (mg/L)	<0.00020	<0.00020		
	Molybdenum (Mo)-Dissolved (mg/L)	0.0049	0.0050		
	Nickel (Ni)-Dissolved (mg/L)	<0.0050	<0.0050		
	Potassium (K)-Dissolved (mg/L)	3.4	6.0		
	Selenium (Se)-Dissolved (mg/L)	<0.0010	<0.0010		
	Silver (Ag)-Dissolved (mg/L)	<0.000050	<0.000050		
	Sodium (Na)-Dissolved (mg/L)	64.2	80.2		
	Thallium (Tl)-Dissolved (mg/L)	<0.00020	<0.00020		
Titanium (Ti)-Dissolved (mg/L)	<0.050	<0.050			
Uranium (U)-Dissolved (mg/L)	0.00058	0.00230			
Vanadium (V)-Dissolved (mg/L)	<0.030	<0.030			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1868575-1	L1868575-2	L1868575-3	L1868575-4	L1868575-5
		Description	GW	GW	GW	GW	GW
		Sampled Date	08-DEC-16	08-DEC-16	08-DEC-16	08-DEC-16	08-DEC-16
		Sampled Time	11:40	13:18	14:26	14:26	09:25
		Client ID	02333-01	02333-02	02333-03	02333-04	02333-05
Grouping	Analyte						
WATER							
Dissolved Metals	Zinc (Zn)-Dissolved (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050	0.0057
Volatile Organic Compounds	Benzene (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Bromodichloromethane (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Bromoform (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Carbon Tetrachloride (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Chlorobenzene (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Dibromochloromethane (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Chloroethane (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Chloroform (mg/L)		0.0165	0.0017	0.0312	0.0306	0.0079
	Chloromethane (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	1,2-Dichlorobenzene (mg/L)		<0.00070	<0.00070	<0.00070	<0.00070	<0.00070
	1,3-Dichlorobenzene (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,4-Dichlorobenzene (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,1-Dichloroethane (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,2-Dichloroethane (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,1-Dichloroethylene (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	cis-1,2-Dichloroethylene (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	trans-1,2-Dichloroethylene (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Dichloromethane (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	1,2-Dichloropropane (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	cis-1,3-Dichloropropylene (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	trans-1,3-Dichloropropylene (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,3-Dichloropropene (cis & trans) (mg/L)		<0.0014	<0.0014	<0.0014	<0.0014	<0.0014
	Ethylbenzene (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Methyl t-butyl ether (MTBE) (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	Styrene (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	1,1,1,2-Tetrachloroethane (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,1,2,2-Tetrachloroethane (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Tetrachloroethylene (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Toluene (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	1,1,1-Trichloroethane (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	1,1,2-Trichloroethane (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Trichloroethylene (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Trichlorofluoromethane (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	Vinyl Chloride (mg/L)		<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
	ortho-Xylene (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
	meta- & para-Xylene (mg/L)		<0.00050	<0.00050	<0.00050	<0.00050	<0.00050

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1868575-6 GW 08-DEC-16 10:40 02333-06	L1868575-7 GW 08-DEC-16 16:15 02333-07		
Grouping	Analyte				
WATER					
Dissolved Metals	Zinc (Zn)-Dissolved (mg/L)	<0.0050	<0.0050		
Volatile Organic Compounds	Benzene (mg/L)	<0.00050	<0.00050		
	Bromodichloromethane (mg/L)	<0.0010	<0.0010		
	Bromoform (mg/L)	<0.0010	<0.0010		
	Carbon Tetrachloride (mg/L)	<0.00050	<0.00050		
	Chlorobenzene (mg/L)	<0.0010	<0.0010		
	Dibromochloromethane (mg/L)	<0.0010	<0.0010		
	Chloroethane (mg/L)	<0.0010	<0.0010		
	Chloroform (mg/L)	0.0025	0.0023		
	Chloromethane (mg/L)	<0.0050	<0.0050		
	1,2-Dichlorobenzene (mg/L)	<0.00070	<0.00070		
	1,3-Dichlorobenzene (mg/L)	<0.0010	<0.0010		
	1,4-Dichlorobenzene (mg/L)	<0.0010	<0.0010		
	1,1-Dichloroethane (mg/L)	<0.0010	<0.0010		
	1,2-Dichloroethane (mg/L)	<0.0010	<0.0010		
	1,1-Dichloroethylene (mg/L)	<0.0010	<0.0010		
	cis-1,2-Dichloroethylene (mg/L)	<0.0010	<0.0010		
	trans-1,2-Dichloroethylene (mg/L)	<0.0010	<0.0010		
	Dichloromethane (mg/L)	<0.0050	<0.0050		
	1,2-Dichloropropane (mg/L)	<0.0010	<0.0010		
	cis-1,3-Dichloropropylene (mg/L)	<0.0010	<0.0010		
	trans-1,3-Dichloropropylene (mg/L)	<0.0010	<0.0010		
	1,3-Dichloropropene (cis & trans) (mg/L)	<0.0014	<0.0014		
	Ethylbenzene (mg/L)	<0.00050	<0.00050		
	Methyl t-butyl ether (MTBE) (mg/L)	<0.00050	<0.00050		
	Styrene (mg/L)	<0.00050	<0.00050		
	1,1,1,2-Tetrachloroethane (mg/L)	<0.0010	<0.0010		
	1,1,2,2-Tetrachloroethane (mg/L)	<0.0010	<0.0010		
	Tetrachloroethylene (mg/L)	<0.0010	<0.0010		
	Toluene (mg/L)	<0.00050	<0.00050		
	1,1,1-Trichloroethane (mg/L)	<0.0010	<0.0010		
	1,1,2-Trichloroethane (mg/L)	<0.0010	<0.0010		
	Trichloroethylene (mg/L)	<0.0010	<0.0010		
	Trichlorofluoromethane (mg/L)	<0.0010	<0.0010		
	Vinyl Chloride (mg/L)	<0.0010	<0.0010		
	ortho-Xylene (mg/L)	<0.00050	<0.00050		
	meta- & para-Xylene (mg/L)	<0.00050	<0.00050		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	Description	L1868575-1	L1868575-2	L1868575-3	L1868575-4	L1868575-5
		GW	GW	GW	GW	GW
		08-DEC-16	08-DEC-16	08-DEC-16	08-DEC-16	08-DEC-16
		11:40	13:18	14:26	14:26	09:25
		02333-01	02333-02	02333-03	02333-04	02333-05
Grouping	Analyte					
WATER						
Volatile Organic Compounds	Xylenes (mg/L)	<0.00075	<0.00075	<0.00075	<0.00075	<0.00075
	Surrogate: 4-Bromofluorobenzene (SS) (%)	96.6	97.1	94.5	97.6	96.2
	Surrogate: 1,4-Difluorobenzene (SS) (%)	97.3	98.2	99.4	98.7	102.7
Hydrocarbons	EPH10-19 (mg/L)	1.90	<0.25	<0.25	<0.25	<0.25
	EPH19-32 (mg/L)	0.31	<0.25	<0.25	<0.25	<0.25
	LEPH (mg/L)	1.90	<0.25	<0.25	<0.25	<0.25
	HEPH (mg/L)	0.31	<0.25	<0.25	<0.25	<0.25
	Surrogate: 2-Bromobenzotrifluoride (%)	98.6	86.8	95.5	88.4	96.9
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Acenaphthylene (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Acridine (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Anthracene (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Benz(a)anthracene (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Benzo(a)pyrene (mg/L)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
	Benzo(b)fluoranthene (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Benzo(g,h,i)perylene (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Benzo(k)fluoranthene (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Chrysene (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Dibenz(a,h)anthracene (mg/L)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
	Fluoranthene (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Fluorene (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Indeno(1,2,3-c,d)pyrene (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Naphthalene (mg/L)	<0.00020 ^{DLCI}	<0.000050	<0.000050	<0.000050	<0.000050
	Phenanthrene (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Pyrene (mg/L)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
	Quinoline (mg/L)	<0.00020 ^{DLCI}	<0.000050	<0.000050	<0.000050	<0.000050
	Surrogate: Acridine d9 (%)	81.3	85.8	91.1	85.5	86.7
	Surrogate: Chrysene d12 (%)	88.3	93.7	97.8	87.1	77.6
Surrogate: Naphthalene d8 (%)	97.6	90.2	101.0	91.2	90.3	
Surrogate: Phenanthrene d10 (%)	102.7	94.3	106.6	96.2	90.6	
Trihalomethanes	Total THMs (mg/L)	0.0165	<0.0020	0.0312	0.0306	0.0079
Phenolics	2,4-Dimethylphenol (mg/L)	<0.0025	<0.00050	<0.00050	<0.00050	<0.00050
	o-Cresol (mg/L)	<0.0025	<0.00050	<0.00050	<0.00050	<0.00050
	m-Cresol (mg/L)	<0.0025	<0.00050	<0.00050	<0.00050	<0.00050
	p-Cresol (mg/L)	<0.0025	<0.00050	<0.00050	<0.00050	<0.00050
	Phenol (mg/L)	<0.0050	<0.0010	<0.0010	<0.0010	<0.0010

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1868575-6 GW 08-DEC-16 10:40 02333-06	L1868575-7 GW 08-DEC-16 16:15 02333-07		
Grouping	Analyte				
WATER					
Volatile Organic Compounds	Xylenes (mg/L)	<0.00075	<0.00075		
	Surrogate: 4-Bromofluorobenzene (SS) (%)	96.6	97.5		
	Surrogate: 1,4-Difluorobenzene (SS) (%)	94.0	99.3		
Hydrocarbons	EPH10-19 (mg/L)	<0.25	<0.25		
	EPH19-32 (mg/L)	<0.25	<0.25		
	LEPH (mg/L)	<0.25	<0.25		
	HEPH (mg/L)	<0.25	<0.25		
	Surrogate: 2-Bromobenzotrifluoride (%)	92.3	99.5		
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/L)	<0.000050	<0.000050		
	Acenaphthylene (mg/L)	<0.000050	<0.000050		
	Acridine (mg/L)	<0.000050	<0.000050		
	Anthracene (mg/L)	<0.000050	<0.000050		
	Benz(a)anthracene (mg/L)	<0.000050	<0.000050		
	Benzo(a)pyrene (mg/L)	<0.0000050	<0.0000050		
	Benzo(b)fluoranthene (mg/L)	<0.000050	<0.000050		
	Benzo(g,h,i)perylene (mg/L)	<0.000050	<0.000050		
	Benzo(k)fluoranthene (mg/L)	<0.000050	<0.000050		
	Chrysene (mg/L)	<0.000050	<0.000050		
	Dibenz(a,h)anthracene (mg/L)	<0.0000050	<0.0000050		
	Fluoranthene (mg/L)	<0.000050	<0.000050		
	Fluorene (mg/L)	<0.000050	<0.000050		
	Indeno(1,2,3-c,d)pyrene (mg/L)	<0.000050	<0.000050		
	Naphthalene (mg/L)	<0.000050	<0.000050		
	Phenanthrene (mg/L)	<0.000050	<0.000050		
	Pyrene (mg/L)	<0.000050	<0.000050		
	Quinoline (mg/L)	<0.000050	<0.000050		
	Surrogate: Acridine d9 (%)	91.8	86.8		
	Surrogate: Chrysene d12 (%)	88.3	85.2		
Surrogate: Naphthalene d8 (%)	94.6	94.1			
Surrogate: Phenanthrene d10 (%)	99.8	99.3			
Trihalomethanes	Total THMs (mg/L)	0.0025	0.0023		
Phenolics	2,4-Dimethylphenol (mg/L)	<0.00050	<0.00050		
	o-Cresol (mg/L)	<0.00050	<0.00050		
	m-Cresol (mg/L)	<0.00050	<0.00050		
	p-Cresol (mg/L)	<0.00050	0.00068		
	Phenol (mg/L)	<0.0010	<0.0010		

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1868575-1 GW 08-DEC-16 11:40 02333-01	L1868575-2 GW 08-DEC-16 13:18 02333-02	L1868575-3 GW 08-DEC-16 14:26 02333-03	L1868575-4 GW 08-DEC-16 14:26 02333-04	L1868575-5 GW 08-DEC-16 09:25 02333-05
Grouping	Analyte					
WATER						
Polychlorinated Biphenyls	PCB-1016 (mg/L)		<0.0010			
	PCB-1221 (mg/L)		<0.0010			
	PCB-1232 (mg/L)		<0.0010			
	PCB-1242 (mg/L)		<0.0010			
	PCB-1248 (mg/L)		<0.0010			
	PCB-1254 (mg/L)		<0.0010			
	PCB-1260 (mg/L)		<0.0010			
	PCB-1262 (mg/L)		<0.0010			
	PCB-1268 (mg/L)		<0.0010			
	Total PCB (BC CSR) (mg/L)		<0.0010			
	Total Polychlorinated Biphenyls (mg/L)		<0.0010			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1868575-6	L1868575-7			
		Description	GW	GW			
		Sampled Date	08-DEC-16	08-DEC-16			
		Sampled Time	10:40	16:15			
		Client ID	02333-06	02333-07			
Grouping	Analyte						
WATER							
Polychlorinated Biphenyls	PCB-1016 (mg/L)			<0.0010			
	PCB-1221 (mg/L)			<0.0010			
	PCB-1232 (mg/L)			<0.0010			
	PCB-1242 (mg/L)			<0.0010			
	PCB-1248 (mg/L)			<0.0010			
	PCB-1254 (mg/L)			<0.0010			
	PCB-1260 (mg/L)			<0.0010			
	PCB-1262 (mg/L)			<0.0010			
	PCB-1268 (mg/L)			<0.0010			
	Total PCB (BC CSR) (mg/L)			<0.0010			
	Total Polychlorinated Biphenyls (mg/L)			<0.0010			

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Laboratory Control Sample	o-Cresol	LCS-ND	L1868575-1
Matrix Spike	Aluminum (Al)-Dissolved	MS-B	L1868575-1, -2, -3, -4, -5, -6, -7
Matrix Spike	Arsenic (As)-Dissolved	MS-B	L1868575-1, -2, -3, -4, -5, -6, -7
Matrix Spike	Cadmium (Cd)-Dissolved	MS-B	L1868575-1, -2, -3, -4, -5, -6, -7
Matrix Spike	Copper (Cu)-Dissolved	MS-B	L1868575-1, -2, -3, -4, -5, -6, -7
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1868575-1, -2, -3, -4, -5, -6, -7
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1868575-1, -2, -3, -4, -5, -6, -7
Matrix Spike	Iron (Fe)-Dissolved	MS-B	L1868575-1, -2, -3, -4, -5, -6, -7
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1868575-1, -2, -3, -4, -5, -6, -7
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1868575-1, -2, -3, -4, -5, -6, -7
Matrix Spike	Nitrate (as N)	MS-B	L1868575-1
Matrix Spike	Sulfate (SO4)	MS-B	L1868575-2, -3, -4, -5, -6, -7
Matrix Spike	Sulfate (SO4)	MS-B	L1868575-1

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLCI	Detection Limit Raised: Chromatographic Interference due to co-elution.
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.
LCS-ND	Lab Control Sample recovery was slightly outside ALS DQO. Reported non-detect results for associated samples were unaffected.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BR-L-IC-N-VA	Water	Bromide in Water by IC (Low Level) Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.	EPA 300.1 (mod)
CL-IC-N-VA	Water	Chloride in Water by IC Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.	EPA 300.1 (mod)
EPH-ME-FID-VA	Water	EPH in Water EPH is extracted from water using a hexane micro-extraction technique, with analysis by GC-FID, as per the BC Lab Manual. EPH results include PAHs and are therefore not equivalent to LEPH or HEPH.	BC Lab Manual
F-IC-N-VA	Water	Fluoride in Water by IC Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.	EPA 300.1 (mod)
HARDNESS-CALC-VA	Water	Hardness Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation.	APHA 2340B
HG-DIS-CVAFS-VA	Water	Dissolved Hg in Water by CVAFS LOR=50ppt This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedures may involve preliminary sample treatment by filtration (EPA Method 3005A) and involves a cold-oxidation of the acidified sample using bromine monochloride prior to reduction of the sample with stannous chloride. Instrumental analysis is by cold vapour atomic fluorescence spectrophotometry or atomic absorption spectrophotometry (EPA Method 245.7).	APHA 3030B/EPA 1631E (mod)
LEPH/HEPH-CALC-VA	Water	LEPHs and HEPHs Light and Heavy Extractable Petroleum Hydrocarbons in water. These results are determined according to the British Columbia Ministry of Environment, Lands, and Parks Analytical Method for Contaminated Sites "Calculation of Light and Heavy Extractable Petroleum Hydrocarbons in Solids or Water". According to this method, LEPH and HEPH are calculated by subtracting selected Polycyclic Aromatic Hydrocarbon results from Extractable Petroleum Hydrocarbon results. To calculate LEPH, the individual results for Acenaphthene, Acridine, Anthracene, Fluorene, Naphthalene and Phenanthrene are subtracted from EPH(C10-19). To calculate HEPH, the individual results for Benz(a)anthracene, Benzo(a)pyrene, Fluoranthene, and Pyrene are subtracted from EPH(C19-32). Analysis of Extractable Petroleum Hydrocarbons adheres to all prescribed elements of the BCMELP method "Extractable Petroleum Hydrocarbons in Water by GC/FID" (Version 2.1, July 20, 1999).	BC MOE LABORATORY MANUAL (2005)
MET-D-CCMS-VA	Water	Dissolved Metals in Water by CRC ICPMS 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.	APHA 3030B/6020A (mod)

Reference Information

MET-DIS-ICP-VA	Water	Dissolved Metals in Water by ICPOES	EPA SW-846 3005A/6010B
This analysis is carried out using procedures adapted from "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, and with procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846 published by the United States Environmental Protection Agency (EPA). The procedure involves filtration (EPA Method 3005A) and analysis by inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).			
NO2-L-IC-N-VA	Water	Nitrite in Water by IC (Low Level)	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
NO3-L-IC-N-VA	Water	Nitrate in Water by IC (Low Level)	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
PAH-ME-MS-VA	Water	PAHs in Water	EPA 3511/8270D (mod)
PAHs are extracted from water using a hexane micro-extraction technique, with analysis by GC/MS. Because the two isomers cannot be readily separated chromatographically, benzo(j)fluoranthene is reported as part of the benzo(b)fluoranthene parameter.			
PCB-CSR-SUM-CALC-VA	Water	Total PCB (BC CSR) in water	BC Contaminated Sites Regulation
Calculation of Total PCB to meet BC Contaminated Sites Regulation. Total PCB (BC CSR) is the sum of the concentrations of PCB aroclors 1242, 1248, 1254 and 1260. Results below detection limit (DL) are treated as zero. The Total PCB detection limit is equal to the highest of the aroclor detection limits used in the sum.			
PCB-SF-ECD-VA	Water	PCB by Extraction with GCECD	EPA 3510/8082 Liq-Liq GCECD
This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Methods 3510, 3620, 3660, 3665 & 8082, published by the United States Environmental Protection Agency (EPA). The procedure involves a liquid-liquid extraction of the entire water sample using dichloromethane. The extract is then solvent exchanged to hexane followed by one or more of the following clean-up procedures (if required): florisil clean-up, sulphur clean-up and/or sulphuric acid clean-up. The final extract is analysed by capillary column gas chromatography with electron capture detection (GC/ECD).			
PCB-SUM-CALC-VA	Water	Total PCBs in water	CALCULATION
Calculation of Total PCB. Total PCB is the sum of the concentrations of PCB aroclors 1016, 1221, 1232, 1242, 1248, 1254, 1260, 1262, and 1268. Results below detection limit (DL) are treated as zero. The Total PCB detection limit is equal to the highest of the aroclor detection limits used in the sum.			
PHEN-SF-MS-VA	Water	Phenolics in Water by GCMS	BC Env. Lab Manual (Phenols in water)
This analysis is carried out in accordance with the British Columbia Ministry of Environment, Lands and Parks (BCMELP) Analytical Method for Contaminated Sites "Chlorinated and Non-Chlorinated Phenols in Water by GC/MS - PBM" (Oct 2013). An entire water sample is acidified and extracted using dichloromethane. The extract is solvent exchanged and derivatized with acetic anhydride and trimethylamine (TMA). The final extract is analysed by capillary column gas chromatography with mass spectrometric detection (GC/MS). The precision and accuracy Data Quality Objectives for the parameter 2,4-dimethylphenol have broader acceptance criteria than for most other phenolic compounds, reflecting difficulties commonly encountered during extraction and analysis.			
SALINITY-EC-VA	Water	Salinity by calculation using EC	APHA 2520 B
Salinity is determined by the APHA 2520B Electrical Conductivity Method. Salinity is a unitless parameter that is roughly equivalent to grams per Litre. ALS applies the unit of psu (practical salinity unit) to indicate that salinity values are derived from the Practical Salinity Scale			
SO4-IC-N-VA	Water	Sulfate in Water by IC	EPA 300.1 (mod)
Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.			
THM-SUM-CALC-VA	Water	Total Trihalomethane-THM	CALCULATION
Total Trihalomethanes (where not conducted as part of a formation potential analysis) is equal to the sum of the individual parameter concentrations with non-detect results treated as zero.			
VOC-HSMS-VA	Water	VOCs in water by Headspace GCMS	EPA 5021A/8260C
The water sample, with added reagents, is heated in a sealed vial to equilibrium. The headspace from the vial is transferred into a gas chromatograph. Target compound concentrations are measured using mass spectrometry detection.			
VOC7-HSMS-VA	Water	BTEX/MTBE/Styrene by Headspace GCMS	EPA 5021A/8260C
The water sample, with added reagents, is heated in a sealed vial to equilibrium. The headspace from the vial is transferred into a gas chromatograph. Target compound concentrations are measured using mass spectrometry detection.			
VOC7/VOC-SURR-MS-VA	Water	VOC7 and/or VOC Surrogates for Waters	EPA 5035A/5021A/8260C
XYLENES-CALC-VA	Water	Sum of Xylene Isomer Concentrations	CALCULATION
Calculation of Total Xylenes			
Total Xylenes is the sum of the concentrations of the ortho, meta, and para Xylene isomers. Results below detection limit (DL) are treated as zero. The DL for Total Xylenes is set to a value no less than the square root of the sum of the squares of the DLs of the individual Xylenes.			

** ALS test methods may incorporate modifications from specified 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:

Reference Information

Laboratory Definition Code	Laboratory Location
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

02333

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

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 of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

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.



Quality Control Report

Workorder: L1868575

Report Date: 21-DEC-16

Page 1 of 19

Client: GOLDER ASSOCIATES LTD.
 200-2920 Virtual Way
 Vancouver BC V5M 0C4

Contact: Alvaro Garrido Hernan-Gomez

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BR-L-IC-N-VA		Water						
Batch	R3615477							
WG2449750-2	LCS							
Bromide (Br)			100.3		%		85-115	11-DEC-16
WG2449750-21	LCS							
Bromide (Br)			101.0		%		85-115	11-DEC-16
WG2449750-1	MB							
Bromide (Br)			<0.050		mg/L		0.05	11-DEC-16
WG2449750-10	MB							
Bromide (Br)			<0.050		mg/L		0.05	11-DEC-16
WG2449750-13	MB							
Bromide (Br)			<0.050		mg/L		0.05	11-DEC-16
WG2449750-16	MB							
Bromide (Br)			<0.050		mg/L		0.05	11-DEC-16
WG2449750-19	MB							
Bromide (Br)			<0.050		mg/L		0.05	11-DEC-16
WG2449750-4	MB							
Bromide (Br)			<0.050		mg/L		0.05	11-DEC-16
WG2449750-7	MB							
Bromide (Br)			<0.050		mg/L		0.05	11-DEC-16
Batch	R3615516							
WG2449957-12	LCS							
Bromide (Br)			101.7		%		85-115	12-DEC-16
WG2449957-2	LCS							
Bromide (Br)			100.7		%		85-115	12-DEC-16
WG2449957-1	MB							
Bromide (Br)			<0.050		mg/L		0.05	12-DEC-16
WG2449957-10	MB							
Bromide (Br)			<0.050		mg/L		0.05	12-DEC-16
WG2449957-11	MB							
Bromide (Br)			<0.050		mg/L		0.05	12-DEC-16
WG2449957-4	MB							
Bromide (Br)			<0.050		mg/L		0.05	12-DEC-16
WG2449957-7	MB							
Bromide (Br)			<0.050		mg/L		0.05	12-DEC-16
WG2449957-9	MB							
Bromide (Br)			<0.050		mg/L		0.05	12-DEC-16

CL-IC-N-VA **Water**



Quality Control Report

Workorder: L1868575

Report Date: 21-DEC-16

Page 2 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CL-IC-N-VA		Water						
Batch	R3615477							
WG2449750-2	LCS							
Chloride (Cl)			101.0		%		90-110	11-DEC-16
WG2449750-21	LCS							
Chloride (Cl)			101.3		%		90-110	11-DEC-16
WG2449750-1	MB							
Chloride (Cl)			<0.50		mg/L		0.5	11-DEC-16
WG2449750-10	MB							
Chloride (Cl)			<0.50		mg/L		0.5	11-DEC-16
WG2449750-13	MB							
Chloride (Cl)			<0.50		mg/L		0.5	11-DEC-16
WG2449750-16	MB							
Chloride (Cl)			<0.50		mg/L		0.5	11-DEC-16
WG2449750-19	MB							
Chloride (Cl)			<0.50		mg/L		0.5	11-DEC-16
WG2449750-4	MB							
Chloride (Cl)			<0.50		mg/L		0.5	11-DEC-16
WG2449750-7	MB							
Chloride (Cl)			<0.50		mg/L		0.5	11-DEC-16
Batch	R3615516							
WG2449957-12	LCS							
Chloride (Cl)			101.4		%		90-110	12-DEC-16
WG2449957-2	LCS							
Chloride (Cl)			100.7		%		90-110	12-DEC-16
WG2449957-1	MB							
Chloride (Cl)			<0.50		mg/L		0.5	12-DEC-16
WG2449957-10	MB							
Chloride (Cl)			<0.50		mg/L		0.5	12-DEC-16
WG2449957-11	MB							
Chloride (Cl)			<0.50		mg/L		0.5	12-DEC-16
WG2449957-4	MB							
Chloride (Cl)			<0.50		mg/L		0.5	12-DEC-16
WG2449957-7	MB							
Chloride (Cl)			<0.50		mg/L		0.5	12-DEC-16
WG2449957-9	MB							
Chloride (Cl)			<0.50		mg/L		0.5	12-DEC-16
EPH-ME-FID-VA	Water							



Quality Control Report

Workorder: L1868575

Report Date: 21-DEC-16

Page 3 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
EPH-ME-FID-VA		Water						
Batch	R3616461							
WG2449455-2	LCS							
EPH10-19			81.8		%		70-130	13-DEC-16
EPH19-32			79.9		%		70-130	13-DEC-16
WG2449783-2	LCS							
EPH10-19			84.7		%		70-130	13-DEC-16
EPH19-32			82.1		%		70-130	13-DEC-16
WG2449455-1	MB							
EPH10-19			<0.25		mg/L		0.25	13-DEC-16
EPH19-32			<0.25		mg/L		0.25	13-DEC-16
Surrogate: 2-Bromobenzotrifluoride			88.2		%		60-140	13-DEC-16
WG2449783-1	MB							
EPH10-19			<0.25		mg/L		0.25	13-DEC-16
EPH19-32			<0.25		mg/L		0.25	13-DEC-16
Surrogate: 2-Bromobenzotrifluoride			94.8		%		60-140	13-DEC-16
F-IC-N-VA		Water						
Batch	R3615477							
WG2449750-2	LCS							
Fluoride (F)			98.4		%		90-110	11-DEC-16
WG2449750-21	LCS							
Fluoride (F)			98.9		%		90-110	11-DEC-16
WG2449750-1	MB							
Fluoride (F)			<0.020		mg/L		0.02	11-DEC-16
WG2449750-10	MB							
Fluoride (F)			<0.020		mg/L		0.02	11-DEC-16
WG2449750-13	MB							
Fluoride (F)			<0.020		mg/L		0.02	11-DEC-16
WG2449750-16	MB							
Fluoride (F)			<0.020		mg/L		0.02	11-DEC-16
WG2449750-19	MB							
Fluoride (F)			<0.020		mg/L		0.02	11-DEC-16
WG2449750-4	MB							
Fluoride (F)			<0.020		mg/L		0.02	11-DEC-16
WG2449750-7	MB							
Fluoride (F)			<0.020		mg/L		0.02	11-DEC-16
Batch	R3615516							
WG2449957-12	LCS							
Fluoride (F)			98.8		%		90-110	12-DEC-16
WG2449957-2	LCS							



Quality Control Report

Workorder: L1868575

Report Date: 21-DEC-16

Page 4 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F-IC-N-VA		Water						
Batch	R3615516							
WG2449957-2	LCS							
Fluoride (F)			98.7		%		90-110	12-DEC-16
WG2449957-1	MB							
Fluoride (F)			<0.020		mg/L		0.02	12-DEC-16
WG2449957-10	MB							
Fluoride (F)			<0.020		mg/L		0.02	12-DEC-16
WG2449957-11	MB							
Fluoride (F)			<0.020		mg/L		0.02	12-DEC-16
WG2449957-4	MB							
Fluoride (F)			<0.020		mg/L		0.02	12-DEC-16
WG2449957-7	MB							
Fluoride (F)			<0.020		mg/L		0.02	12-DEC-16
WG2449957-9	MB							
Fluoride (F)			<0.020		mg/L		0.02	12-DEC-16
HG-DIS-CVAFS-VA		Water						
Batch	R3614892							
WG2449464-2	LCS							
Mercury (Hg)-Dissolved			101.2		%		80-120	11-DEC-16
Batch	R3615642							
WG2449464-7	DUP	L1868575-7						
Mercury (Hg)-Dissolved		<0.00020	<0.00020	RPD-NA	mg/L	N/A	20	12-DEC-16
WG2449464-1	MB	NP						
Mercury (Hg)-Dissolved			<0.000050		mg/L		0.00005	12-DEC-16
MET-D-CCMS-VA		Water						
Batch	R3615443							
WG2449468-2	LCS							
Aluminum (Al)-Dissolved			102.2		%		80-120	10-DEC-16
Antimony (Sb)-Dissolved			96.9		%		80-120	10-DEC-16
Arsenic (As)-Dissolved			99.4		%		80-120	10-DEC-16
Cadmium (Cd)-Dissolved			95.5		%		80-120	10-DEC-16
Chromium (Cr)-Dissolved			99.4		%		80-120	10-DEC-16
Cobalt (Co)-Dissolved			101.2		%		80-120	10-DEC-16
Copper (Cu)-Dissolved			96.6		%		80-120	10-DEC-16
Lead (Pb)-Dissolved			100.7		%		80-120	10-DEC-16
Molybdenum (Mo)-Dissolved			101.5		%		80-120	10-DEC-16
Nickel (Ni)-Dissolved			98.2		%		80-120	10-DEC-16



Quality Control Report

Workorder: L1868575

Report Date: 21-DEC-16

Page 5 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-VA								
	Water							
Batch	R3615443							
WG2449468-2	LCS							
Selenium (Se)-Dissolved			99.7		%		80-120	10-DEC-16
Silver (Ag)-Dissolved			102.2		%		80-120	10-DEC-16
Thallium (Tl)-Dissolved			99.3		%		80-120	10-DEC-16
Uranium (U)-Dissolved			103.8		%		80-120	10-DEC-16
WG2449468-1	MB	NP						
Aluminum (Al)-Dissolved			<0.0010		mg/L		0.001	10-DEC-16
Antimony (Sb)-Dissolved			<0.00010		mg/L		0.0001	10-DEC-16
Arsenic (As)-Dissolved			<0.00010		mg/L		0.0001	10-DEC-16
Cadmium (Cd)-Dissolved			<0.0000050		mg/L		0.000005	10-DEC-16
Chromium (Cr)-Dissolved			<0.00010		mg/L		0.0001	10-DEC-16
Cobalt (Co)-Dissolved			<0.00010		mg/L		0.0001	10-DEC-16
Copper (Cu)-Dissolved			<0.00020		mg/L		0.0002	10-DEC-16
Lead (Pb)-Dissolved			<0.000050		mg/L		0.00005	10-DEC-16
Molybdenum (Mo)-Dissolved			<0.000050		mg/L		0.00005	10-DEC-16
Nickel (Ni)-Dissolved			<0.00050		mg/L		0.0005	10-DEC-16
Selenium (Se)-Dissolved			<0.000050		mg/L		0.00005	10-DEC-16
Silver (Ag)-Dissolved			<0.000010		mg/L		0.00001	10-DEC-16
Thallium (Tl)-Dissolved			<0.000010		mg/L		0.00001	10-DEC-16
Uranium (U)-Dissolved			<0.000010		mg/L		0.00001	10-DEC-16
Batch	R3616334							
WG2449468-6	DUP	L1868575-2						
Aluminum (Al)-Dissolved			<0.010	RPD-NA	mg/L	N/A	20	12-DEC-16
Antimony (Sb)-Dissolved			<0.00050	RPD-NA	mg/L	N/A	20	12-DEC-16
Arsenic (As)-Dissolved			0.0038		mg/L	1.7	20	12-DEC-16
Cadmium (Cd)-Dissolved			<0.000050	RPD-NA	mg/L	N/A	20	12-DEC-16
Chromium (Cr)-Dissolved			<0.00050	RPD-NA	mg/L	N/A	20	12-DEC-16
Cobalt (Co)-Dissolved			0.00078		mg/L	4.5	20	12-DEC-16
Copper (Cu)-Dissolved			<0.0010	RPD-NA	mg/L	N/A	20	12-DEC-16
Lead (Pb)-Dissolved			<0.0010	RPD-NA	mg/L	N/A	20	12-DEC-16
Molybdenum (Mo)-Dissolved			0.0061		mg/L	7.2	20	12-DEC-16
Nickel (Ni)-Dissolved			<0.0050	RPD-NA	mg/L	N/A	20	12-DEC-16
Selenium (Se)-Dissolved			<0.0010	RPD-NA	mg/L	N/A	20	12-DEC-16
Silver (Ag)-Dissolved			<0.000050	RPD-NA	mg/L	N/A	20	12-DEC-16
Thallium (Tl)-Dissolved			<0.00020	RPD-NA	mg/L	N/A	20	12-DEC-16
Uranium (U)-Dissolved			0.00136		mg/L	4.1	20	12-DEC-16



Quality Control Report

Workorder: L1868575

Report Date: 21-DEC-16

Page 6 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-CCMS-VA								
	Water							
Batch	R3616334							
WG2449468-12 MS		L1868575-7						
Aluminum (Al)-Dissolved			93.8		%		70-130	12-DEC-16
Antimony (Sb)-Dissolved			99.4		%		70-130	12-DEC-16
Arsenic (As)-Dissolved			96.3		%		70-130	12-DEC-16
Cadmium (Cd)-Dissolved			90.8		%		70-130	12-DEC-16
Chromium (Cr)-Dissolved			90.8		%		70-130	12-DEC-16
Cobalt (Co)-Dissolved			89.1		%		70-130	12-DEC-16
Copper (Cu)-Dissolved			87.3		%		70-130	12-DEC-16
Lead (Pb)-Dissolved			92.0		%		70-130	12-DEC-16
Molybdenum (Mo)-Dissolved			95.5		%		70-130	12-DEC-16
Nickel (Ni)-Dissolved			94.0		%		70-130	12-DEC-16
Thallium (Tl)-Dissolved			92.3		%		70-130	12-DEC-16
Uranium (U)-Dissolved			94.5		%		70-130	12-DEC-16
Batch	R3616442							
WG2449468-12 MS		L1868575-7						
Selenium (Se)-Dissolved			106.1		%		70-130	13-DEC-16
Silver (Ag)-Dissolved			83.8		%		70-130	13-DEC-16
MET-DIS-ICP-VA								
	Water							
Batch	R3615514							
WG2449468-6 DUP		L1868575-2						
Barium (Ba)-Dissolved		0.050	0.049		mg/L	1.8	20	10-DEC-16
Beryllium (Be)-Dissolved		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	10-DEC-16
Boron (B)-Dissolved		<0.10	<0.10	RPD-NA	mg/L	N/A	20	10-DEC-16
Calcium (Ca)-Dissolved		44.2	44.1		mg/L	0.2	20	10-DEC-16
Iron (Fe)-Dissolved		1.76	1.75		mg/L	0.7	20	10-DEC-16
Lithium (Li)-Dissolved		<0.050	<0.050	RPD-NA	mg/L	N/A	20	10-DEC-16
Magnesium (Mg)-Dissolved		11.0	10.9		mg/L	1.2	20	10-DEC-16
Manganese (Mn)-Dissolved		0.688	0.681		mg/L	1.0	20	10-DEC-16
Potassium (K)-Dissolved		5.5	5.3		mg/L	2.3	20	10-DEC-16
Sodium (Na)-Dissolved		73.5	72.5		mg/L	1.3	20	10-DEC-16
Titanium (Ti)-Dissolved		<0.050	<0.050	RPD-NA	mg/L	N/A	20	10-DEC-16
Vanadium (V)-Dissolved		<0.030	<0.030	RPD-NA	mg/L	N/A	20	10-DEC-16
Zinc (Zn)-Dissolved		<0.0050	<0.0050	RPD-NA	mg/L	N/A	20	10-DEC-16
WG2449468-2 LCS								
Barium (Ba)-Dissolved			99.6		%		80-120	10-DEC-16
Beryllium (Be)-Dissolved			97.9		%		80-120	10-DEC-16



Quality Control Report

Workorder: L1868575

Report Date: 21-DEC-16

Page 7 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DIS-ICP-VA								
	Water							
Batch	R3615514							
WG2449468-2	LCS							
Boron (B)-Dissolved			96.2		%		80-120	10-DEC-16
Calcium (Ca)-Dissolved			100.9		%		80-120	10-DEC-16
Iron (Fe)-Dissolved			97.0		%		80-120	10-DEC-16
Lithium (Li)-Dissolved			101.6		%		80-120	10-DEC-16
Magnesium (Mg)-Dissolved			98.6		%		80-120	10-DEC-16
Manganese (Mn)-Dissolved			100.1		%		80-120	10-DEC-16
Potassium (K)-Dissolved			98.3		%		80-120	10-DEC-16
Sodium (Na)-Dissolved			100.3		%		80-120	10-DEC-16
Titanium (Ti)-Dissolved			99.2		%		80-120	10-DEC-16
Vanadium (V)-Dissolved			99.2		%		80-120	10-DEC-16
Zinc (Zn)-Dissolved			96.1		%		80-120	10-DEC-16
WG2449468-1	MB	NP						
Barium (Ba)-Dissolved			<0.010		mg/L		0.01	10-DEC-16
Beryllium (Be)-Dissolved			<0.0050		mg/L		0.005	10-DEC-16
Boron (B)-Dissolved			<0.10		mg/L		0.1	10-DEC-16
Calcium (Ca)-Dissolved			<0.050		mg/L		0.05	10-DEC-16
Iron (Fe)-Dissolved			<0.030		mg/L		0.03	10-DEC-16
Lithium (Li)-Dissolved			<0.010		mg/L		0.01	10-DEC-16
Magnesium (Mg)-Dissolved			<0.10		mg/L		0.1	10-DEC-16
Manganese (Mn)-Dissolved			<0.0050		mg/L		0.005	10-DEC-16
Potassium (K)-Dissolved			<2.0		mg/L		2	10-DEC-16
Sodium (Na)-Dissolved			<2.0		mg/L		2	10-DEC-16
Titanium (Ti)-Dissolved			<0.010		mg/L		0.01	10-DEC-16
Vanadium (V)-Dissolved			<0.030		mg/L		0.03	10-DEC-16
Zinc (Zn)-Dissolved			<0.0050		mg/L		0.005	10-DEC-16
WG2449468-12	MS	L1868575-7						
Barium (Ba)-Dissolved			101.3		%		70-130	10-DEC-16
Beryllium (Be)-Dissolved			102.8		%		70-130	10-DEC-16
Boron (B)-Dissolved			108.1		%		70-130	10-DEC-16
Calcium (Ca)-Dissolved			N/A	MS-B	%		-	10-DEC-16
Iron (Fe)-Dissolved			N/A	MS-B	%		-	10-DEC-16
Lithium (Li)-Dissolved			114.8		%		70-130	10-DEC-16
Magnesium (Mg)-Dissolved			100.9		%		70-130	10-DEC-16
Manganese (Mn)-Dissolved			N/A	MS-B	%		-	10-DEC-16



Quality Control Report

Workorder: L1868575

Report Date: 21-DEC-16

Page 8 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-DIS-ICP-VA								
	Water							
Batch	R3615514							
WG2449468-12	MS	L1868575-7						
Potassium (K)-Dissolved			106.0		%		70-130	10-DEC-16
Sodium (Na)-Dissolved			N/A	MS-B	%		-	10-DEC-16
Titanium (Ti)-Dissolved			103.6		%		70-130	10-DEC-16
Vanadium (V)-Dissolved			101.3		%		70-130	10-DEC-16
Zinc (Zn)-Dissolved			96.4		%		70-130	10-DEC-16
NO2-L-IC-N-VA								
	Water							
Batch	R3615477							
WG2449750-2	LCS							
Nitrite (as N)			98.8		%		90-110	11-DEC-16
WG2449750-21	LCS							
Nitrite (as N)			99.4		%		90-110	11-DEC-16
WG2449750-1	MB							
Nitrite (as N)			<0.0010		mg/L		0.001	11-DEC-16
WG2449750-10	MB							
Nitrite (as N)			<0.0010		mg/L		0.001	11-DEC-16
WG2449750-13	MB							
Nitrite (as N)			<0.0010		mg/L		0.001	11-DEC-16
WG2449750-16	MB							
Nitrite (as N)			<0.0010		mg/L		0.001	11-DEC-16
WG2449750-19	MB							
Nitrite (as N)			<0.0010		mg/L		0.001	11-DEC-16
WG2449750-4	MB							
Nitrite (as N)			<0.0010		mg/L		0.001	11-DEC-16
WG2449750-7	MB							
Nitrite (as N)			<0.0010		mg/L		0.001	11-DEC-16
Batch	R3615516							
WG2449957-12	LCS							
Nitrite (as N)			101.1		%		90-110	12-DEC-16
WG2449957-2	LCS							
Nitrite (as N)			100.6		%		90-110	12-DEC-16
WG2449957-1	MB							
Nitrite (as N)			<0.0010		mg/L		0.001	12-DEC-16
WG2449957-10	MB							
Nitrite (as N)			<0.0010		mg/L		0.001	12-DEC-16
WG2449957-11	MB							
Nitrite (as N)			<0.0010		mg/L		0.001	12-DEC-16
WG2449957-4	MB							



Quality Control Report

Workorder: L1868575

Report Date: 21-DEC-16

Page 9 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO2-L-IC-N-VA		Water						
Batch	R3615516							
WG2449957-4	MB							
Nitrite (as N)			<0.0010		mg/L		0.001	12-DEC-16
WG2449957-7	MB							
Nitrite (as N)			<0.0010		mg/L		0.001	12-DEC-16
WG2449957-9	MB							
Nitrite (as N)			<0.0010		mg/L		0.001	12-DEC-16
NO3-L-IC-N-VA		Water						
Batch	R3615477							
WG2449750-2	LCS							
Nitrate (as N)			101.7		%		90-110	11-DEC-16
WG2449750-21	LCS							
Nitrate (as N)			101.8		%		90-110	11-DEC-16
WG2449750-1	MB							
Nitrate (as N)			<0.0050		mg/L		0.005	11-DEC-16
WG2449750-10	MB							
Nitrate (as N)			<0.0050		mg/L		0.005	11-DEC-16
WG2449750-13	MB							
Nitrate (as N)			<0.0050		mg/L		0.005	11-DEC-16
WG2449750-16	MB							
Nitrate (as N)			<0.0050		mg/L		0.005	11-DEC-16
WG2449750-19	MB							
Nitrate (as N)			<0.0050		mg/L		0.005	11-DEC-16
WG2449750-4	MB							
Nitrate (as N)			<0.0050		mg/L		0.005	11-DEC-16
WG2449750-7	MB							
Nitrate (as N)			<0.0050		mg/L		0.005	11-DEC-16
Batch	R3615516							
WG2449957-12	LCS							
Nitrate (as N)			102.1		%		90-110	12-DEC-16
WG2449957-2	LCS							
Nitrate (as N)			101.0		%		90-110	12-DEC-16
WG2449957-1	MB							
Nitrate (as N)			<0.0050		mg/L		0.005	12-DEC-16
WG2449957-10	MB							
Nitrate (as N)			<0.0050		mg/L		0.005	12-DEC-16
WG2449957-11	MB							
Nitrate (as N)			<0.0050		mg/L		0.005	12-DEC-16
WG2449957-4	MB							



Quality Control Report

Workorder: L1868575

Report Date: 21-DEC-16

Page 10 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO3-L-IC-N-VA		Water						
Batch	R3615516							
WG2449957-4	MB							
Nitrate (as N)			<0.0050		mg/L		0.005	12-DEC-16
WG2449957-7	MB							
Nitrate (as N)			<0.0050		mg/L		0.005	12-DEC-16
WG2449957-9	MB							
Nitrate (as N)			<0.0050		mg/L		0.005	12-DEC-16
PAH-ME-MS-VA		Water						
Batch	R3616834							
WG2449455-2	LCS							
Acenaphthene			99.2		%		60-130	14-DEC-16
Acenaphthylene			102.0		%		60-130	14-DEC-16
Acridine			97.8		%		60-130	14-DEC-16
Anthracene			87.4		%		60-130	14-DEC-16
Benz(a)anthracene			114.6		%		60-130	14-DEC-16
Benzo(a)pyrene			110.0		%		60-130	14-DEC-16
Benzo(b)fluoranthene			104.8		%		60-130	14-DEC-16
Benzo(g,h,i)perylene			99.4		%		60-130	14-DEC-16
Benzo(k)fluoranthene			93.1		%		60-130	14-DEC-16
Chrysene			96.8		%		60-130	14-DEC-16
Dibenz(a,h)anthracene			95.5		%		60-130	14-DEC-16
Fluoranthene			103.7		%		60-130	14-DEC-16
Fluorene			111.3		%		60-130	14-DEC-16
Indeno(1,2,3-c,d)pyrene			107.8		%		60-130	14-DEC-16
Naphthalene			97.8		%		50-130	14-DEC-16
Phenanthrene			105.8		%		60-130	14-DEC-16
Pyrene			103.5		%		60-130	14-DEC-16
Quinoline			121.3		%		60-130	14-DEC-16
WG2449783-2	LCS							
Acenaphthene			105.7		%		60-130	14-DEC-16
Acenaphthylene			108.9		%		60-130	14-DEC-16
Acridine			95.1		%		60-130	14-DEC-16
Anthracene			88.0		%		60-130	14-DEC-16
Benz(a)anthracene			103.3		%		60-130	14-DEC-16
Benzo(a)pyrene			106.1		%		60-130	14-DEC-16
Benzo(b)fluoranthene			96.7		%		60-130	14-DEC-16
Benzo(g,h,i)perylene			97.7		%		60-130	14-DEC-16



Quality Control Report

Workorder: L1868575

Report Date: 21-DEC-16

Page 11 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-ME-MS-VA		Water						
Batch	R3616834							
WG2449783-2	LCS							
Benzo(k)fluoranthene			100.8		%		60-130	14-DEC-16
Chrysene			106.9		%		60-130	14-DEC-16
Dibenz(a,h)anthracene			93.4		%		60-130	14-DEC-16
Fluoranthene			101.5		%		60-130	14-DEC-16
Fluorene			112.4		%		60-130	14-DEC-16
Indeno(1,2,3-c,d)pyrene			96.9		%		60-130	14-DEC-16
Naphthalene			105.5		%		50-130	14-DEC-16
Phenanthrene			110.5		%		60-130	14-DEC-16
Pyrene			99.6		%		60-130	14-DEC-16
Quinoline			121.1		%		60-130	14-DEC-16
WG2449455-1	MB							
Acenaphthene			<0.000010		mg/L		0.00001	14-DEC-16
Acenaphthylene			<0.000010		mg/L		0.00001	14-DEC-16
Acridine			<0.000010		mg/L		0.00001	14-DEC-16
Anthracene			<0.000010		mg/L		0.00001	14-DEC-16
Benz(a)anthracene			<0.000010		mg/L		0.00001	14-DEC-16
Benzo(a)pyrene			<0.0000050		mg/L		0.000005	14-DEC-16
Benzo(b)fluoranthene			<0.000010		mg/L		0.00001	14-DEC-16
Benzo(g,h,i)perylene			<0.000010		mg/L		0.00001	14-DEC-16
Benzo(k)fluoranthene			<0.000010		mg/L		0.00001	14-DEC-16
Chrysene			<0.000010		mg/L		0.00001	14-DEC-16
Dibenz(a,h)anthracene			<0.0000050		mg/L		0.000005	14-DEC-16
Fluoranthene			<0.000010		mg/L		0.00001	14-DEC-16
Fluorene			<0.000010		mg/L		0.00001	14-DEC-16
Indeno(1,2,3-c,d)pyrene			<0.000010		mg/L		0.00001	14-DEC-16
Naphthalene			<0.000050		mg/L		0.00005	14-DEC-16
Phenanthrene			<0.000020		mg/L		0.00002	14-DEC-16
Pyrene			<0.000010		mg/L		0.00001	14-DEC-16
Quinoline			<0.000050		mg/L		0.00005	14-DEC-16
Surrogate: Acridine d9			94.3		%		60-130	14-DEC-16
Surrogate: Chrysene d12			94.9		%		60-130	14-DEC-16
Surrogate: Naphthalene d8			92.4		%		50-130	14-DEC-16
Surrogate: Phenanthrene d10			99.8		%		60-130	14-DEC-16
WG2449783-1	MB							
Acenaphthene			<0.000010		mg/L		0.00001	14-DEC-16



Quality Control Report

Workorder: L1868575

Report Date: 21-DEC-16

Page 12 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-ME-MS-VA		Water						
Batch	R3616834							
WG2449783-1	MB							
Acenaphthylene			<0.000010		mg/L		0.00001	14-DEC-16
Acridine			<0.000010		mg/L		0.00001	14-DEC-16
Anthracene			<0.000010		mg/L		0.00001	14-DEC-16
Benz(a)anthracene			<0.000010		mg/L		0.00001	14-DEC-16
Benzo(a)pyrene			<0.0000050		mg/L		0.000005	14-DEC-16
Benzo(b)fluoranthene			<0.000010		mg/L		0.00001	14-DEC-16
Benzo(g,h,i)perylene			<0.000010		mg/L		0.00001	14-DEC-16
Benzo(k)fluoranthene			<0.000010		mg/L		0.00001	14-DEC-16
Chrysene			<0.000010		mg/L		0.00001	14-DEC-16
Dibenz(a,h)anthracene			<0.0000050		mg/L		0.000005	14-DEC-16
Fluoranthene			<0.000010		mg/L		0.00001	14-DEC-16
Fluorene			<0.000010		mg/L		0.00001	14-DEC-16
Indeno(1,2,3-c,d)pyrene			<0.000010		mg/L		0.00001	14-DEC-16
Naphthalene			<0.000050		mg/L		0.00005	14-DEC-16
Phenanthrene			<0.000020		mg/L		0.00002	14-DEC-16
Pyrene			<0.000010		mg/L		0.00001	14-DEC-16
Quinoline			<0.000050		mg/L		0.00005	14-DEC-16
Surrogate: Acridine d9			91.3		%		60-130	14-DEC-16
Surrogate: Chrysene d12			105.2		%		60-130	14-DEC-16
Surrogate: Naphthalene d8			108.7		%		50-130	14-DEC-16
Surrogate: Phenanthrene d10			111.2		%		60-130	14-DEC-16
PCB-SF-ECD-VA		Water						
Batch	R3618035							
WG2451150-2	LCS							
PCB-1260			96.5		%		65-130	15-DEC-16
WG2451150-1	MB							
PCB-1016			<0.0010		mg/L		0.001	15-DEC-16
PCB-1221			<0.0010		mg/L		0.001	15-DEC-16
PCB-1232			<0.0010		mg/L		0.001	15-DEC-16
PCB-1242			<0.0010		mg/L		0.001	15-DEC-16
PCB-1248			<0.0010		mg/L		0.001	15-DEC-16
PCB-1254			<0.0010		mg/L		0.001	15-DEC-16
PCB-1260			<0.0010		mg/L		0.001	15-DEC-16
PCB-1262			<0.0010		mg/L		0.001	15-DEC-16



Quality Control Report

Workorder: L1868575

Report Date: 21-DEC-16

Page 13 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-SF-ECD-VA								
	Water							
Batch	R3618035							
WG2451150-1	MB							
PCB-1268			<0.0010		mg/L		0.001	15-DEC-16
PHEN-SF-MS-VA								
	Water							
Batch	R3617913							
WG2452689-2	LCS							
m-Cresol			78.2		%		50-130	16-DEC-16
o-Cresol			85.9		%		50-130	16-DEC-16
p-Cresol			82.3		%		50-130	16-DEC-16
2,4-Dimethylphenol			104.1		%		60-130	16-DEC-16
Phenol			118.1		%		60-130	16-DEC-16
WG2453482-2	LCS							
m-Cresol			60.0		%		50-130	20-DEC-16
o-Cresol			32.0	LCS-ND	%		50-130	20-DEC-16
p-Cresol			61.0		%		50-130	20-DEC-16
2,4-Dimethylphenol			97.3		%		60-130	20-DEC-16
Phenol			121.3		%		60-130	20-DEC-16
WG2452689-1	MB							
m-Cresol			<0.00050		mg/L		0.0005	16-DEC-16
o-Cresol			<0.00050		mg/L		0.0005	16-DEC-16
p-Cresol			<0.00050		mg/L		0.0005	16-DEC-16
2,4-Dimethylphenol			<0.00050		mg/L		0.0005	16-DEC-16
Phenol			<0.0010		mg/L		0.001	16-DEC-16
WG2453482-1	MB							
m-Cresol			<0.00050		mg/L		0.0005	20-DEC-16
o-Cresol			<0.00050		mg/L		0.0005	20-DEC-16
p-Cresol			<0.00050		mg/L		0.0005	20-DEC-16
2,4-Dimethylphenol			<0.00050		mg/L		0.0005	20-DEC-16
Phenol			<0.0010		mg/L		0.001	20-DEC-16
SALINITY-EC-VA								
	Water							
Batch	R3616066							
WG2449694-2	DUP	L1868575-4						
Salinity		<1.0	<1.0	RPD-NA	psu	N/A	20	11-DEC-16
WG2449694-1	MB							
Salinity			<1.0		psu		1	11-DEC-16
SO4-IC-N-VA								
	Water							



Quality Control Report

Workorder: L1868575

Report Date: 21-DEC-16

Page 14 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SO4-IC-N-VA		Water						
Batch	R3615477							
WG2449750-2	LCS							
Sulfate (SO4)			101.8		%		90-110	11-DEC-16
WG2449750-21	LCS							
Sulfate (SO4)			102.2		%		90-110	11-DEC-16
WG2449750-1	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	11-DEC-16
WG2449750-10	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	11-DEC-16
WG2449750-13	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	11-DEC-16
WG2449750-16	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	11-DEC-16
WG2449750-19	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	11-DEC-16
WG2449750-4	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	11-DEC-16
WG2449750-7	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	11-DEC-16
Batch	R3615516							
WG2449957-12	LCS							
Sulfate (SO4)			102.1		%		90-110	12-DEC-16
WG2449957-2	LCS							
Sulfate (SO4)			101.6		%		90-110	12-DEC-16
WG2449957-1	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	12-DEC-16
WG2449957-10	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	12-DEC-16
WG2449957-11	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	12-DEC-16
WG2449957-4	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	12-DEC-16
WG2449957-7	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	12-DEC-16
WG2449957-9	MB							
Sulfate (SO4)			<0.30		mg/L		0.3	12-DEC-16
VOC-HSMS-VA	Water							

Quality Control Report

Workorder: L1868575

Report Date: 21-DEC-16

Page 15 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-HSMS-VA		Water						
Batch	R3617123							
WG2452315-2	LCS							
Bromodichloromethane			106.3		%		70-130	15-DEC-16
Bromoform			105.4		%		70-130	15-DEC-16
Carbon Tetrachloride			95.4		%		70-130	15-DEC-16
Chlorobenzene			102.1		%		70-130	15-DEC-16
Dibromochloromethane			109.7		%		70-130	15-DEC-16
Chloroethane			99.5		%		60-140	15-DEC-16
Chloroform			101.2		%		70-130	15-DEC-16
Chloromethane			94.5		%		60-140	15-DEC-16
1,2-Dichlorobenzene			103.3		%		70-130	15-DEC-16
1,3-Dichlorobenzene			102.7		%		70-130	15-DEC-16
1,4-Dichlorobenzene			104.7		%		70-130	15-DEC-16
1,1-Dichloroethane			104.0		%		70-130	15-DEC-16
1,2-Dichloroethane			108.4		%		70-130	15-DEC-16
1,1-Dichloroethylene			96.1		%		70-130	15-DEC-16
cis-1,2-Dichloroethylene			101.3		%		70-130	15-DEC-16
trans-1,2-Dichloroethylene			94.1		%		70-130	15-DEC-16
Dichloromethane			105.4		%		60-140	15-DEC-16
1,2-Dichloropropane			106.2		%		70-130	15-DEC-16
cis-1,3-Dichloropropylene			116.1		%		70-130	15-DEC-16
trans-1,3-Dichloropropylene			113.6		%		70-130	15-DEC-16
1,1,1,2-Tetrachloroethane			101.9		%		70-130	15-DEC-16
1,1,2,2-Tetrachloroethane			105.1		%		70-130	15-DEC-16
Tetrachloroethylene			92.5		%		70-130	15-DEC-16
1,1,1-Trichloroethane			97.7		%		70-130	15-DEC-16
1,1,2-Trichloroethane			104.0		%		70-130	15-DEC-16
Trichloroethylene			97.4		%		70-130	15-DEC-16
Trichlorofluoromethane			103.2		%		60-140	15-DEC-16
Vinyl Chloride			103.2		%		60-140	15-DEC-16
WG2452315-1	MB							
Bromodichloromethane			<0.0010		mg/L		0.001	15-DEC-16
Bromoform			<0.0010		mg/L		0.001	15-DEC-16
Carbon Tetrachloride			<0.00050		mg/L		0.0005	15-DEC-16
Chlorobenzene			<0.0010		mg/L		0.001	15-DEC-16
Dibromochloromethane			<0.0010		mg/L		0.001	15-DEC-16



Quality Control Report

Workorder: L1868575

Report Date: 21-DEC-16

Page 16 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-HSMS-VA		Water						
Batch	R3617123							
WG2452315-1	MB							
Chloroethane			<0.0010		mg/L		0.001	15-DEC-16
Chloroform			<0.0010		mg/L		0.001	15-DEC-16
Chloromethane			<0.0050		mg/L		0.005	15-DEC-16
1,2-Dichlorobenzene			<0.00070		mg/L		0.0007	15-DEC-16
1,3-Dichlorobenzene			<0.0010		mg/L		0.001	15-DEC-16
1,4-Dichlorobenzene			<0.0010		mg/L		0.001	15-DEC-16
1,1-Dichloroethane			<0.0010		mg/L		0.001	15-DEC-16
1,2-Dichloroethane			<0.0010		mg/L		0.001	15-DEC-16
1,1-Dichloroethylene			<0.0010		mg/L		0.001	15-DEC-16
cis-1,2-Dichloroethylene			<0.0010		mg/L		0.001	15-DEC-16
trans-1,2-Dichloroethylene			<0.0010		mg/L		0.001	15-DEC-16
Dichloromethane			<0.0050		mg/L		0.005	15-DEC-16
1,2-Dichloropropane			<0.0010		mg/L		0.001	15-DEC-16
cis-1,3-Dichloropropylene			<0.0010		mg/L		0.001	15-DEC-16
trans-1,3-Dichloropropylene			<0.0010		mg/L		0.001	15-DEC-16
1,1,1,2-Tetrachloroethane			<0.0010		mg/L		0.001	15-DEC-16
1,1,2,2-Tetrachloroethane			<0.0010		mg/L		0.001	15-DEC-16
Tetrachloroethylene			<0.0010		mg/L		0.001	15-DEC-16
1,1,1-Trichloroethane			<0.0010		mg/L		0.001	15-DEC-16
1,1,2-Trichloroethane			<0.0010		mg/L		0.001	15-DEC-16
Trichloroethylene			<0.0010		mg/L		0.001	15-DEC-16
Trichlorofluoromethane			<0.0010		mg/L		0.001	15-DEC-16
Vinyl Chloride			<0.0010		mg/L		0.001	15-DEC-16
VOC7-HSMS-VA		Water						
Batch	R3617123							
WG2452315-2	LCS							
Benzene			99.98		%		70-130	15-DEC-16
Ethylbenzene			100.5		%		70-130	15-DEC-16
Methyl t-butyl ether (MTBE)			105.0		%		70-130	15-DEC-16
Styrene			104.9		%		70-130	15-DEC-16
Toluene			98.9		%		70-130	15-DEC-16
meta- & para-Xylene			101.9		%		70-130	15-DEC-16
ortho-Xylene			101.7		%		70-130	15-DEC-16
WG2452315-1	MB							



Quality Control Report

Workorder: L1868575

Report Date: 21-DEC-16

Page 17 of 19

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC7-HSMS-VA	Water							
Batch	R3617123							
WG2452315-1	MB							
Benzene			<0.00050		mg/L		0.0005	15-DEC-16
Ethylbenzene			<0.00050		mg/L		0.0005	15-DEC-16
Methyl t-butyl ether (MTBE)			<0.00050		mg/L		0.0005	15-DEC-16
Styrene			<0.00050		mg/L		0.0005	15-DEC-16
Toluene			<0.00050		mg/L		0.0005	15-DEC-16
meta- & para-Xylene			<0.00050		mg/L		0.0005	15-DEC-16
ortho-Xylene			<0.00050		mg/L		0.0005	15-DEC-16

Quality Control Report

Workorder: L1868575

Report Date: 21-DEC-16

Page 18 of 19

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
LCS-ND	Lab Control Sample recovery was slightly outside ALS DQO. Reported non-detect results for associated samples were unaffected.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Quality Control Report

Workorder: L1868575

Report Date: 21-DEC-16

Page 19 of 19

Hold Time Exceedances:

ALS Product Description	Sample ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Anions and Nutrients							
Nitrate in Water by IC (Low Level)	1	08-DEC-16 11:40	12-DEC-16 07:04	3	4	days	EHT
Nitrite in Water by IC (Low Level)	1	08-DEC-16 11:40	12-DEC-16 07:04	3	4	days	EHT

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 L1868575 were received on 09-DEC-16 12:30.

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.

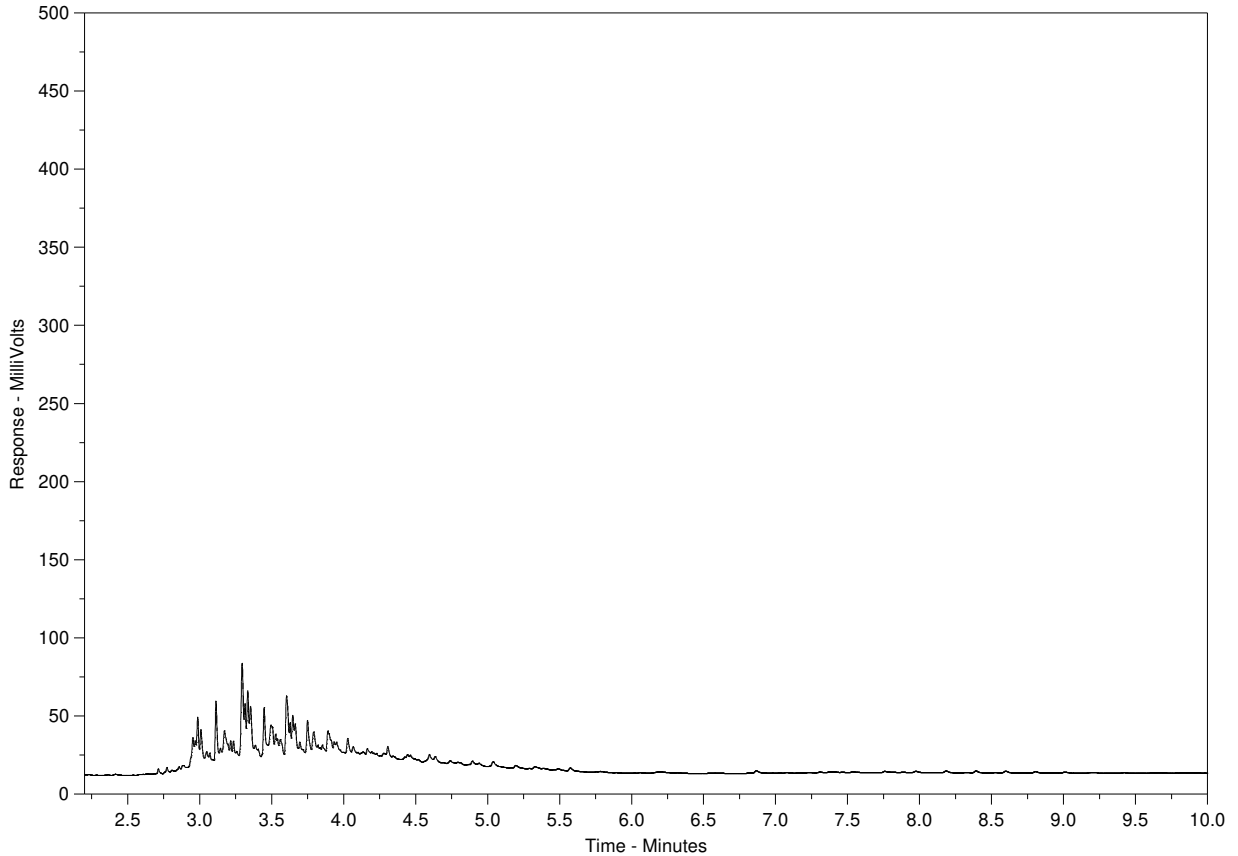
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide 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.

Hydrocarbon Distribution Report



ALS Sample ID: L1868575-1
Client Sample ID: 02333-01



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →	← Diesel / Jet Fuels →	← Motor Oils / Lube Oils / Grease →

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

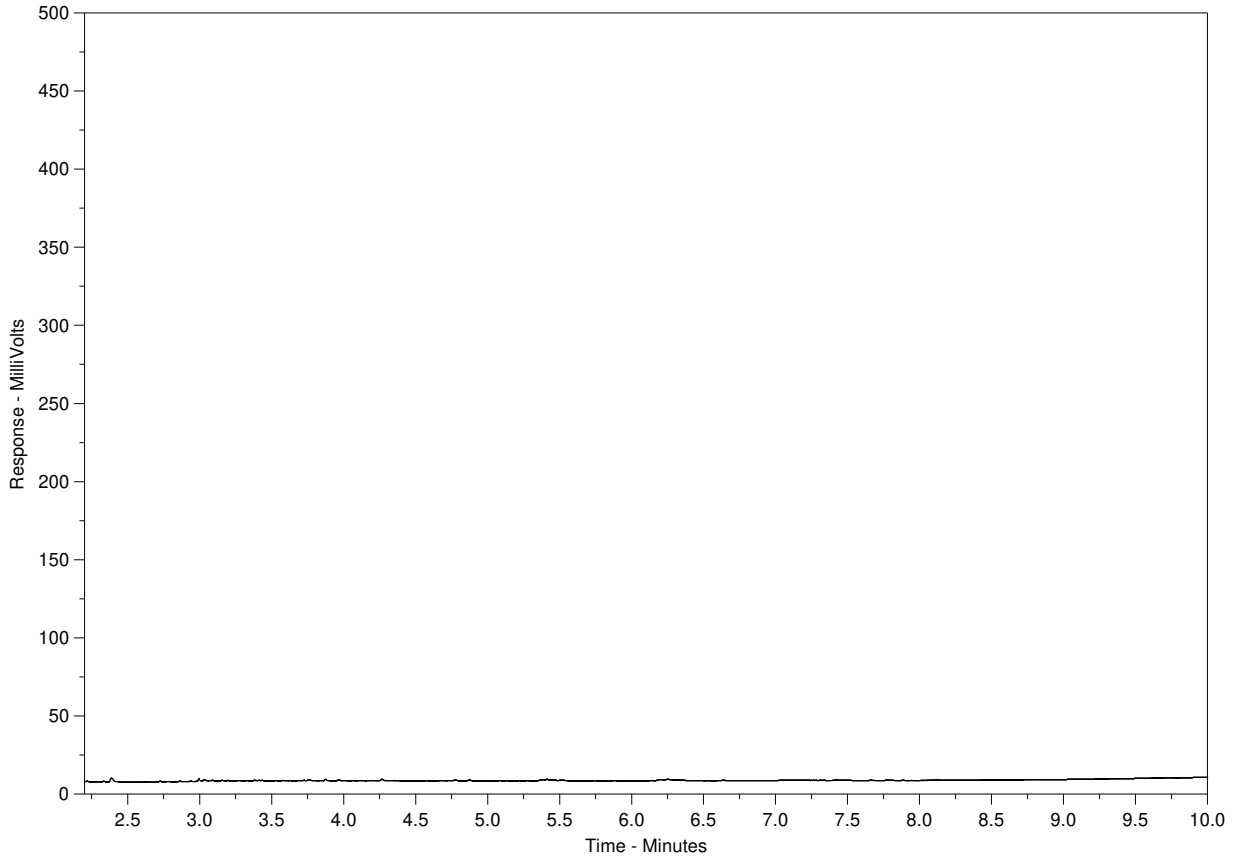
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Hydrocarbon Distribution Report



ALS Sample ID: L1868575-2
 Client Sample ID: 02333-02



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline → ← Diesel / Jet Fuels → ← Motor Oils / Lube Oils / Grease →		

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

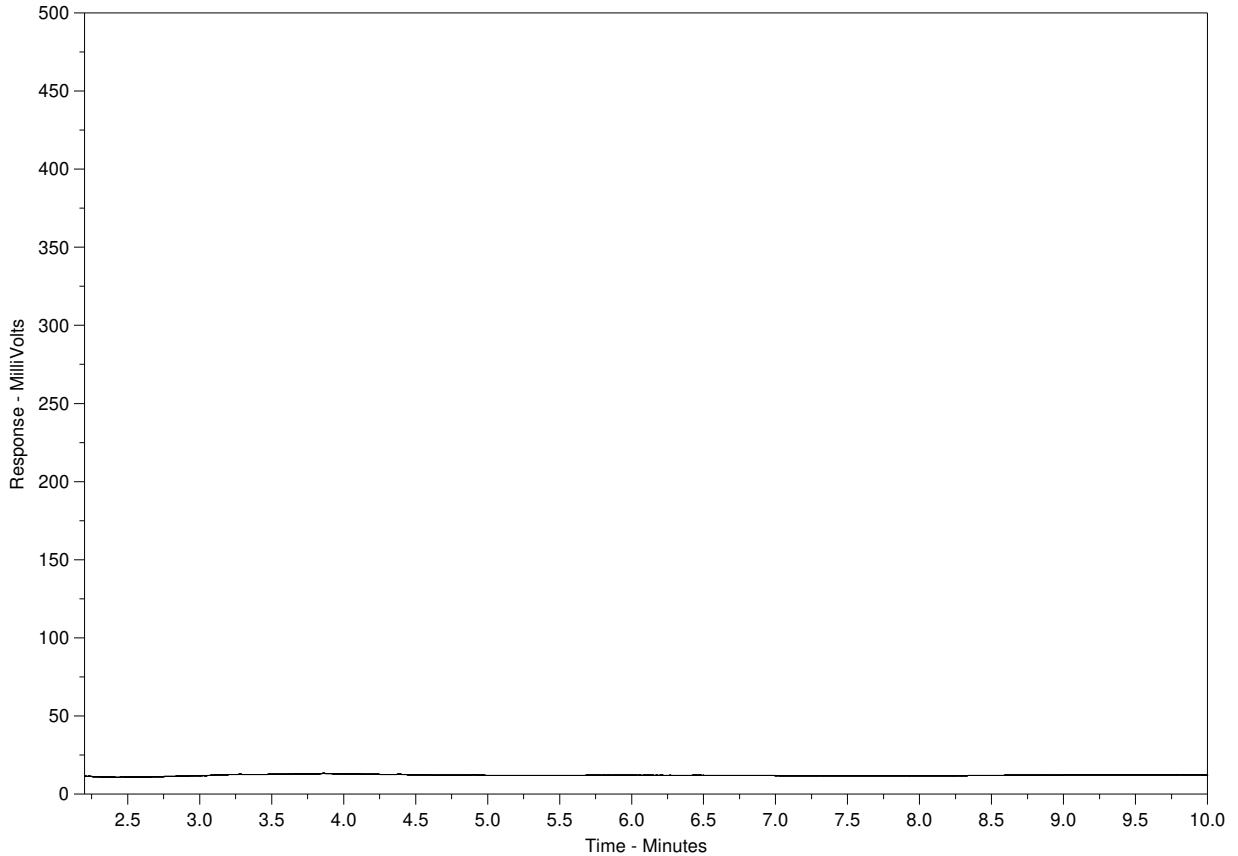
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Hydrocarbon Distribution Report



ALS Sample ID: L1868575-3
Client Sample ID: 02333-03



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →	← Diesel / Jet Fuels →	← Motor Oils / Lube Oils / Grease →

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

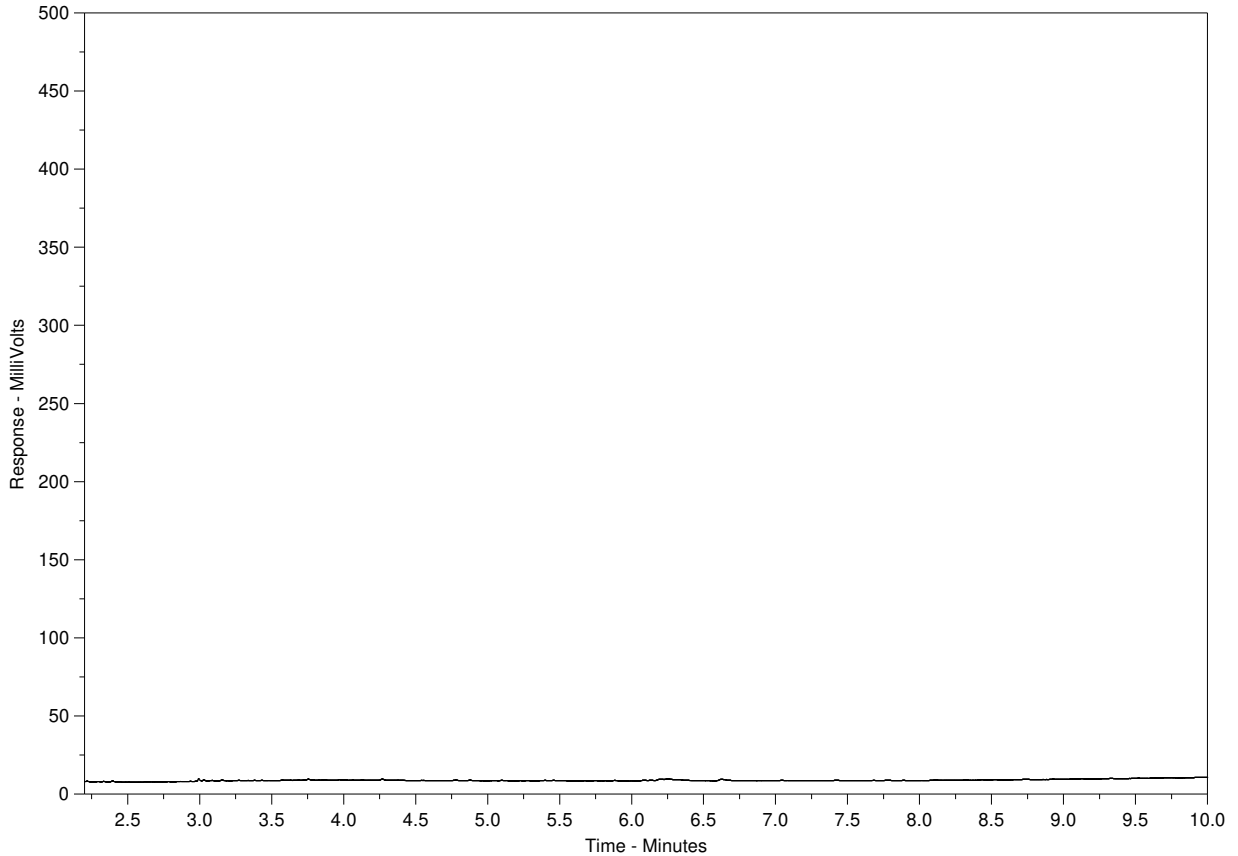
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Hydrocarbon Distribution Report



ALS Sample ID: L1868575-4
Client Sample ID: 02333-04



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →	← Diesel / Jet Fuels →	← Motor Oils / Lube Oils / Grease →

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

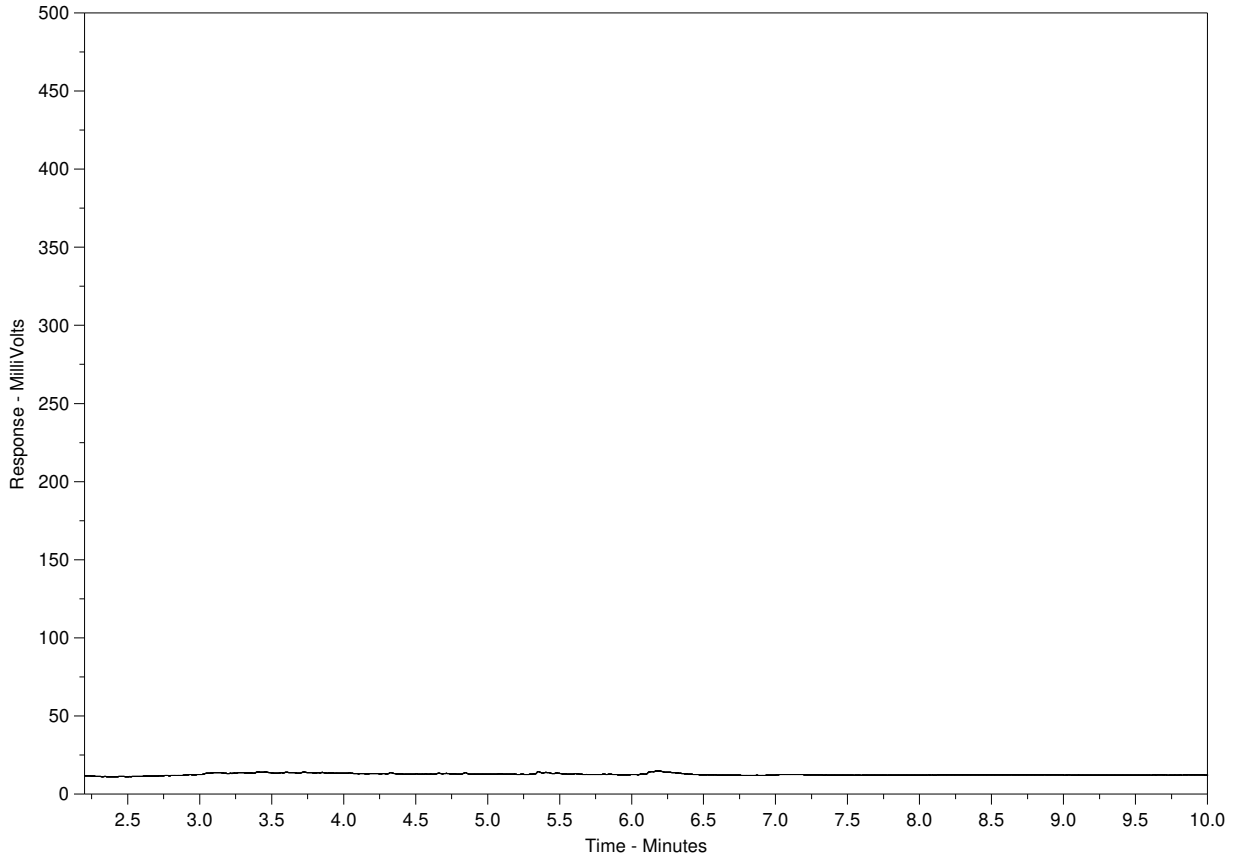
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Hydrocarbon Distribution Report



ALS Sample ID: L1868575-5
Client Sample ID: 02333-05



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →	← Diesel / Jet Fuels →	← Motor Oils / Lube Oils / Grease →

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

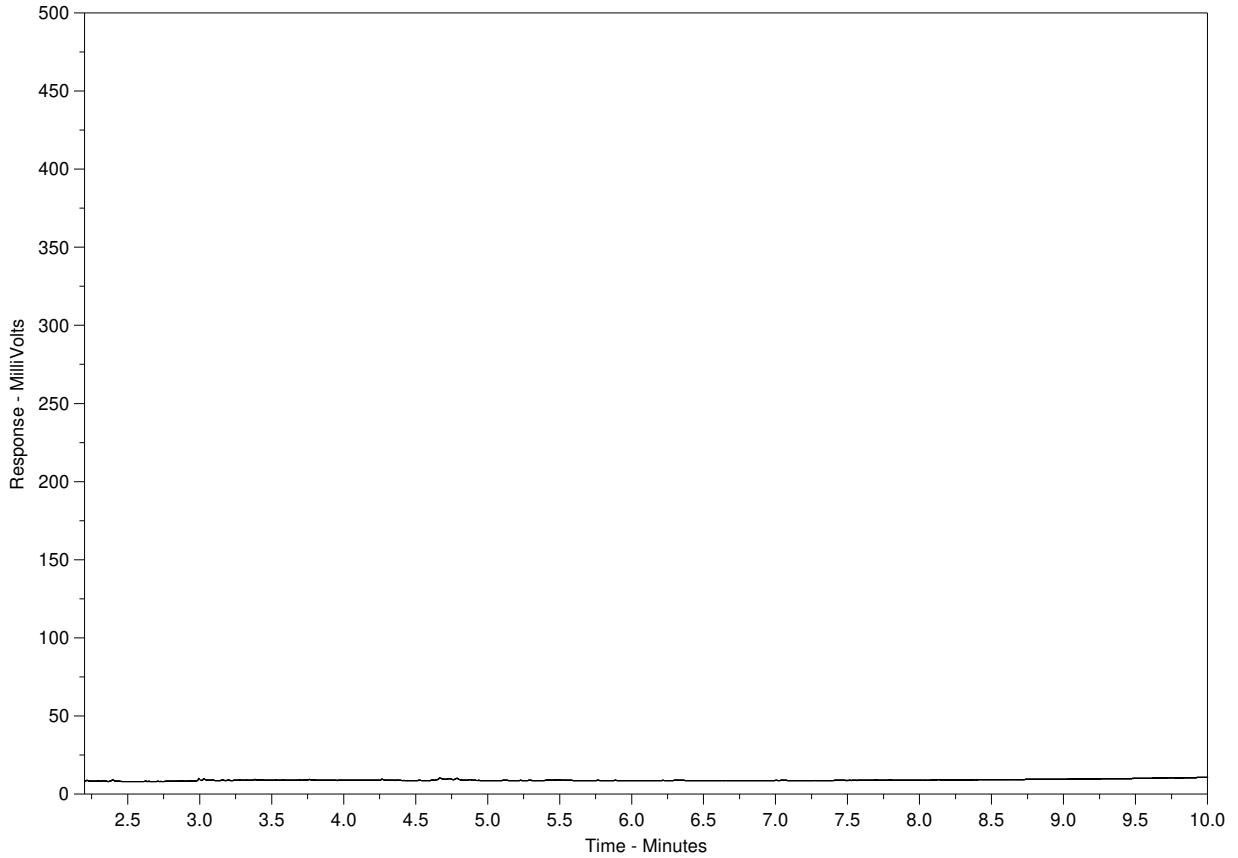
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Hydrocarbon Distribution Report



ALS Sample ID: L1868575-6
 Client Sample ID: 02333-06



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →		← Motor Oils / Lube Oils / Grease →
← Diesel / Jet Fuels →		

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

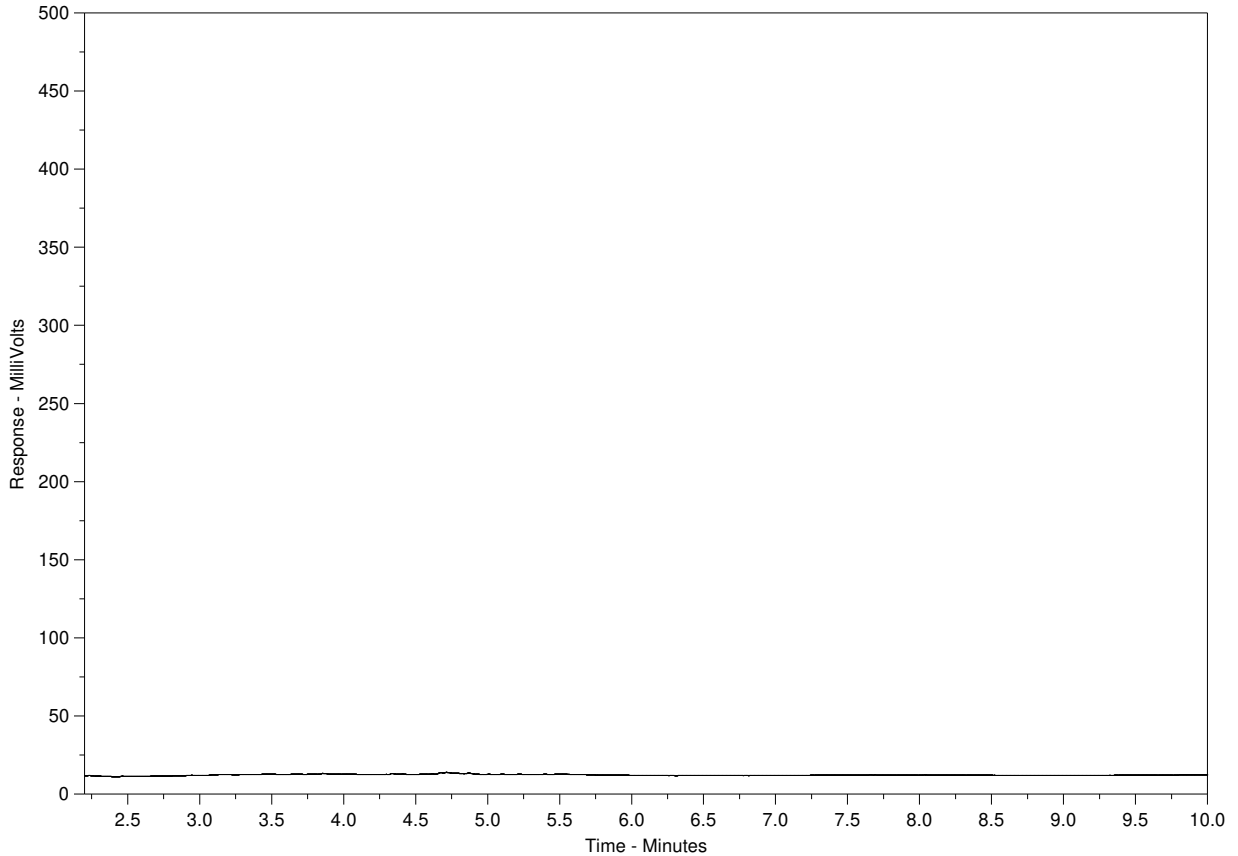
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Hydrocarbon Distribution Report



ALS Sample ID: L1868575-7
Client Sample ID: 02333-07



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →	← Diesel / Jet Fuels →	← Motor Oils / Lube Oils / Grease →

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

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

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.



200 - 2920 Virtual Way
 Vancouver, British Columbia, Canada V5M 0C4
 Telephone (604) 296-4200 Fax (604) 298-5253

CHAIN OF CUSTODY RECORD/ANALYSIS REQUEST

No. 02333 page 1 of 1

Project Number: 1525010		Laboratory Name: ALS	
Short Title: Anne's Island WWTP		Golder Contact: Alvaro Gamdo	
Golder E-mail Address 1: Agarriado @golder.com		Golder E-mail Address 2: SAlachkar @golder.com	
Address: 8081 Laugheed Hwy		Telephone/Fax: Contact: Amber Springer	

Office Name: Vancouver			EQUIS Facility Code: 41098320			Analyses Required														
Turnaround Time: <input type="checkbox"/> 24 hr <input type="checkbox"/> 48 hr <input type="checkbox"/> 72 hr <input checked="" type="checkbox"/> Regular (5 Days)			EQUIS upload: <input checked="" type="checkbox"/>																	
Criteria: <input checked="" type="checkbox"/> CSR <input type="checkbox"/> CCME <input type="checkbox"/> BC Water Quality <input type="checkbox"/> Other			Quote No.:																	
Note: Final Reports to be issued by e-mail																				
Sample Control Number (SCN)	Sample Location	Sa. #	Sample Depth (m)	Sample Matrix (over)	Date Sampled (D/M/Y)	Time Sampled (HH:MM)	Sample Type (over)	QAQC Code (over)	Related SCN (over)	Number of Containers	D. Metals	VOCs	LEPH/HEPH	EPH/PAH	Anions + Salinity	Non. chlorinated Phenols	PCBs	D. Mercury	RUSH (Select TAT above)	Remarks (over)
02333-01	SH16-05M			GW	8/12/16	1140	Grab			9	X	X	X		X			X		Field
-02	SH16-06S				8/12/16	1318				11	X	X		X	X	X	X	X		Filtered & Preserved
-03	SH16-06M				8/12/16	1426		FDA	02333-04	9	X	X		X	X	X	X	X		
-04	SH16-06M				8/12/16	1426		FD	02333-03	9	X	X		X	X	X	X	X		
-05	SH16-07M				9/12/16	925				9	X	X	X		X	X		X		
-06	SH16-07S				9/12/16	1040				9	X	X	X		X	X		X		
-07	SH16-05S				8/12/16	1615				11	X	X	X		X	X	X	X		
-08																				

Short Holding Time
Rush Processing



L1868575-COFC

Sampler's Signature: <i>[Signature]</i>	Relinquished by: Signature <i>[Signature]</i>	Company: GOLDER	Date:	Time:	Received by: Signature	Company:
Comments: on-ice	Method of Shipment:	Waybill No.:	Received for Lab by: DJ		Date: Dec 9/16	Time: 12:30
	Shipped by:	Shipment Condition: Seal Intact:	Temp (°C): 6/52	Cooler opened by:	Date:	Time:

WHITE: Golder Copy YELLOW: Lab Copy



APPENDIX F

Sediment Analysis Results



GOLDER ASSOCIATES LTD.
ATTN: Paddy McManus
Suite 200 - 2920 Virtual Way
Vancouver BC V5M 0C4

Date Received: 29- MAR- 17
Report Date: 11- APR- 17 19:10 (MT)
Version: FINAL

Client Phone: 604- 298- 6623

Certificate of Analysis

Lab Work Order #: L1906730

Project P.O. #: NOT SUBMITTED
Job Reference: 1525010/3400/3400.4
C of C Numbers: 15- 587507
Legal Site Desc:

Amber Springer, B.Sc
Account Manager

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

ADDRESS: 8081 Lougheed Hwy, Suite 100, Burnaby, BC V5A 1W9 Canada | Phone: +1 604 253 4188 | Fax: +1 604 253 6700
ALSCANADA LTD Part of the ALS Group An ALS Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1906730-1 SEDIMENT 28-MAR-17 14:00 SDS-1	L1906730-2 SEDIMENT 28-MAR-17 14:00 SDS-2	L1906730-3 SEDIMENT 28-MAR-17 14:00 SDS-3	L1906730-4 SEDIMENT 28-MAR-17 14:00 SDS-4	L1906730-5 SEDIMENT 28-MAR-17 14:00 SDS-5
Grouping	Analyte					
SOIL						
Physical Tests	Moisture (%)	16.6	18.7	18.9	18.1	20.9
	pH (1:2 soil:water) (pH)	7.65	7.49	7.60	7.45	7.40
Particle Size	% Gravel (>2mm) (%)	<1.0	1.2	<1.0	2.9	<1.0
	% Sand (2.0mm - 0.063mm) (%)	98.8	98.3	99.4	96.8	99.0
	% Silt (0.063mm - 4um) (%)	<1.0	<1.0	<1.0	<1.0	<1.0
	% Clay (<4um) (%)	<1.0	<1.0	<1.0	<1.0	<1.0
	Texture	Sand	Sand	Sand	Sand	Sand
Organic / Inorganic Carbon	Total Organic Carbon (%)	0.272	0.200	0.137	<0.050	0.115
Inorganic Parameters	Acid Volatile Sulphides (umol/g)					
Saturated Paste Extractables	Chloride (Cl) (mg/kg)	11.8	1.99	2.18	1.93	2.79
	% Saturation (%)	27.3	24.5	25.9	26.4	25.1
	Sodium (Na) (mg/kg)	19.0	4.3	5.4	5.8	4.8
Bacteriological Tests	E. coli (MPN/g)					
	Enterococcus (MPN/g)					
	Coliform Bacteria - Fecal (MPN/g)					
Metals	Antimony (Sb) (mg/kg)	0.21	0.20	0.18	0.22	0.18
	Arsenic (As) (mg/kg)	3.52	3.70	3.25	4.00	3.32
	Barium (Ba) (mg/kg)	47.3	46.3	46.2	54.0	42.0
	Beryllium (Be) (mg/kg)	0.19	0.21	0.21	0.22	0.19
	Cadmium (Cd) (mg/kg)	0.113	0.119	0.113	0.124	0.107
	Chromium (Cr) (mg/kg)	31.9	28.8	25.3	31.3	26.3
	Cobalt (Co) (mg/kg)	8.69	8.85	7.88	9.13	7.77
	Copper (Cu) (mg/kg)	15.6	15.3	14.4	14.9	13.5
	Lead (Pb) (mg/kg)	2.29	2.46	2.17	2.40	2.08
	Mercury (Hg) (mg/kg)	0.0196	0.0149	0.0170	0.0134	0.0157
	Molybdenum (Mo) (mg/kg)	0.33	0.32	0.28	0.39	0.27
	Nickel (Ni) (mg/kg)	35.6	32.6	29.3	37.8	29.5
	Selenium (Se) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Thallium (Tl) (mg/kg)	<0.050	<0.050	<0.050	0.050	<0.050
	Tin (Sn) (mg/kg)	<2.0	<2.0	<2.0	<2.0	<2.0
	Uranium (U) (mg/kg)	0.328	0.289	0.284	0.273	0.252
	Vanadium (V) (mg/kg)	58.4	56.8	48.3	53.2	46.5
	Zinc (Zn) (mg/kg)	41.5	41.1	38.9	42.1	37.6
Extractable Metals	Cadmium (Cd)-Extractable (umol/g)					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1906730-6	L1906730-7	L1906730-8	L1906730-9	L1906730-10
		Description	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
		Sampled Date	28-MAR-17	28-MAR-17	28-MAR-17	28-MAR-17	28-MAR-17
		Sampled Time	14:00	14:00	14:00	14:00	14:00
		Client ID	SDS-6	SDS-7	NF-3	DUP-1	DUP-2
Grouping	Analyte						
SOIL							
Physical Tests	Moisture (%)	19.8	20.5	37.6	19.1	33.4	
	pH (1:2 soil:water) (pH)	7.32	8.00	7.79	7.68	7.82	
Particle Size	% Gravel (>2mm) (%)	<1.0	1.2	<1.0	<1.0	<1.0	
	% Sand (2.0mm - 0.063mm) (%)	99.5	98.3	64.2	98.9	63.0	
	% Silt (0.063mm - 4um) (%)	<1.0	<1.0	30.8	<1.0	31.9	
	% Clay (<4um) (%)	<1.0	<1.0	5.1	<1.0	5.1	
	Texture	Sand	Sand	Sandy loam	Sand	Sandy loam	
Organic / Inorganic Carbon	Total Organic Carbon (%)	0.136	<0.050	0.631	0.075	0.608	
Inorganic Parameters	Acid Volatile Sulphides (umol/g)			<0.20		<0.20	
Saturated Paste Extractables	Chloride (Cl) (mg/kg)	2.28	2.68		1.91		
	% Saturation (%)	26.7	24.6		27.7		
	Sodium (Na) (mg/kg)	4.6	11.9		4.9		
Bacteriological Tests	E. coli (MPN/g)			530		1190	
	Enterococcus (MPN/g)			87		81	
	Coliform Bacteria - Fecal (MPN/g)			530		1190	
Metals	Antimony (Sb) (mg/kg)	0.19	0.18	0.46	0.19	0.47	
	Arsenic (As) (mg/kg)	3.14	3.39	5.80	3.33	5.75	
	Barium (Ba) (mg/kg)	41.0	46.0	90.9	42.2	92.9	
	Beryllium (Be) (mg/kg)	0.19	0.18	0.31	0.19	0.30	
	Cadmium (Cd) (mg/kg)	0.107	0.105	0.178	0.107	0.186	
	Chromium (Cr) (mg/kg)	21.3	18.5	43.0	26.6	44.0	
	Cobalt (Co) (mg/kg)	7.60	7.38	12.5	7.14	12.6	
	Copper (Cu) (mg/kg)	14.2	13.2	26.4	12.9	27.3	
	Lead (Pb) (mg/kg)	2.03	2.03	5.36	2.19	5.38	
	Mercury (Hg) (mg/kg)	0.0162	0.0157	0.100	0.0593	0.0363	
	Molybdenum (Mo) (mg/kg)	0.29	0.28	0.75	0.58	0.74	
	Nickel (Ni) (mg/kg)	27.0	25.8	43.8	28.5	44.5	
	Selenium (Se) (mg/kg)	<0.20	<0.20	0.28	<0.20	0.30	
	Silver (Ag) (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10	
	Thallium (Tl) (mg/kg)	<0.050	<0.050	0.076	<0.050	0.072	
	Tin (Sn) (mg/kg)	<2.0	<2.0	<2.0	<2.0	<2.0	
	Uranium (U) (mg/kg)	0.250	0.230	0.683	0.266	0.689	
	Vanadium (V) (mg/kg)	44.3	43.4	64.5	41.5	66.4	
	Zinc (Zn) (mg/kg)	37.0	37.4	65.2	36.5	68.2	
Extractable Metals	Cadmium (Cd)-Extractable (umol/g)			<0.0050		<0.0050	

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1906730-1 SEDIMENT 28-MAR-17 14:00 SDS-1	L1906730-2 SEDIMENT 28-MAR-17 14:00 SDS-2	L1906730-3 SEDIMENT 28-MAR-17 14:00 SDS-3	L1906730-4 SEDIMENT 28-MAR-17 14:00 SDS-4	L1906730-5 SEDIMENT 28-MAR-17 14:00 SDS-5
Grouping	Analyte				
SOIL					
Extractable Metals	Copper (Cu)-Extractable (umol/g)				
	Lead (Pb)-Extractable (umol/g)				
	Mercury (Hg)-Extractable (umol/g)				
	Nickel (Ni)-Extractable (umol/g)				
	Zinc (Zn)-Extractable (umol/g)				
Organometallics	Dibutyltin (ug/kg)		<1		
	Diocetyl tin (ug/kg)		<1		
	Diphenyltin (ug/kg)		<1		
	Monobutyltin (ug/kg)		<1		
	Monooctyltin (ug/kg)		<1		
	Monophenyltin (ug/kg)		<1		
	Tetrabutyltin (ug/kg)		<1		
	Tributyltin (ug/kg)		<1		
	Tricyclohexyltin (ug/kg)		<1		
	Triphenyltin (ug/kg)		<1		
Hydrocarbons	EPH10-19 (mg/kg)		<200		
	EPH19-32 (mg/kg)		<200		
	LEPH (mg/kg)		<200		
	HEPH (mg/kg)		<200		
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)	<0.0050	<0.0050	<0.0050	<0.0050
	Acenaphthylene (mg/kg)	<0.0050	<0.0050	<0.0050	<0.0050
	Anthracene (mg/kg)	<0.0040	<0.0040	<0.0040	<0.0040
	Benz(a)anthracene (mg/kg)	<0.010	<0.010	<0.010	<0.010
	Benzo(a)pyrene (mg/kg)	<0.010	<0.010	<0.010	<0.010
	Benzo(b)fluoranthene (mg/kg)	<0.010	<0.010	<0.010	<0.010
	Benzo(b+j+k)fluoranthene (mg/kg)	<0.015	<0.015	<0.015	<0.015
	Benzo(g,h,i)perylene (mg/kg)	<0.010	<0.010	<0.010	<0.010
	Benzo(k)fluoranthene (mg/kg)	<0.010	<0.010	<0.010	<0.010
	Chrysene (mg/kg)	<0.010	<0.010	<0.010	<0.010
	Dibenz(a,h)anthracene (mg/kg)	<0.0050	<0.0050	<0.0050	<0.0050
	Fluoranthene (mg/kg)	<0.010	<0.010	<0.010	<0.010
	Fluorene (mg/kg)	<0.010	<0.010	<0.010	<0.010
	Indeno(1,2,3-c,d)pyrene (mg/kg)	<0.010	<0.010	<0.010	<0.010
	2-Methylnaphthalene (mg/kg)	<0.010	<0.010	<0.010	<0.010
	Naphthalene (mg/kg)	<0.010	<0.010	<0.010	<0.010
	Phenanthrene (mg/kg)	<0.010	<0.010	<0.010	<0.010

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1906730-6 SEDIMENT 28-MAR-17 14:00 SDS-6	L1906730-7 SEDIMENT 28-MAR-17 14:00 SDS-7	L1906730-8 SEDIMENT 28-MAR-17 14:00 NF-3	L1906730-9 SEDIMENT 28-MAR-17 14:00 DUP-1	L1906730-10 SEDIMENT 28-MAR-17 14:00 DUP-2
Grouping	Analyte				
SOIL					
Extractable Metals	Copper (Cu)-Extractable (umol/g)			0.120	0.110
	Lead (Pb)-Extractable (umol/g)			0.028	0.026
	Mercury (Hg)-Extractable (umol/g)			<0.000050	<0.000050
	Nickel (Ni)-Extractable (umol/g)			0.082	0.074
	Zinc (Zn)-Extractable (umol/g)			0.188	0.173
Organometallics	Dibutyltin (ug/kg)	<1			
	Diocetyltn (ug/kg)	<1			
	Diphenyltin (ug/kg)	<1			
	Monobutyltin (ug/kg)	<1			
	Monooctyltin (ug/kg)	<1			
	Monophenyltin (ug/kg)	<1			
	Tetrabutyltin (ug/kg)	<1			
	Tributyltin (ug/kg)	<1			
	Tricyclohexyltin (ug/kg)	<1			
	Triphenyltin (ug/kg)	<1			
Hydrocarbons	EPH10-19 (mg/kg)	<200		<200	
	EPH19-32 (mg/kg)	<200		<200	
	LEPH (mg/kg)	<200		<200	
	HEPH (mg/kg)	<200		<200	
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)	<0.0050	<0.0050	0.0070	<0.0050 0.0081
	Acenaphthylene (mg/kg)	<0.0050	<0.0050	<0.0050	<0.0050
	Anthracene (mg/kg)	<0.0040	<0.0040	0.0053	<0.0040 0.0073
	Benz(a)anthracene (mg/kg)	<0.010	<0.010	0.011	<0.010 0.020
	Benzo(a)pyrene (mg/kg)	<0.010	<0.010	<0.010	<0.010 0.013
	Benzo(b)fluoranthene (mg/kg)	<0.010	<0.010	0.025	<0.010 0.032
	Benzo(b+j+k)fluoranthene (mg/kg)	<0.015	<0.015	0.037	<0.015 0.044
	Benzo(g,h,i)perylene (mg/kg)	<0.010	<0.010	<0.010	<0.010
	Benzo(k)fluoranthene (mg/kg)	<0.010	<0.010	0.012	<0.010 0.013
	Chrysene (mg/kg)	<0.010	<0.010	<0.020 ^{DLCl}	<0.010 <0.020 ^{DLCl}
	Dibenz(a,h)anthracene (mg/kg)	<0.0050	<0.0050	<0.0050	<0.0050
	Fluoranthene (mg/kg)	<0.010	<0.010	0.050	<0.010 0.060
	Fluorene (mg/kg)	<0.010	<0.010	<0.010	<0.010 0.012
	Indeno(1,2,3-c,d)pyrene (mg/kg)	<0.010	<0.010	<0.010	<0.010
	2-Methylnaphthalene (mg/kg)	<0.010	<0.010	<0.010	<0.010
	Naphthalene (mg/kg)	<0.010	<0.010	<0.010	<0.010 0.013
	Phenanthrene (mg/kg)	<0.010	<0.010	0.037	<0.010 0.038

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1906730-1	L1906730-2	L1906730-3	L1906730-4	L1906730-5
		Description	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
		Sampled Date	28-MAR-17	28-MAR-17	28-MAR-17	28-MAR-17	28-MAR-17
		Sampled Time	14:00	14:00	14:00	14:00	14:00
		Client ID	SDS-1	SDS-2	SDS-3	SDS-4	SDS-5
Grouping	Analyte						
SOIL							
Polycyclic Aromatic Hydrocarbons	Pyrene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
	Surrogate: Acenaphthene d10 (%)	84.5	87.1	88.4	85.9	98.9	
	Surrogate: Chrysene d12 (%)	95.9	89.6	92.9	93.0	103.2	
	Surrogate: Naphthalene d8 (%)	77.9	79.3	83.7	81.8	91.4	
	Surrogate: Phenanthrene d10 (%)	84.0	83.7	86.8	83.2	97.5	
	B(a)P Total Potency Equivalent (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
	IACR (CCME) (mg/kg)	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
Phenolics	4-Chloro-3-methylphenol (mg/kg)		<0.020				
	2-Chlorophenol (mg/kg)		<0.020				
	3-Chlorophenol (mg/kg)		<0.020				
	4-Chlorophenol (mg/kg)		<0.020				
	2,3-Dichlorophenol (mg/kg)		<0.020				
	2,4 & 2,5-Dichlorophenol (mg/kg)		<0.020				
	2,6-Dichlorophenol (mg/kg)		<0.020				
	3,4-Dichlorophenol (mg/kg)		<0.020				
	3,5-Dichlorophenol (mg/kg)		<0.020				
	Pentachlorophenol (mg/kg)		<0.020				
	2,3,4,5-Tetrachlorophenol (mg/kg)		<0.020				
	2,3,4,6-Tetrachlorophenol (mg/kg)		<0.020				
	2,3,5,6-Tetrachlorophenol (mg/kg)		<0.020				
	2,3,4-Trichlorophenol (mg/kg)		<0.020				
	2,3,5-Trichlorophenol (mg/kg)		<0.020				
	2,3,6-Trichlorophenol (mg/kg)		<0.020				
	2,4,5-Trichlorophenol (mg/kg)		<0.020				
	2,4,6-Trichlorophenol (mg/kg)		<0.020				
3,4,5-Trichlorophenol (mg/kg)		<0.020					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

		Sample ID	L1906730-6	L1906730-7	L1906730-8	L1906730-9	L1906730-10
		Description	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT
		Sampled Date	28-MAR-17	28-MAR-17	28-MAR-17	28-MAR-17	28-MAR-17
		Sampled Time	14:00	14:00	14:00	14:00	14:00
		Client ID	SDS-6	SDS-7	NF-3	DUP-1	DUP-2
Grouping	Analyte						
SOIL							
Polycyclic Aromatic Hydrocarbons	Pyrene (mg/kg)	<0.010	<0.010	0.043	<0.010	0.046	
	Surrogate: Acenaphthene d10 (%)	85.6	91.2	92.5	85.3	95.1	
	Surrogate: Chrysene d12 (%)	92.3	84.8	85.9	92.3	97.3	
	Surrogate: Naphthalene d8 (%)	80.7	88.3	88.6	83.2	91.2	
	Surrogate: Phenanthrene d10 (%)	83.2	90.5	93.5	84.4	94.5	
	B(a)P Total Potency Equivalent (mg/kg)	<0.020	<0.020	<0.020	<0.020	0.023	
	IACR (CCME) (mg/kg)	<0.15	<0.15	0.29	<0.15	0.39	
Phenolics	4-Chloro-3-methylphenol (mg/kg)	<0.020					
	2-Chlorophenol (mg/kg)	<0.020					
	3-Chlorophenol (mg/kg)	<0.020					
	4-Chlorophenol (mg/kg)	<0.020					
	2,3-Dichlorophenol (mg/kg)	<0.020					
	2,4 & 2,5-Dichlorophenol (mg/kg)	<0.020					
	2,6-Dichlorophenol (mg/kg)	<0.020					
	3,4-Dichlorophenol (mg/kg)	<0.020					
	3,5-Dichlorophenol (mg/kg)	<0.020					
	Pentachlorophenol (mg/kg)	<0.020					
	2,3,4,5-Tetrachlorophenol (mg/kg)	<0.020					
	2,3,4,6-Tetrachlorophenol (mg/kg)	<0.020					
	2,3,5,6-Tetrachlorophenol (mg/kg)	<0.020					
	2,3,4-Trichlorophenol (mg/kg)	<0.020					
	2,3,5-Trichlorophenol (mg/kg)	<0.020					
	2,3,6-Trichlorophenol (mg/kg)	<0.020					
	2,4,5-Trichlorophenol (mg/kg)	<0.020					
	2,4,6-Trichlorophenol (mg/kg)	<0.020					
	3,4,5-Trichlorophenol (mg/kg)	<0.020					

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Duplicate	Mercury (Hg)	DUP-H	L1906730-9
Duplicate	Barium (Ba)	DUP-H	L1906730-9
Duplicate	Chromium (Cr)	DUP-H	L1906730-9
Duplicate	Molybdenum (Mo)	DUP-H,J	L1906730-9

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLCI	Detection Limit Raised: Chromatographic Interference due to co-elution.
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.
DUP-H,J	Duplicate results outside ALS DQO, due to sample heterogeneity. Duplicate results and limits are expressed in terms of absolute difference.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
AVS-COL-VA	Soil	Acid volatile sulphide by colourimetric	EPA 821/R-91-100
		This analysis is carried out in accordance with the method described in EPA 821/R-91-100. Hydrochloric acid is added to sediment samples within a purge and trap system. The evolved hydrogen sulphide (H ₂ S) is carried into a basic solution by argon gas. The acid volatile sulfide is then determined colourimetrically.	
C-TIC-PCT-SK	Soil	Total Inorganic Carbon in Soil	CSSS (2008) P216-217
		A known quantity of acetic acid is consumed by reaction with carbonates in the soil. The pH of the resulting solution is measured and compared against a standard curve relating pH to weight of carbonate.	
C-TOC-CALC-SK	Soil	Total Organic Carbon Calculation	CSSS (2008) 21.2
		Total Organic Carbon (TOC) is calculated by the difference between total carbon (TC) and total inorganic carbon. (TIC)	
C-TOT-LECO-SK	Soil	Total Carbon by combustion method	CSSS (2008) 21.2
		The sample is ignited in a combustion analyzer where carbon in the reduced CO ₂ gas is determined using a thermal conductivity detector.	
CL-PASTE-IC-VA	Soil	Chloride in Soil (Paste) by IC	Carter-CSSS / EPA 300.1 (modified)
		A soil extract produced by the saturated paste extraction procedure is analyzed for chloride by Ion Chromatography with conductivity detection.	
CLPHEN-TMB-MS-VA	Soil	Chlorinated Phenols by Tumbler/GCMS	EPA 3570, 8270D, Knapp(1979)
		A subsample of the soil/sediment is rotary extracted by solvent, derivitized, and analysed by GC/MS.	
ECOLI-COLI-VA	Soil	E. coli by MPN	TMECC 07.00 PATHOGENS
		This analysis is carried out using procedures adapted from TMECC 07.00 PATHOGENS. This method describes multiple-tube fermentation technique for the detection and enumeration of Escherichia coli. Serial dilutions of the sample are incubated with the appropriate growth medium, and Escherichia coli are quantified by a statistical estimation of bacteria density (most probable number). The test involves initial 48 hour incubation (presumptive test); positive results are further tested (up to an additional 24 hours) to confirm and quantify Escherichia coli.	
ENTERO-MF-VA	Soil	Enterococci by MPN	TMECC 07.00 PATHOGENS
		This analysis is carried out using procedures adapted from TMECC 07.00 PATHOGENS. This method describes multiple-tube fermentation technique for the detection and enumeration of enterococcus. Serial dilutions of the sample are incubated with the appropriate growth medium, and enterococcus is quantified by a statistical estimation of bacteria density (most probable number). The test involves initial 24 hour incubation (presumptive test); positive results are further tested (up to an additional 24 hours) to confirm and quantify enterococcus.	
EPH-TUMB-FID-VA	Soil	EPH in Solids by Tumbler and GCFID	BC MOE EPH GCFID
		Analysis is in accordance with BC MOE Lab Manual method "Extractable Petroleum Hydrocarbons in Solids by GC/FID", v2.1, July 1999. Soil samples are extracted with a 1:1 mixture of hexane and acetone using a rotary extraction technique modified from EPA 3570 prior to gas chromatography with flame ionization detection (GC-FID). EPH results include Polycyclic Aromatic Hydrocarbons (PAH) and are therefore not equivalent to Light and Heavy Extractable Petroleum Hydrocarbons (LEPH/HEPH).	
FCOLI-DRY-MTF-VA	Soil	Fecal coliform by MPN	EPA Method 1680
		This analysis is carried out using procedures adapted from EPA Method 1680 "Fecal Coliforms in Sewage Sludge (Biosolids) by Multiple Tube Fermentation using Lauryl Tryptose Broth (LTB) and EC medium". Serial dilutions of the sample are incubated with the appropriate growth medium, and fecal coliforms are quantified by a statistical estimation of bacteria density (most probable number). The test involves initial 48 hour incubation (presumptive test), positive results are further tested (up to an additional 24 hours) to confirm and quantify fecal coliforms.	
HG-200.2-CVAF-VA	Soil	Mercury in Soil by CVAFS	EPA 200.2/1631E (mod)
		Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CVAFS.	
HG-SEM-CVAFS-VA	Soil	Simultaneously Extracted Metals in Soil	EPA 821/R-91-100; EPA245.7

Reference Information

This analysis is carried out in accordance with the method described in EPA 821/R-91-100. Hydrochloric acid is added to sediment samples within a purge and trap system.

The extract produced from the addition of the acid is then analyzed for simultaneously extracted metals (SEM) using atomic fluorescence spectrophotometry or atomic absorption spectrophotometry (EPA 245.7).

IC-CACO3-CALC-SK	Soil	Inorganic Carbon as CaCO ₃ Equivalent	Calculation
LEPH/HEPH-CALC-VA	Soil	LEPHs and HEPHs	BC MOE LABORATORY MANUAL (2005)
<p>Light and Heavy Extractable Petroleum Hydrocarbons in Solids. These results are determined according to the British Columbia Ministry of Environment, Lands, and Parks Analytical Method for Contaminated Sites "Calculation of Light and Heavy Extractable Petroleum Hydrocarbons in Solids or Water". According to this method, LEPH and HEPH are calculated by subtracting selected Polycyclic Aromatic Hydrocarbon results from Extractable Petroleum Hydrocarbon results. To calculate LEPH, the individual results for Naphthalene and Phenanthrene are subtracted from EPH(C10-19). To calculate HEPH, the individual results for Benz(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Dibenz(a,h)anthracene, Indeno(1,2,3-c,d)pyrene, and Pyrene are subtracted from EPH(C19-32). Analysis of Extractable Petroleum Hydrocarbons adheres to all prescribed elements of the BCMELP method "Extractable Petroleum Hydrocarbons in Solids by GC/FID" (Version 2.1, July 20, 1999).</p>			
MET-200.2-CCMS-VA	Soil	Metals in Soil by CRC ICPMS	EPA 200.2/6020A (mod)
<p>Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CRC ICPMS.</p>			
<p>Method Limitation: This method is not a total digestion technique. It is a very strong acid digestion that is intended to dissolve those metals that may be environmentally available. This method does not dissolve all silicate materials and may result in a partial extraction. depending on the sample matrix, for some metals, including, but not limited to Al, Ba, Be, Cr, Sr, Ti, Tl, and V.</p>			
MET-PASTE-ICP-VA	Soil	Metals in Soil (Paste) by ICPOES	Carter-CSSS / EPA 6010B (modified)
<p>A soil extract produced by the saturated paste extraction procedure is analyzed for Sodium, Calcium, and Magnesium by ICPOES as per "Soil Sampling and Methods of Analysis" by M. Carter.</p>			
MET-SEM-ICP-VA	Soil	Simultaneously Extracted Metals (ICPOES)	EPA 821/R-91-100; EPA 6010B
<p>This analysis is carried out in accordance with the method described in EPA 821/R-91-100. Hydrochloric acid is added to sediment samples within a purge and trap system. The extract produced from the addition of the acid is then analyzed for simultaneously extracted metals (SEM) using inductively coupled plasma - optical emission spectrophotometry (EPA Method 6010B).</p>			
MOISTURE-VA	Soil	Moisture content	CWS for PHC in Soil - Tier 1
<p>This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of six hours.</p>			
ORGANOTINS-FULL-LE	Soil	Organotins full standard	GC-ICPMS according to SS-EN 23161 (mod).
<p>The analysis is carried out by GC-ICPMS according to SS-EN 23161 (mod).</p>			
PAH-TMB-H/A-MS-VA	Soil	PAH - Rotary Extraction (Hexane/Acetone)	EPA 3570/8270
<p>This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Methods 3570 & 8270, published by the United States Environmental Protection Agency (EPA). The procedure uses a mechanical shaking technique to extract a subsample of the sediment/soil with a 1:1 mixture of hexane and acetone. The extract is then solvent exchanged to toluene. The final extract is analysed by capillary column gas chromatography with mass spectrometric detection (GC/MS). Surrogate recoveries may not be reported in cases where interferences from the sample matrix prevent accurate quantitation. Because the two isomers cannot be readily chromatographically separated, benzo(j)fluoranthene is reported as part of the benzo(b)fluoranthene parameter.</p>			
PH-1:2-VA	Soil	pH in Soil (1:2 Soil:Water Extraction)	BC WLAP METHOD: PH, ELECTROMETRIC, SOIL
<p>This analysis is carried out in accordance with procedures described in the pH, Electrometric in Soil and Sediment method - Section B Physical/Inorganic and Misc. Constituents, BC Environmental Laboratory Manual 2007. The procedure involves mixing the dried (at <60 C) and sieved (No. 10 / 2mm) sample with deionized/distilled water at a 1:2 ratio of sediment to water. The pH of the solution is then measured using a standard pH probe.</p>			
PHEN-TMB-MS-VA	Soil	Phenolics by Tumbler/GC-MS	EPA 3570, 8270D, Knapp(1979)
<p>A subsample of the soil/sediment is rotary extracted by solvent, derivitized, and analysed by GC/MS.</p>			
PSA-PIPET+GRAVEL-SK	Soil	Particle size - Sieve and Pipette	SSIR-51 METHOD 3.2.1
<p>Particle size distribution is determined by a combination of techniques. Dry sieving is performed for coarse particles, wet sieving for sand particles and the pipette sedimentation method for clay particles.</p>			
<p>Reference:</p>			
<p>Burt, R. (2009). Soil Survey Field and Laboratory Methods Manual. Soil Survey Investigations Report No. 5. Method 3.2.1.2.2. United States Department of Agriculture Natural Resources Conservation Service.</p>			
SAT-PCNT-VA	Soil	Saturation Percentage	Carter-CSSS

Reference Information

Saturation Percentage (SP) is the total volume of water present in a saturated paste (in mL) divided by the dry weight of the sample (in grams), expressed as a percentage, as described in "Soil Sampling and Methods of Analysis" by M. Carter.

** ALS test methods may incorporate modifications from specified 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
SK	ALS ENVIRONMENTAL - SASKATOON, SASKATCHEWAN, CANADA
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA
LE	ALS ENVIRONMENTAL - LULEÅ, SWEDEN

Chain of Custody Numbers:

15-587507

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

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 of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

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.

Quality Control Report

Workorder: L1906730

Report Date: 11-APR-17

Page 1 of 17

Client: GOLDER ASSOCIATES LTD.
Suite 200 - 2920 Virtual Way
Vancouver BC V5M 0C4

Contact: Paddy McManus

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
AVS-COL-VA								
	Soil							
Batch	R3692311							
WG2502727-3	LCS							
Acid Volatile Sulphides			85.5		%		70-130	30-MAR-17
WG2502727-8	LCS							
Acid Volatile Sulphides			91.8		%		70-130	30-MAR-17
WG2502727-1	MB							
Acid Volatile Sulphides			<0.20		umol/g		0.2	30-MAR-17
WG2502727-6	MB							
Acid Volatile Sulphides			<0.20		umol/g		0.2	30-MAR-17
CL-PASTE-IC-VA								
	Soil							
Batch	R3694612							
WG2502858-4	DUP	L1906730-1						
Chloride (Cl)		11.8	11.2		mg/kg	4.6	30	06-APR-17
WG2502858-2	LCS							
Chloride (Cl)			95.6		%		70-130	04-APR-17
WG2502858-1	MB							
Chloride (Cl)			<1.0		mg/kg		1	04-APR-17
CLPHEN-TMB-MS-VA								
	Soil							
Batch	R3692694							
WG2502917-3	CRM	CRM 143						
2,4,5-Trichlorophenol			114.3		%		60-130	05-APR-17
2,4,6-Trichlorophenol			114.1		%		60-130	05-APR-17
Pentachlorophenol			121.6		%		60-130	05-APR-17
WG2502917-4	DUP	L1906730-2						
2,3,4,5-Tetrachlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
2,3,4,6-Tetrachlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
2,3,4-Trichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
2,3,5,6-Tetrachlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
2,3,5-Trichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
2,3,6-Trichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
2,4,5-Trichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
2,4,6-Trichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
3,4,5-Trichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
Pentachlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
WG2502917-2	LCS							
2,3,4,5-Tetrachlorophenol			92.3		%		60-130	05-APR-17
2,3,4,6-Tetrachlorophenol			94.5		%		60-130	05-APR-17
2,3,4-Trichlorophenol			93.2		%		60-130	05-APR-17



Quality Control Report

Workorder: L1906730

Report Date: 11-APR-17

Page 2 of 17

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CLPHEN-TMB-MS-VA								
	Soil							
Batch	R3692694							
WG2502917-2	LCS							
2,3,5,6-Tetrachlorophenol			89.3		%		60-130	05-APR-17
2,3,5-Trichlorophenol			92.0		%		60-130	05-APR-17
2,3,6-Trichlorophenol			91.5		%		60-130	05-APR-17
2,4,5-Trichlorophenol			91.8		%		60-130	05-APR-17
2,4,6-Trichlorophenol			91.7		%		60-130	05-APR-17
3,4,5-Trichlorophenol			95.3		%		60-130	05-APR-17
Pentachlorophenol			93.1		%		60-130	05-APR-17
WG2502917-1	MB							
2,3,4,5-Tetrachlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,3,4,6-Tetrachlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,3,4-Trichlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,3,5,6-Tetrachlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,3,5-Trichlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,3,6-Trichlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,4,5-Trichlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,4,6-Trichlorophenol			<0.020		mg/kg		0.02	05-APR-17
3,4,5-Trichlorophenol			<0.020		mg/kg		0.02	05-APR-17
Pentachlorophenol			<0.020		mg/kg		0.02	05-APR-17
ECOLI-COLI-VA								
	Soil							
Batch	R3691625							
WG2502493-2	MB							
E. coli			<2		MPN/g		2	29-MAR-17
ENTERO-MF-VA								
	Soil							
Batch	R3691640							
WG2502498-2	MB							
Enterococcus			<2		MPN/g		2	29-MAR-17
EPH-TUMB-FID-VA								
	Soil							
Batch	R3691888							
WG2503939-3	IRM	ALS PHC2 RM						
EPH10-19			85.6		%		70-130	04-APR-17
EPH19-32			82.9		%		70-130	04-APR-17
WG2503939-1	MB							
EPH10-19			<200		mg/kg		200	04-APR-17



Quality Control Report

Workorder: L1906730

Report Date: 11-APR-17

Page 3 of 17

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
EPH-TUMB-FID-VA Soil								
Batch	R3691888							
WG2503939-1	MB							
EPH19-32			<200		mg/kg		200	04-APR-17
Batch R3693056								
WG2504912-3	IRM	ALS PHC2 RM						
EPH10-19			86.1		%		70-130	05-APR-17
EPH19-32			88.9		%		70-130	05-APR-17
WG2504912-1	MB							
EPH10-19			<200		mg/kg		200	05-APR-17
EPH19-32			<200		mg/kg		200	05-APR-17
FCOLI-DRY-MTF-VA Soil								
Batch	R3691614							
WG2502496-2	MB							
Coliform Bacteria - Fecal			<2		MPN/g		2	29-MAR-17
HG-200.2-CVAF-VA Soil								
Batch	R3690684							
WG2503941-4	CRM	VA-NRC-STSD-3						
Mercury (Hg)			89.3		%		70-130	02-APR-17
WG2503941-2	DUP	L1906730-9						
Mercury (Hg)		0.0593	0.0997	DUP-H	mg/kg	51	40	02-APR-17
WG2503941-3	LCS							
Mercury (Hg)			101.2		%		70-130	02-APR-17
WG2503941-1	MB							
Mercury (Hg)			<0.0050		mg/kg		0.005	02-APR-17
Batch R3691842								
WG2503936-4	CRM	VA-NRC-STSD-3						
Mercury (Hg)			85.9		%		70-130	03-APR-17
WG2503936-3	LCS							
Mercury (Hg)			99.8		%		70-130	03-APR-17
WG2503936-1	MB							
Mercury (Hg)			<0.0050		mg/kg		0.005	03-APR-17
Batch R3696800								
WG2508944-4	CRM	VA-NRC-STSD-3						
Mercury (Hg)			83.7		%		70-130	11-APR-17
WG2508944-3	LCS							
Mercury (Hg)			95.6		%		70-130	11-APR-17
WG2508944-1	MB							



Quality Control Report

Workorder: L1906730

Report Date: 11-APR-17

Page 4 of 17

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-200.2-CVAF-VA Soil								
Batch R3696800								
WG2508944-1 MB								
Mercury (Hg)			<0.0050		mg/kg		0.005	11-APR-17
HG-SEM-CVAFS-VA Soil								
Batch R3689180								
WG2502727-2 CRM VA-NRC-MESS3								
Mercury (Hg)-Extractable			89.0		%		70-130	31-MAR-17
WG2502727-7 CRM VA-NRC-MESS3								
Mercury (Hg)-Extractable			93.0		%		70-130	31-MAR-17
WG2502727-1 MB								
Mercury (Hg)-Extractable			<0.000050		umol/g		0.00005	31-MAR-17
WG2502727-6 MB								
Mercury (Hg)-Extractable			<0.000050		umol/g		0.00005	31-MAR-17
MET-200.2-CCMS-VA Soil								
Batch R3691103								
WG2503941-4 CRM VA-NRC-STSD-3								
Antimony (Sb)			111.8		%		70-130	01-APR-17
Arsenic (As)			96.1		%		70-130	01-APR-17
Barium (Ba)			107.1		%		70-130	01-APR-17
Beryllium (Be)			110.8		%		70-130	01-APR-17
Cadmium (Cd)			117.4		%		70-130	01-APR-17
Chromium (Cr)			107.8		%		70-130	01-APR-17
Cobalt (Co)			104.6		%		70-130	01-APR-17
Copper (Cu)			97.7		%		70-130	01-APR-17
Lead (Pb)			111.1		%		70-130	01-APR-17
Molybdenum (Mo)			108.6		%		70-130	01-APR-17
Nickel (Ni)			98.0		%		70-130	01-APR-17
Selenium (Se)			103.8		%		70-130	01-APR-17
Silver (Ag)			104.1		%		70-130	01-APR-17
Thallium (Tl)			116.2		%		70-130	01-APR-17
Uranium (U)			108.8		%		70-130	01-APR-17
Vanadium (V)			109.5		%		70-130	01-APR-17
Zinc (Zn)			101.7		%		70-130	01-APR-17
WG2503941-2 DUP L1906730-9								
Antimony (Sb)		0.19	0.18		mg/kg	3.4	30	01-APR-17
Arsenic (As)		3.33	3.32		mg/kg	0.0	30	01-APR-17



Quality Control Report

Workorder: L1906730

Report Date: 11-APR-17

Page 5 of 17

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA								
	Soil							
Batch	R3691103							
WG2503941-2	DUP	L1906730-9						
Barium (Ba)		42.2	66.8	DUP-H	mg/kg	45	40	01-APR-17
Beryllium (Be)		0.19	0.17		mg/kg	10	30	01-APR-17
Cadmium (Cd)		0.107	0.099		mg/kg	8.1	30	01-APR-17
Chromium (Cr)		26.6	18.3	DUP-H	mg/kg	37	30	01-APR-17
Cobalt (Co)		7.14	7.19		mg/kg	0.7	30	01-APR-17
Copper (Cu)		12.9	13.2		mg/kg	1.7	30	01-APR-17
Lead (Pb)		2.19	1.98		mg/kg	10	40	01-APR-17
Molybdenum (Mo)		0.58	0.27	DUP-H,J	mg/kg	0.31	0.2	01-APR-17
Nickel (Ni)		28.5	26.1		mg/kg	8.7	30	01-APR-17
Selenium (Se)		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	01-APR-17
Silver (Ag)		<0.10	<0.10	RPD-NA	mg/kg	N/A	40	01-APR-17
Thallium (Tl)		<0.050	0.050	RPD-NA	mg/kg	N/A	30	01-APR-17
Tin (Sn)		<2.0	<2.0	RPD-NA	mg/kg	N/A	40	01-APR-17
Uranium (U)		0.266	0.229		mg/kg	15	30	01-APR-17
Vanadium (V)		41.5	38.5		mg/kg	7.5	30	01-APR-17
Zinc (Zn)		36.5	35.1		mg/kg	3.9	30	01-APR-17
WG2503941-3	LCS							
Antimony (Sb)			100.2		%		80-120	01-APR-17
Arsenic (As)			101.1		%		80-120	01-APR-17
Barium (Ba)			102.5		%		80-120	01-APR-17
Beryllium (Be)			99.2		%		80-120	01-APR-17
Cadmium (Cd)			98.0		%		80-120	01-APR-17
Chromium (Cr)			98.6		%		80-120	01-APR-17
Cobalt (Co)			97.2		%		80-120	01-APR-17
Copper (Cu)			94.0		%		80-120	01-APR-17
Lead (Pb)			100.6		%		80-120	01-APR-17
Molybdenum (Mo)			99.3		%		80-120	01-APR-17
Nickel (Ni)			95.5		%		80-120	01-APR-17
Selenium (Se)			98.5		%		80-120	01-APR-17
Silver (Ag)			96.7		%		80-120	01-APR-17
Thallium (Tl)			99.3		%		80-120	01-APR-17
Tin (Sn)			98.4		%		80-120	01-APR-17
Uranium (U)			103.8		%		80-120	01-APR-17
Vanadium (V)			98.7		%		80-120	01-APR-17



Quality Control Report

Workorder: L1906730

Report Date: 11-APR-17

Page 6 of 17

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA								
	Soil							
Batch	R3691103							
WG2503941-3	LCS							
Zinc (Zn)			92.5		%		80-120	01-APR-17
WG2503941-1	MB							
Antimony (Sb)			<0.10		mg/kg		0.1	01-APR-17
Arsenic (As)			<0.10		mg/kg		0.1	01-APR-17
Barium (Ba)			<0.50		mg/kg		0.5	01-APR-17
Beryllium (Be)			<0.10		mg/kg		0.1	01-APR-17
Cadmium (Cd)			<0.020		mg/kg		0.02	01-APR-17
Chromium (Cr)			<0.50		mg/kg		0.5	01-APR-17
Cobalt (Co)			<0.10		mg/kg		0.1	01-APR-17
Copper (Cu)			<0.50		mg/kg		0.5	01-APR-17
Lead (Pb)			<0.50		mg/kg		0.5	01-APR-17
Molybdenum (Mo)			<0.10		mg/kg		0.1	01-APR-17
Nickel (Ni)			<0.50		mg/kg		0.5	01-APR-17
Selenium (Se)			<0.20		mg/kg		0.2	01-APR-17
Silver (Ag)			<0.10		mg/kg		0.1	01-APR-17
Thallium (Tl)			<0.050		mg/kg		0.05	01-APR-17
Tin (Sn)			<2.0		mg/kg		2	01-APR-17
Uranium (U)			<0.050		mg/kg		0.05	01-APR-17
Vanadium (V)			<0.20		mg/kg		0.2	01-APR-17
Zinc (Zn)			<2.0		mg/kg		2	01-APR-17
Batch	R3692059							
WG2503936-4	CRM	VA-NRC-STSD-3						
Antimony (Sb)			103.6		%		70-130	03-APR-17
Arsenic (As)			91.8		%		70-130	03-APR-17
Barium (Ba)			101.2		%		70-130	03-APR-17
Beryllium (Be)			103.8		%		70-130	03-APR-17
Cadmium (Cd)			110.9		%		70-130	03-APR-17
Chromium (Cr)			102.1		%		70-130	03-APR-17
Cobalt (Co)			101.2		%		70-130	03-APR-17
Copper (Cu)			97.4		%		70-130	03-APR-17
Lead (Pb)			101.2		%		70-130	03-APR-17
Molybdenum (Mo)			101.9		%		70-130	03-APR-17
Nickel (Ni)			96.3		%		70-130	03-APR-17
Selenium (Se)			96.2		%		70-130	03-APR-17
Silver (Ag)			97.2		%		70-130	03-APR-17



Quality Control Report

Workorder: L1906730

Report Date: 11-APR-17

Page 7 of 17

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA		Soil						
Batch	R3692059							
WG2503936-4	CRM	VA-NRC-STSD-3						
Thallium (Tl)			105.8		%		70-130	03-APR-17
Uranium (U)			101.1		%		70-130	03-APR-17
Vanadium (V)			106.3		%		70-130	03-APR-17
Zinc (Zn)			98.0		%		70-130	03-APR-17
WG2503936-1	MB							
Antimony (Sb)			<0.10		mg/kg		0.1	03-APR-17
Arsenic (As)			<0.10		mg/kg		0.1	03-APR-17
Barium (Ba)			<0.50		mg/kg		0.5	03-APR-17
Beryllium (Be)			<0.10		mg/kg		0.1	03-APR-17
Cadmium (Cd)			<0.020		mg/kg		0.02	03-APR-17
Chromium (Cr)			<0.50		mg/kg		0.5	03-APR-17
Cobalt (Co)			<0.10		mg/kg		0.1	03-APR-17
Copper (Cu)			<0.50		mg/kg		0.5	03-APR-17
Lead (Pb)			<0.50		mg/kg		0.5	03-APR-17
Molybdenum (Mo)			<0.10		mg/kg		0.1	03-APR-17
Nickel (Ni)			<0.50		mg/kg		0.5	03-APR-17
Selenium (Se)			<0.20		mg/kg		0.2	03-APR-17
Silver (Ag)			<0.10		mg/kg		0.1	03-APR-17
Thallium (Tl)			<0.050		mg/kg		0.05	03-APR-17
Tin (Sn)			<2.0		mg/kg		2	03-APR-17
Uranium (U)			<0.050		mg/kg		0.05	03-APR-17
Vanadium (V)			<0.20		mg/kg		0.2	03-APR-17
Zinc (Zn)			<2.0		mg/kg		2	03-APR-17
Batch	R3692429							
WG2503936-3	LCS							
Antimony (Sb)			96.7		%		80-120	04-APR-17
Arsenic (As)			98.1		%		80-120	04-APR-17
Barium (Ba)			99.1		%		80-120	04-APR-17
Beryllium (Be)			94.1		%		80-120	04-APR-17
Cadmium (Cd)			94.9		%		80-120	04-APR-17
Chromium (Cr)			94.0		%		80-120	04-APR-17
Cobalt (Co)			96.1		%		80-120	04-APR-17
Copper (Cu)			93.7		%		80-120	04-APR-17
Lead (Pb)			97.2		%		80-120	04-APR-17
Molybdenum (Mo)			94.1		%		80-120	04-APR-17



Quality Control Report

Workorder: L1906730

Report Date: 11-APR-17

Page 8 of 17

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA								
	Soil							
Batch	R3692429							
WG2503936-3	LCS							
Nickel (Ni)			94.4		%		80-120	04-APR-17
Selenium (Se)			91.8		%		80-120	04-APR-17
Silver (Ag)			95.5		%		80-120	04-APR-17
Thallium (Tl)			94.7		%		80-120	04-APR-17
Tin (Sn)			94.8		%		80-120	04-APR-17
Uranium (U)			101.7		%		80-120	04-APR-17
Vanadium (V)			96.4		%		80-120	04-APR-17
Zinc (Zn)			91.0		%		80-120	04-APR-17
Batch	R3696841							
WG2508944-4	CRM	VA-NRC-STSD-3						
Antimony (Sb)			108.8		%		70-130	11-APR-17
Arsenic (As)			93.1		%		70-130	11-APR-17
Barium (Ba)			99.8		%		70-130	11-APR-17
Beryllium (Be)			105.9		%		70-130	11-APR-17
Cadmium (Cd)			109.4		%		70-130	11-APR-17
Chromium (Cr)			103.7		%		70-130	11-APR-17
Cobalt (Co)			101.0		%		70-130	11-APR-17
Copper (Cu)			95.8		%		70-130	11-APR-17
Lead (Pb)			105.8		%		70-130	11-APR-17
Molybdenum (Mo)			104.6		%		70-130	11-APR-17
Nickel (Ni)			94.0		%		70-130	11-APR-17
Selenium (Se)			95.7		%		70-130	11-APR-17
Silver (Ag)			101.3		%		70-130	11-APR-17
Thallium (Tl)			110.7		%		70-130	11-APR-17
Uranium (U)			106.3		%		70-130	11-APR-17
Vanadium (V)			104.8		%		70-130	11-APR-17
Zinc (Zn)			97.0		%		70-130	11-APR-17
WG2508944-3	LCS							
Antimony (Sb)			100.0		%		80-120	11-APR-17
Arsenic (As)			101.1		%		80-120	11-APR-17
Barium (Ba)			100.6		%		80-120	11-APR-17
Beryllium (Be)			97.0		%		80-120	11-APR-17
Cadmium (Cd)			96.5		%		80-120	11-APR-17
Chromium (Cr)			97.3		%		80-120	11-APR-17
Cobalt (Co)			95.7		%		80-120	11-APR-17

Quality Control Report

Workorder: L1906730

Report Date: 11-APR-17

Page 9 of 17

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA								
	Soil							
Batch	R3696841							
WG2508944-3	LCS							
Copper (Cu)			95.8		%		80-120	11-APR-17
Lead (Pb)			97.6		%		80-120	11-APR-17
Molybdenum (Mo)			100.1		%		80-120	11-APR-17
Nickel (Ni)			95.3		%		80-120	11-APR-17
Selenium (Se)			95.2		%		80-120	11-APR-17
Silver (Ag)			99.3		%		80-120	11-APR-17
Thallium (Tl)			97.1		%		80-120	11-APR-17
Tin (Sn)			95.5		%		80-120	11-APR-17
Uranium (U)			99.7		%		80-120	11-APR-17
Vanadium (V)			97.9		%		80-120	11-APR-17
Zinc (Zn)			93.4		%		80-120	11-APR-17
WG2508944-1	MB							
Antimony (Sb)			<0.10		mg/kg		0.1	11-APR-17
Arsenic (As)			<0.10		mg/kg		0.1	11-APR-17
Barium (Ba)			<0.50		mg/kg		0.5	11-APR-17
Beryllium (Be)			<0.10		mg/kg		0.1	11-APR-17
Cadmium (Cd)			<0.020		mg/kg		0.02	11-APR-17
Chromium (Cr)			<0.50		mg/kg		0.5	11-APR-17
Cobalt (Co)			<0.10		mg/kg		0.1	11-APR-17
Copper (Cu)			<0.50		mg/kg		0.5	11-APR-17
Lead (Pb)			<0.50		mg/kg		0.5	11-APR-17
Molybdenum (Mo)			<0.10		mg/kg		0.1	11-APR-17
Nickel (Ni)			<0.50		mg/kg		0.5	11-APR-17
Selenium (Se)			<0.20		mg/kg		0.2	11-APR-17
Silver (Ag)			<0.10		mg/kg		0.1	11-APR-17
Thallium (Tl)			<0.050		mg/kg		0.05	11-APR-17
Tin (Sn)			<2.0		mg/kg		2	11-APR-17
Uranium (U)			<0.050		mg/kg		0.05	11-APR-17
Vanadium (V)			<0.20		mg/kg		0.2	11-APR-17
Zinc (Zn)			<2.0		mg/kg		2	11-APR-17
MET-PASTE-ICP-VA								
	Soil							
Batch	R3692072							
WG2502858-4	DUP	L1906730-1						
Sodium (Na)		19.0	18.0		mg/kg	5.7	30	03-APR-17
WG2502858-2	LCS							

Quality Control Report

Workorder: L1906730

Report Date: 11-APR-17

Page 10 of 17

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-PASTE-ICP-VA		Soil						
Batch	R3692072							
WG2502858-2	LCS							
Sodium (Na)			99.8		%		80-120	03-APR-17
WG2502858-1	MB							
Sodium (Na)			<0.50		mg/kg		0.5	03-APR-17
MET-SEM-ICP-VA		Soil						
Batch	R3689066							
WG2502727-2	CRM	VA-NRC-MESS3						
Copper (Cu)-Extractable			92.3		%		70-130	30-MAR-17
Lead (Pb)-Extractable			117.5		%		70-130	30-MAR-17
Nickel (Ni)-Extractable			86.1		%		70-130	30-MAR-17
Zinc (Zn)-Extractable			93.9		%		70-130	30-MAR-17
WG2502727-7	CRM	VA-NRC-MESS3						
Copper (Cu)-Extractable			91.4		%		70-130	30-MAR-17
Lead (Pb)-Extractable			109.4		%		70-130	30-MAR-17
Nickel (Ni)-Extractable			76.0		%		70-130	30-MAR-17
Zinc (Zn)-Extractable			88.7		%		70-130	30-MAR-17
WG2502727-1	MB							
Cadmium (Cd)-Extractable			<0.0050		umol/g		0.005	30-MAR-17
Copper (Cu)-Extractable			<0.010		umol/g		0.01	30-MAR-17
Lead (Pb)-Extractable			<0.020		umol/g		0.02	30-MAR-17
Nickel (Ni)-Extractable			<0.050		umol/g		0.05	30-MAR-17
Zinc (Zn)-Extractable			<0.0050		umol/g		0.005	30-MAR-17
WG2502727-6	MB							
Cadmium (Cd)-Extractable			<0.0050		umol/g		0.005	30-MAR-17
Copper (Cu)-Extractable			<0.010		umol/g		0.01	30-MAR-17
Lead (Pb)-Extractable			<0.020		umol/g		0.02	30-MAR-17
Nickel (Ni)-Extractable			<0.050		umol/g		0.05	30-MAR-17
Zinc (Zn)-Extractable			<0.0050		umol/g		0.005	30-MAR-17
MOISTURE-VA		Soil						
Batch	R3690334							
WG2503940-2	LCS							
Moisture			99.1		%		90-110	31-MAR-17
WG2503940-1	MB							
Moisture			<0.25		%		0.25	31-MAR-17



Quality Control Report

Workorder: L1906730

Report Date: 11-APR-17

Page 11 of 17

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-VA								
	Soil							
Batch	R3690412							
WG2503918-3	DUP	L1906730-2						
Moisture		18.7	19.5		%	3.7	20	01-APR-17
WG2503918-2	LCS							
Moisture			97.7		%		90-110	01-APR-17
WG2503918-6	LCS							
Moisture			99.5		%		90-110	01-APR-17
WG2503918-1	MB							
Moisture			<0.25		%		0.25	01-APR-17
WG2503918-5	MB							
Moisture			<0.25		%		0.25	01-APR-17
PAH-TMB-H/A-MS-VA								
	Soil							
Batch	R3689509							
WG2503938-2	LCS							
Acenaphthene			88.0		%		60-130	03-APR-17
Acenaphthylene			86.8		%		60-130	03-APR-17
Anthracene			79.7		%		60-130	03-APR-17
Benz(a)anthracene			76.3		%		60-130	03-APR-17
Benzo(a)pyrene			86.8		%		60-130	03-APR-17
Benzo(b)fluoranthene			89.6		%		60-130	03-APR-17
Benzo(g,h,i)perylene			83.5		%		60-130	03-APR-17
Benzo(k)fluoranthene			109.2		%		60-130	03-APR-17
Chrysene			91.5		%		60-130	03-APR-17
Dibenz(a,h)anthracene			88.0		%		60-130	03-APR-17
Fluoranthene			90.8		%		60-130	03-APR-17
Fluorene			86.7		%		60-130	03-APR-17
Indeno(1,2,3-c,d)pyrene			79.3		%		60-130	03-APR-17
2-Methylnaphthalene			89.1		%		60-130	03-APR-17
Naphthalene			91.1		%		50-130	03-APR-17
Phenanthrene			87.3		%		60-130	03-APR-17
Pyrene			92.1		%		60-130	03-APR-17
WG2503938-1	MB							
Acenaphthene			<0.0050		mg/kg		0.005	03-APR-17
Acenaphthylene			<0.0050		mg/kg		0.005	03-APR-17
Anthracene			<0.0040		mg/kg		0.004	03-APR-17
Benz(a)anthracene			<0.010		mg/kg		0.01	03-APR-17
Benzo(a)pyrene			<0.010		mg/kg		0.01	03-APR-17



Quality Control Report

Workorder: L1906730

Report Date: 11-APR-17

Page 12 of 17

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-TMB-H/A-MS-VA		Soil						
Batch	R3689509							
WG2503938-1	MB							
Benzo(b)fluoranthene			<0.010		mg/kg		0.01	03-APR-17
Benzo(g,h,i)perylene			<0.010		mg/kg		0.01	03-APR-17
Benzo(k)fluoranthene			<0.010		mg/kg		0.01	03-APR-17
Chrysene			<0.010		mg/kg		0.01	03-APR-17
Dibenz(a,h)anthracene			<0.0050		mg/kg		0.005	03-APR-17
Fluoranthene			<0.010		mg/kg		0.01	03-APR-17
Fluorene			<0.010		mg/kg		0.01	03-APR-17
Indeno(1,2,3-c,d)pyrene			<0.010		mg/kg		0.01	03-APR-17
2-Methylnaphthalene			<0.010		mg/kg		0.01	03-APR-17
Naphthalene			<0.010		mg/kg		0.01	03-APR-17
Phenanthrene			<0.010		mg/kg		0.01	03-APR-17
Pyrene			<0.010		mg/kg		0.01	03-APR-17
Surrogate: Naphthalene d8			81.2		%		50-130	03-APR-17
Surrogate: Acenaphthene d10			82.9		%		60-130	03-APR-17
Surrogate: Phenanthrene d10			80.9		%		60-130	03-APR-17
Surrogate: Chrysene d12			75.1		%		60-130	03-APR-17
Batch	R3691897							
WG2503939-2	LCS							
Acenaphthene			88.7		%		60-130	04-APR-17
Acenaphthylene			88.2		%		60-130	04-APR-17
Anthracene			80.9		%		60-130	04-APR-17
Benz(a)anthracene			88.3		%		60-130	04-APR-17
Benzo(a)pyrene			96.4		%		60-130	04-APR-17
Benzo(b)fluoranthene			92.2		%		60-130	04-APR-17
Benzo(g,h,i)perylene			90.2		%		60-130	04-APR-17
Benzo(k)fluoranthene			103.6		%		60-130	04-APR-17
Chrysene			98.4		%		60-130	04-APR-17
Dibenz(a,h)anthracene			90.3		%		60-130	04-APR-17
Fluoranthene			91.1		%		60-130	04-APR-17
Fluorene			88.6		%		60-130	04-APR-17
Indeno(1,2,3-c,d)pyrene			84.7		%		60-130	04-APR-17
2-Methylnaphthalene			92.0		%		60-130	04-APR-17
Naphthalene			93.2		%		50-130	04-APR-17
Phenanthrene			90.9		%		60-130	04-APR-17



Quality Control Report

Workorder: L1906730

Report Date: 11-APR-17

Page 13 of 17

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-TMB-H/A-MS-VA		Soil						
Batch	R3691897							
WG2503939-2	LCS							
Pyrene			93.2		%		60-130	04-APR-17
WG2503939-1	MB							
Acenaphthene			<0.0050		mg/kg		0.005	04-APR-17
Acenaphthylene			<0.0050		mg/kg		0.005	04-APR-17
Anthracene			<0.0040		mg/kg		0.004	04-APR-17
Benz(a)anthracene			<0.010		mg/kg		0.01	04-APR-17
Benzo(a)pyrene			<0.010		mg/kg		0.01	04-APR-17
Benzo(b)fluoranthene			<0.010		mg/kg		0.01	04-APR-17
Benzo(g,h,i)perylene			<0.010		mg/kg		0.01	04-APR-17
Benzo(k)fluoranthene			<0.010		mg/kg		0.01	04-APR-17
Chrysene			<0.010		mg/kg		0.01	04-APR-17
Dibenz(a,h)anthracene			<0.0050		mg/kg		0.005	04-APR-17
Fluoranthene			<0.010		mg/kg		0.01	04-APR-17
Fluorene			<0.010		mg/kg		0.01	04-APR-17
Indeno(1,2,3-c,d)pyrene			<0.010		mg/kg		0.01	04-APR-17
2-Methylnaphthalene			<0.010		mg/kg		0.01	04-APR-17
Naphthalene			<0.010		mg/kg		0.01	04-APR-17
Phenanthrene			<0.010		mg/kg		0.01	04-APR-17
Pyrene			<0.010		mg/kg		0.01	04-APR-17
Surrogate: Naphthalene d8			79.6		%		50-130	04-APR-17
Surrogate: Acenaphthene d10			84.7		%		60-130	04-APR-17
Surrogate: Phenanthrene d10			80.3		%		60-130	04-APR-17
Surrogate: Chrysene d12			84.8		%		60-130	04-APR-17
Batch	R3692892							
WG2504912-2	LCS							
Acenaphthene			90.6		%		60-130	05-APR-17
Acenaphthylene			89.4		%		60-130	05-APR-17
Anthracene			86.2		%		60-130	05-APR-17
Benz(a)anthracene			81.1		%		60-130	05-APR-17
Benzo(a)pyrene			81.6		%		60-130	05-APR-17
Benzo(b)fluoranthene			96.9		%		60-130	05-APR-17
Benzo(g,h,i)perylene			79.6		%		60-130	05-APR-17
Benzo(k)fluoranthene			109.3		%		60-130	05-APR-17
Chrysene			89.8		%		60-130	05-APR-17
Dibenz(a,h)anthracene			81.5		%		60-130	05-APR-17



Quality Control Report

Workorder: L1906730

Report Date: 11-APR-17

Page 14 of 17

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-TMB-H/A-MS-VA								
	Soil							
Batch	R3692892							
WG2504912-2	LCS							
Fluoranthene			94.5		%		60-130	05-APR-17
Fluorene			90.9		%		60-130	05-APR-17
Indeno(1,2,3-c,d)pyrene			84.1		%		60-130	05-APR-17
2-Methylnaphthalene			91.4		%		60-130	05-APR-17
Naphthalene			93.8		%		50-130	05-APR-17
Phenanthrene			92.1		%		60-130	05-APR-17
Pyrene			96.7		%		60-130	05-APR-17
WG2504912-1	MB							
Acenaphthene			<0.0050		mg/kg		0.005	05-APR-17
Acenaphthylene			<0.0050		mg/kg		0.005	05-APR-17
Anthracene			<0.0040		mg/kg		0.004	05-APR-17
Benz(a)anthracene			<0.010		mg/kg		0.01	05-APR-17
Benzo(a)pyrene			<0.010		mg/kg		0.01	05-APR-17
Benzo(b)fluoranthene			<0.010		mg/kg		0.01	05-APR-17
Benzo(g,h,i)perylene			<0.010		mg/kg		0.01	05-APR-17
Benzo(k)fluoranthene			<0.010		mg/kg		0.01	05-APR-17
Chrysene			<0.010		mg/kg		0.01	05-APR-17
Dibenz(a,h)anthracene			<0.0050		mg/kg		0.005	05-APR-17
Fluoranthene			<0.010		mg/kg		0.01	05-APR-17
Fluorene			<0.010		mg/kg		0.01	05-APR-17
Indeno(1,2,3-c,d)pyrene			<0.010		mg/kg		0.01	05-APR-17
2-Methylnaphthalene			<0.010		mg/kg		0.01	05-APR-17
Naphthalene			<0.010		mg/kg		0.01	05-APR-17
Phenanthrene			<0.010		mg/kg		0.01	05-APR-17
Pyrene			<0.010		mg/kg		0.01	05-APR-17
Surrogate: Naphthalene d8			80.1		%		50-130	05-APR-17
Surrogate: Acenaphthene d10			81.8		%		60-130	05-APR-17
Surrogate: Phenanthrene d10			81.6		%		60-130	05-APR-17
Surrogate: Chrysene d12			77.3		%		60-130	05-APR-17
PH-1:2-VA								
	Soil							
Batch	R3692221							
WG2503936-5	IRM	VA-ALP-SRS1507						
pH (1:2 soil:water)			6.49		pH		6.2-6.8	04-APR-17

Quality Control Report

Workorder: L1906730

Report Date: 11-APR-17

Page 15 of 17

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PH-1:2-VA								
Soil								
Batch	R3692224							
WG2503941-2	DUP	L1906730-9						
pH (1:2 soil:water)		7.68	7.65	J	pH	0.03	0.2	04-APR-17
Batch	R3696628							
WG2508944-5	IRM	VA-ALP-SRS1507						
pH (1:2 soil:water)			6.42		pH		6.2-6.8	11-APR-17
PHEN-TMB-MS-VA								
Soil								
Batch	R3692694							
WG2502917-3	CRM	CRM 143						
4-Chloro-3-methylphenol			110.1		%		60-130	05-APR-17
2-Chlorophenol			111.7		%		60-130	05-APR-17
2,4 & 2,5-Dichlorophenol			119.1		%		60-130	05-APR-17
WG2502917-4	DUP	L1906730-2						
4-Chloro-3-methylphenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
2-Chlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
3-Chlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
4-Chlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
2,3-Dichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
2,4 & 2,5-Dichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
2,6-Dichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
3,4-Dichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
3,5-Dichlorophenol		<0.020	<0.020	RPD-NA	mg/kg	N/A	50	05-APR-17
WG2502917-2	LCS							
4-Chloro-3-methylphenol			92.4		%		60-130	05-APR-17
2-Chlorophenol			88.0		%		60-130	05-APR-17
3-Chlorophenol			89.1		%		60-130	05-APR-17
4-Chlorophenol			89.8		%		60-130	05-APR-17
2,3-Dichlorophenol			90.5		%		60-130	05-APR-17
2,4 & 2,5-Dichlorophenol			90.5		%		60-130	05-APR-17
2,6-Dichlorophenol			91.8		%		60-130	05-APR-17
3,4-Dichlorophenol			91.6		%		60-130	05-APR-17
3,5-Dichlorophenol			92.9		%		60-130	05-APR-17
WG2502917-1	MB							
4-Chloro-3-methylphenol			<0.020		mg/kg		0.02	05-APR-17
2-Chlorophenol			<0.020		mg/kg		0.02	05-APR-17



Quality Control Report

Workorder: L1906730

Report Date: 11-APR-17

Page 16 of 17

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PHEN-TMB-MS-VA								
Soil								
Batch	R3692694							
WG2502917-1	MB							
3-Chlorophenol			<0.020		mg/kg		0.02	05-APR-17
4-Chlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,3-Dichlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,4 & 2,5-Dichlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,6-Dichlorophenol			<0.020		mg/kg		0.02	05-APR-17
3,4-Dichlorophenol			<0.020		mg/kg		0.02	05-APR-17
3,5-Dichlorophenol			<0.020		mg/kg		0.02	05-APR-17
PSA-PIPET+GRAVEL-SK								
Soil								
Batch	R3693123							
WG2504437-1	DUP	L1906730-5						
% Gravel (>2mm)		<1.0	<1.0	RPD-NA	%	N/A	25	05-APR-17
% Sand (2.0mm - 0.063mm)		99.0	98.9	J	%	0.1	5	05-APR-17
% Silt (0.063mm - 4um)		<1.0	<1.0	RPD-NA	%	N/A	5	05-APR-17
% Clay (<4um)		<1.0	<1.0	RPD-NA	%	N/A	5	05-APR-17
WG2504437-2	IRM	10-105						
% Sand (2.0mm - 0.063mm)			35.7		%		30-40	05-APR-17
% Silt (0.063mm - 4um)			49.7		%		45-55	05-APR-17
% Clay (<4um)			14.6		%		10-20	05-APR-17
SAT-PCNT-VA								
Soil								
Batch	R3691875							
WG2502858-4	DUP	L1906730-1						
% Saturation		27.3	26.0		%	N/A	20	03-APR-17
WG2502858-3	IRM	VA-ALP-SRS1507						
% Saturation			101.3		%		80-120	03-APR-17
WG2502858-1	MB							
% Saturation			50.0		%		50	03-APR-17

Quality Control Report

Workorder: L1906730

Report Date: 11-APR-17

Page 17 of 17

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
DUP-H	Duplicate results outside ALS DQO, due to sample heterogeneity.
DUP-H,J	Duplicate results outside ALS DQO, due to sample heterogeneity. Duplicate results and limits are expressed in terms of absolute difference.
J	Duplicate results and limits are expressed in terms of absolute difference.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

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 pre-determined 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.

Report

Page 1 (3)



L1708130

2IFDX9NUA4A



Date received **2017-04-04**
Issued **2017-04-10**

ALS Vancouver
Amber Springer
8081 Lougheed Highway
Burnaby
British Columbia V5A 1W9
Canada

Project **L1906730**

Analysis: OJ19A

Your ID	L1906730-2					
	SDS-2					
LabID	U11307283					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
TS 105°C	83.2	2%	%	1	V	JOGR
monobutyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
dibutyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
tributyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
tetrabutyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
monooctyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
dioctyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
tricyclohexyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
monophenyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
diphenyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
triphenyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN

Your ID	L1906730-6					
	SDS-6					
LabID	U11307284					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
TS 105°C	83.5	2%	%	1	V	JOGR
monobutyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
dibutyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
tributyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
tetrabutyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
monooctyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
dioctyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
tricyclohexyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
monophenyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
diphenyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
triphenyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN

Report

Page 2 (3)



L1708130

2IFDX9NUA4A



Your ID	L1906730-6 Duplicate SDS-6					
LabID	U11307285					
Analysis	Results	Uncertainty (±)	Unit	Method	Issuer	Sign
TS 105°C	83.5	2%	%	1	V	JOGR
monobutyltin	<1		µg/kg DW	2	T	ELEN
dibutyltin	<1		µg/kg DW	2	T	ELEN
tributyltin	<1		µg/kg DW	2	T	ELEN
tetrabutyltin	<1		µg/kg DW	2	T	ELEN
monooctyltin	<1		µg/kg DW	2	T	ELEN
dioctyltin	<1		µg/kg DW	2	T	ELEN
tricyclohexyltin	<1		µg/kg DW	2	T	ELEN
monophenyltin	<1		µg/kg DW	2	T	ELEN
diphenyltin	<1		µg/kg DW	2	T	ELEN
triphenyltin	<1		µg/kg DW	2	T	ELEN

Your ID	QC					
LabID	U11307286					
Analysis	Results	Unit	Method	Issuer	Sign	
monobutyltin recovery*	107	%	2	U	ELEN	
dibutyltin recovery*	97.3	%	2	U	ELEN	
tributyltin recovery*	109	%	2	U	ELEN	
tetrabutyltin recovery*	91.1	%	2	U	ELEN	
monooctyltin recovery*	110	%	2	U	ELEN	
dioctyltin recovery*	108	%	2	U	ELEN	
tricyclohexyltin recovery*	129	%	2	U	ELEN	
monophenyltin recovery*	106	%	2	U	ELEN	
diphenyltin recovery*	90.2	%	2	U	ELEN	
triphenyltin recovery*	94.9	%	2	U	ELEN	

Acceptance criteria for recovery is 50-150%.

Your ID	Blank					
LabID	U11307287					
Analysis	Results	Unit	Method	Issuer	Sign	
monobutyltin	<1	µg/kg DW	2	T	ELEN	
dibutyltin	<1	µg/kg DW	2	T	ELEN	
tributyltin	<1	µg/kg DW	2	T	ELEN	
tetrabutyltin	<1	µg/kg DW	2	T	ELEN	
monooctyltin	<1	µg/kg DW	2	T	ELEN	
dioctyltin	<1	µg/kg DW	2	T	ELEN	
tricyclohexyltin	<1	µg/kg DW	2	T	ELEN	
monophenyltin	<1	µg/kg DW	2	T	ELEN	
diphenyltin	<1	µg/kg DW	2	T	ELEN	
triphenyltin	<1	µg/kg DW	2	T	ELEN	

Method specification	
1	Analysed according to SS 028113.
2	Determination of organotin compounds according to ISO 23161:2011 with acidic extraction. The analyses are performed using GC-ICP-SFMS.

Approver	
ELEN	Elina Engström
JOGR	Jonna Grundström

Issuer ¹	
T	GC-ICP-QMS
U	GC-ICP-QMS
V	Våtkemi

* indicates unaccredited analysis.

The uncertainty is given as extended uncertainty (according to the definition in "Guide to the Expression of Uncertainty in Measurement", JCGM 100:2008 Corrected version 2010) calculated with a coverage factor of 2, which gives a confidence level of approximately 95%.

Measurement of uncertainty is reported only for detected substances with levels above the reporting limits.

The uncertainty from subcontractors is often given as extended uncertainty calculated with a coverage factor of 2. Contact the laboratory for further information.

This report may not be reproduced other than in full, except with the prior written approval of the issuing laboratory. The results apply only to the material that has been identified, received, and tested. Regarding the laboratory's liability in relation to assignment, please refer to our latest product catalogue or website <http://www.alsglobal.se>

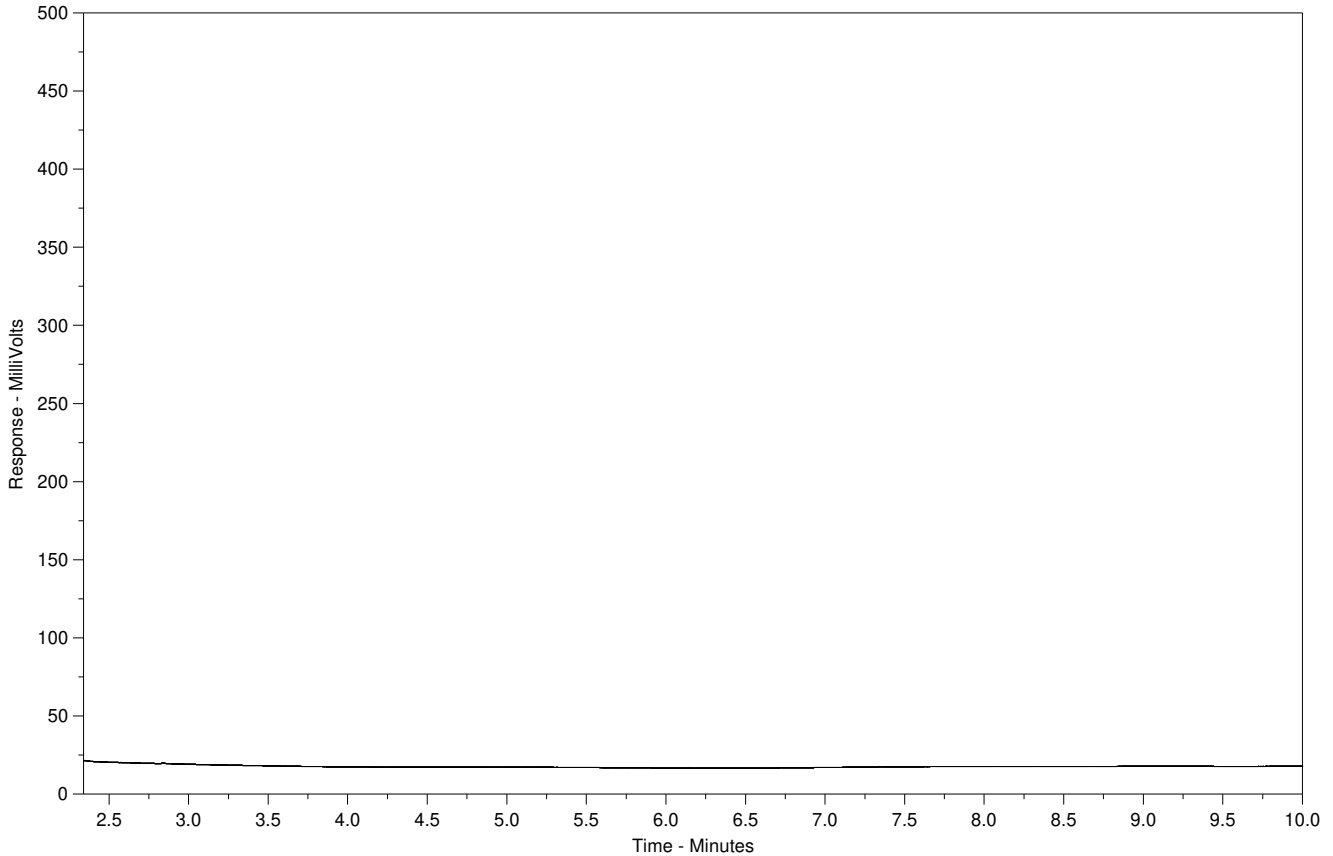
The digitally signed PDF file represents the original report. Any printouts are to be considered as copies.

¹ The technical unit within ALS Scandinavia where the analysis was carried out, alternatively the subcontractor for the analysis.

Hydrocarbon Distribution Report



ALS Sample ID: L1906730-2
Client Sample ID: SDS-2



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →	← Diesel / Jet Fuels →	← Motor Oils / Lube Oils / Grease →

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

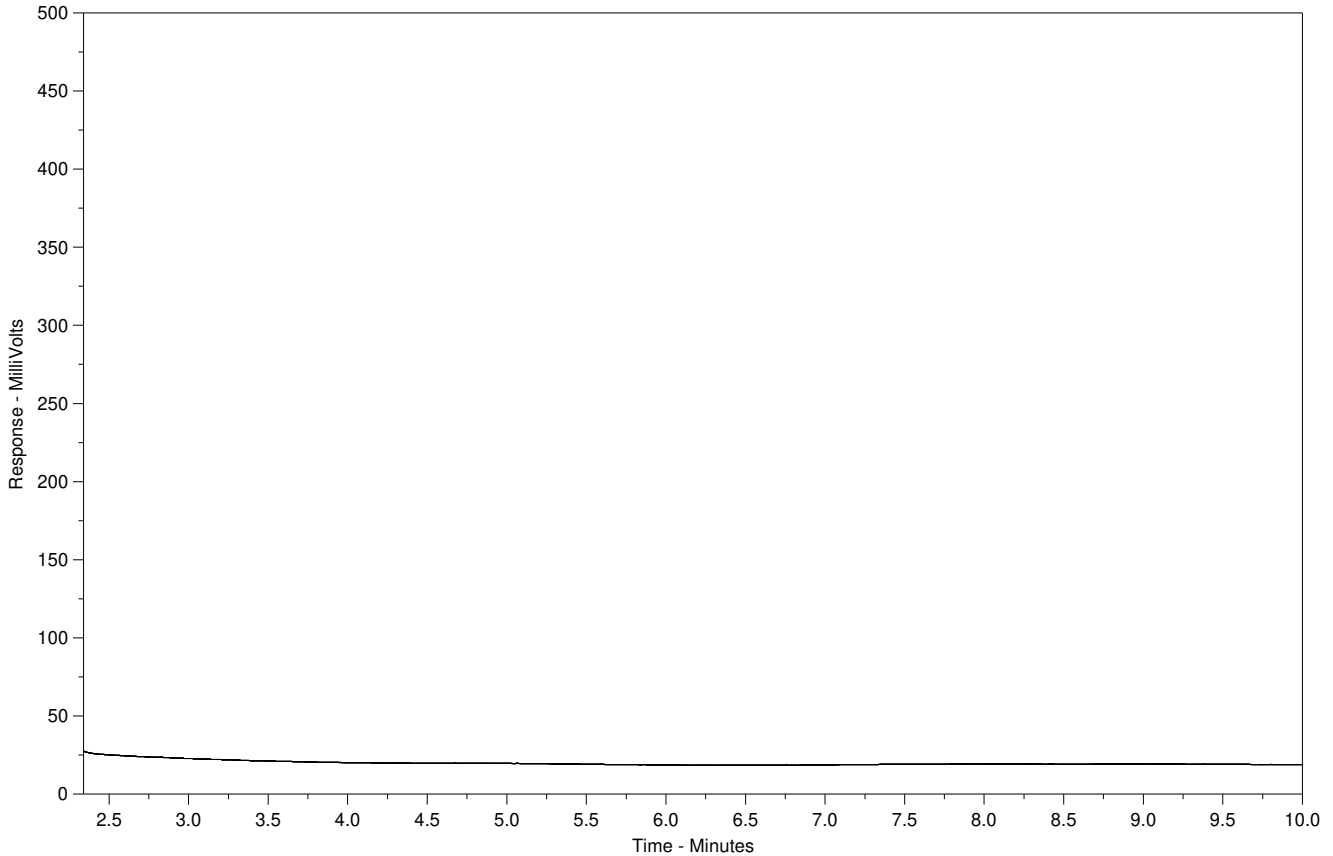
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Hydrocarbon Distribution Report



ALS Sample ID: L1906730-6
Client Sample ID: SDS-6



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →	← Diesel / Jet Fuels →	← Motor Oils / Lube Oils / Grease →

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

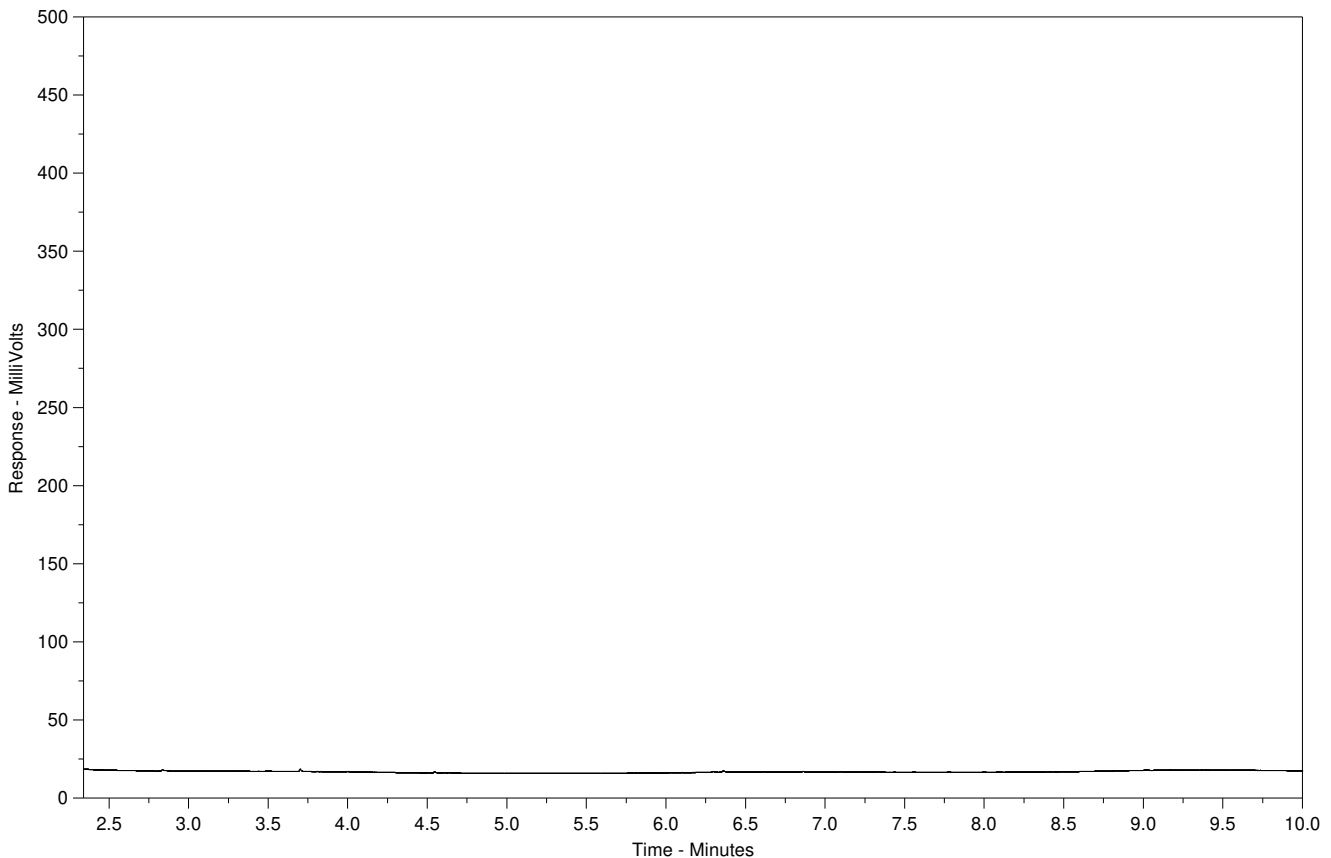
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor, and the response scale at the left.

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.

Hydrocarbon Distribution Report



ALS Sample ID: L1906730-9
Client Sample ID: DUP-1



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →	← Diesel / Jet Fuels →	← Motor Oils / Lube Oils / Grease →

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

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

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.



L1906730-COFC

COC Number: 15 - 587507

Page 1 of 1

Canada Toll Free: 1 800 668 9878

Report To		Report Format / Distribution				Select Service Level Below - Please confirm all E&P TATs with your AM - surcharges will apply												
Company: Golder Associates LTD		Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL)				Regular [R] <input checked="" type="checkbox"/> Standard TAT if received by 3 pm - business days - no surcharges apply												
Contact: Paddy McManus, Elaine Irving		Quality Control (QC) Report with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO				PRIORITY (Business Days)			EMERGENCY									
Phone: 604-296-4200		<input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked				4 day [P4] <input type="checkbox"/>			1 Business day [E1] <input type="checkbox"/>									
Company address below will appear on the final report		Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX				3 day [P3] <input type="checkbox"/>			Same Day, Weekend or Statutory holiday [E0] <input type="checkbox"/>									
Street: 2920 Virtual Way Unit 200		Email 1 or Fax: paddy-mcmanus@golder.com				Date and Time Required for all E&P TATs												
City/Province: Vancouver BC		Email 2: elaine-irving@golder.com				For tests that can not be performed according to the service level selected, you will be contacted.												
Postal Code: V5M 4X2		Email 3: _____				Analysis Request												
Invoice To: Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		Invoice Distribution				Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below												
Copy of Invoice with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX																
Company:		Email 1 or Fax: Same as report																
Contact:		Email 2: _____																
Project Information		Oil and Gas Required Fields (client use)																
ALS Account # / Quote #: Q60179		AFE/Cost Center:		PO#:														
Job #: 152501/3400/3400.4		Major/Minor Code:		Routing Code:														
PO / AFE:		Requisitioner:																
LSD:		Location:																
ALS Lab Work Order # (lab use only)		ALS Contact: A. Smyth		Sampler: PM / KGG														
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Grain size	TOL	Moisture	PAHs	LEPH, HEPH, PAHs	Bacteriology	Metals	AUS/SEM	Salinity	Ti - butyl 4n	Poly chlorinated phenols	Number of Containers		
SDS-1		28-Mar-17	14:00	Sediment	X	X	X	X			X		X			B: Bag J: Jar 4J 1B		
SDS-2									X				X	X				
SDS-3								X										
SDS-4																		
SDS-5																		
SDS-6								X						X	X			
SDS-7									X		X					5J 0B		
DF-3								X			X		X			4J 1B		
DUP-1								X		X		X				4J 0B		
DUP-2								X	X		X							
Drinking Water (DW) Samples (client use)		Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)				SAMPLE CONDITION AS RECEIVED (lab use only)												
Are samples taken from a Regulated DW System? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		Samples for bacteriology: AUS/SEM are specifically marked on the jars for DF-3, DUP-3, please use those jars. Please use appropriate g.s. if enough sample. Please see email on priority of PAHs.				Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/>												
Are samples for human drinking water use? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO						Ice Packs <input type="checkbox"/> Ice Cubes <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/>												
						Cooling Initiated <input type="checkbox"/>												
SHIPMENT RELEASE (client use)		INITIAL SHIPMENT RECEPTION (lab use only)				FINAL SHIPMENT RECEPTION (lab use only)												
Released by: [Signature]	Date: 29-Mar-17	Time:	Received by:	Date:	Time:	Received by: DJ	Date: Mar 29/17	Time: 15:30										



GOLDER ASSOCIATES LTD.
ATTN: Paddy McManus
Suite 200 - 2920 Virtual Way
Vancouver BC V5M 0C4

Date Received: 30- MAR- 17
Report Date: 10- APR- 17 18:20 (MT)
Version: FINAL

Client Phone: 604- 298- 6623

Certificate of Analysis

Lab Work Order #: L1907291

Project P.O. #: NOT SUBMITTED
Job Reference: 1525010/3400/3400.4
C of C Numbers: 15- 587506
Legal Site Desc:

Amber Springer, B.Sc
Account Manager

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

ADDRESS: 8081 Lougheed Hwy, Suite 100, Burnaby, BC V5A 1W9 Canada | Phone: +1 604 253 4188 | Fax: +1 604 253 6700
ALSCANADA LTD Part of the ALS Group An ALS Limited Company

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1907291-1 Sediment 30-MAR-17 10:00 SDS-8	L1907291-2 Sediment 30-MAR-17 10:00 SDS-9	L1907291-3 Sediment 30-MAR-17 10:00 SDS-10	L1907291-4 Sediment 30-MAR-17 10:00 SDS-11	L1907291-5 Sediment 30-MAR-17 10:00 SDS-12	
Grouping	Analyte					
SOIL						
Physical Tests	Moisture (%)	19.8	19.3	15.9	20.0	21.1
	pH (1:2 soil:water) (pH)	7.53	7.62	7.48	7.57	7.56
Particle Size	% Gravel (>2mm) (%)	<1.0	<1.0	1.5	<1.0	<1.0
	% Sand (2.0mm - 0.063mm) (%)	99.5	99.2	98.4	98.9	99.2
	% Silt (0.063mm - 4um) (%)	<1.0	<1.0	<1.0	<1.0	<1.0
	% Clay (<4um) (%)	<1.0	<1.0	<1.0	<1.0	<1.0
	Texture	Sand	Sand	Sand	Sand	Sand
Organic / Inorganic Carbon	Total Organic Carbon (%)	0.099	<0.050	0.063	0.059	0.051
Saturated Paste Extractables	Chloride (Cl) (mg/kg)	1.79	1.32	1.42	1.34	1.40
	% Saturation (%)	23.7	23.0	23.5	24.6	24.3
	Sodium (Na) (mg/kg)	3.6	2.7	3.5	4.2	3.8
Metals	Antimony (Sb) (mg/kg)	0.16	0.16	0.16	0.16	0.18
	Arsenic (As) (mg/kg)	3.16	3.02	2.96	3.17	3.18
	Barium (Ba) (mg/kg)	41.5	40.3	35.8	42.8	49.2
	Beryllium (Be) (mg/kg)	0.16	0.17	0.16	0.17	0.18
	Cadmium (Cd) (mg/kg)	0.093	0.112	0.112	0.104	0.103
	Chromium (Cr) (mg/kg)	14.5	17.8	18.0	14.4	19.7
	Cobalt (Co) (mg/kg)	6.14	6.59	6.72	6.19	6.73
	Copper (Cu) (mg/kg)	11.2	11.6	12.5	12.3	11.7
	Lead (Pb) (mg/kg)	1.87	1.88	1.94	1.87	1.95
	Mercury (Hg) (mg/kg)	0.0178	0.0197	0.0168	0.0142	0.0186
	Molybdenum (Mo) (mg/kg)	0.24	0.25	0.27	0.28	0.30
	Nickel (Ni) (mg/kg)	21.3	23.0	23.8	22.4	26.0
	Selenium (Se) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Thallium (Tl) (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Tin (Sn) (mg/kg)	<2.0	<2.0	<2.0	<2.0	<2.0
	Uranium (U) (mg/kg)	0.207	0.207	0.228	0.255	0.254
	Vanadium (V) (mg/kg)	36.1	38.0	36.7	35.5	38.9
	Zinc (Zn) (mg/kg)	32.3	34.3	34.2	32.9	34.3
Organometallics	Dibutyltin (ug/kg)		<1	<1		
	Diocetyltn (ug/kg)		<1	<1		
	Diphenyltin (ug/kg)		<1	<1		
	Monobutyltin (ug/kg)		<1	<1		
	Monooctyltin (ug/kg)		<1	<1		
	Monophenyltin (ug/kg)		<1	<1		

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1907291-6 Sediment 30-MAR-17 10:00 SDS-13	L1907291-7 Sediment 30-MAR-17 10:00 SDS-14	L1907291-8 Sediment 30-MAR-17 10:00 SDS-15	L1907291-9 Sediment 30-MAR-17 10:00 SDS-16	L1907291-10 Sediment 30-MAR-17 10:00 SDS-17
Grouping	Analyte					
SOIL						
Physical Tests	Moisture (%)	19.0	19.4	20.5	18.6	19.9
	pH (1:2 soil:water) (pH)	7.49	7.39	7.86	7.57	7.38
Particle Size	% Gravel (>2mm) (%)	<1.0	<1.0	1.6	<1.0	<1.0
	% Sand (2.0mm - 0.063mm) (%)	99.5	98.9	98.1	99.7	99.7
	% Silt (0.063mm - 4um) (%)	<1.0	<1.0	<1.0	<1.0	<1.0
	% Clay (<4um) (%)	<1.0	<1.0	<1.0	<1.0	<1.0
	Texture	Sand	Sand	Sand	Sand	Sand
Organic / Inorganic Carbon	Total Organic Carbon (%)	0.055	0.058	0.071	0.116	<0.050
Saturated Paste Extractables	Chloride (Cl) (mg/kg)	1.20	1.20	23.3	1.32	1.57
	% Saturation (%)	24.8	25.7	25.2	24.8	24.3
	Sodium (Na) (mg/kg)	3.0	2.9	19.0	3.7	3.1
Metals	Antimony (Sb) (mg/kg)	0.19	0.18	0.17	0.17	0.18
	Arsenic (As) (mg/kg)	3.24	3.43	3.31	3.33	3.12
	Barium (Ba) (mg/kg)	46.3	47.5	38.3	62.6	49.1
	Beryllium (Be) (mg/kg)	0.18	0.18	0.18	0.18	0.18
	Cadmium (Cd) (mg/kg)	0.107	0.103	0.101	0.107	0.097
	Chromium (Cr) (mg/kg)	25.5	19.3	20.6	21.5	22.5
	Cobalt (Co) (mg/kg)	6.81	7.26	6.81	6.80	7.10
	Copper (Cu) (mg/kg)	12.4	12.4	11.8	12.4	13.1
	Lead (Pb) (mg/kg)	1.89	2.01	2.04	2.06	1.96
	Mercury (Hg) (mg/kg)	0.0197	0.0156	0.0164	0.0160	0.0231
	Molybdenum (Mo) (mg/kg)	0.31	0.32	0.30	0.31	0.28
	Nickel (Ni) (mg/kg)	27.3	25.7	26.3	26.9	27.2
	Selenium (Se) (mg/kg)	<0.20	<0.20	<0.20	<0.20	<0.20
	Silver (Ag) (mg/kg)	<0.10	<0.10	<0.10	<0.10	<0.10
	Thallium (Tl) (mg/kg)	<0.050	<0.050	<0.050	<0.050	<0.050
	Tin (Sn) (mg/kg)	<2.0	<2.0	<2.0	<2.0	<2.0
	Uranium (U) (mg/kg)	0.240	0.276	0.255	0.248	0.226
	Vanadium (V) (mg/kg)	40.8	43.0	39.6	39.7	41.1
	Zinc (Zn) (mg/kg)	33.4	35.8	33.7	34.4	35.7
Organometallics	Dibutyltin (ug/kg)					
	Diocetyltn (ug/kg)					
	Diphenyltin (ug/kg)					
	Monobutyltin (ug/kg)					
	Monooctyltin (ug/kg)					
	Monophenyltin (ug/kg)					

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1907291-11			
		Sediment			
		30-MAR-17			
		10:00			
		DUP-3			
Grouping	Analyte				
SOIL					
Physical Tests	Moisture (%)	20.9			
	pH (1:2 soil:water) (pH)	7.50			
Particle Size	% Gravel (>2mm) (%)	1.4			
	% Sand (2.0mm - 0.063mm) (%)	98.3			
	% Silt (0.063mm - 4um) (%)	<1.0			
	% Clay (<4um) (%)	<1.0			
	Texture	Sand			
Organic / Inorganic Carbon	Total Organic Carbon (%)	<0.050			
Saturated Paste Extractables	Chloride (Cl) (mg/kg)	1.78			
	% Saturation (%)	24.9			
	Sodium (Na) (mg/kg)	4.4			
Metals	Antimony (Sb) (mg/kg)	0.38			
	Arsenic (As) (mg/kg)	3.55			
	Barium (Ba) (mg/kg)	40.2			
	Beryllium (Be) (mg/kg)	0.17			
	Cadmium (Cd) (mg/kg)	0.109			
	Chromium (Cr) (mg/kg)	18.3			
	Cobalt (Co) (mg/kg)	6.89			
	Copper (Cu) (mg/kg)	12.4			
	Lead (Pb) (mg/kg)	2.10			
	Mercury (Hg) (mg/kg)	0.0143			
	Molybdenum (Mo) (mg/kg)	0.45			
	Nickel (Ni) (mg/kg)	24.7			
	Selenium (Se) (mg/kg)	<0.20			
	Silver (Ag) (mg/kg)	<0.10			
	Thallium (Tl) (mg/kg)	<0.050			
	Tin (Sn) (mg/kg)	<2.0			
	Uranium (U) (mg/kg)	0.212			
	Vanadium (V) (mg/kg)	38.8			
	Zinc (Zn) (mg/kg)	35.6			
	Organometallics	Dibutyltin (ug/kg)			
Diocetyltn (ug/kg)					
Diphenyltin (ug/kg)					
Monobutyltin (ug/kg)					
Monooctyltin (ug/kg)					
Monophenyltin (ug/kg)					

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1907291-1 Sediment 30-MAR-17 10:00 SDS-8	L1907291-2 Sediment 30-MAR-17 10:00 SDS-9	L1907291-3 Sediment 30-MAR-17 10:00 SDS-10	L1907291-4 Sediment 30-MAR-17 10:00 SDS-11	L1907291-5 Sediment 30-MAR-17 10:00 SDS-12	
Grouping	Analyte					
SOIL						
Organometallics	Tetrabutyltin (ug/kg)		<1	<1		
	Tributyltin (ug/kg)		<1	<1		
	Tricyclohexyltin (ug/kg)		<1	<1		
	Triphenyltin (ug/kg)		<1	<1		
Hydrocarbons	EPH10-19 (mg/kg)		<200	<200		
	EPH19-32 (mg/kg)		<200	<200		
	LEPH (mg/kg)		<200	<200		
	HEPH (mg/kg)		<200	<200		
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Acenaphthylene (mg/kg)	0.0076	<0.0050	<0.0050	<0.0050	<0.0050
	Anthracene (mg/kg)	0.0059	<0.0040	<0.0040	<0.0040	<0.0040
	Benz(a)anthracene (mg/kg)	0.034	0.018	<0.010	<0.010	<0.010
	Benzo(a)pyrene (mg/kg)	0.031	0.019	<0.010	<0.010	<0.010
	Benzo(b)fluoranthene (mg/kg)	0.043	0.022	<0.010	<0.010	<0.010
	Benzo(b+j+k)fluoranthene (mg/kg)	0.062	0.036	<0.015	<0.015	<0.015
	Benzo(g,h,i)perylene (mg/kg)	0.013	0.013	<0.010	<0.010	<0.010
	Benzo(k)fluoranthene (mg/kg)	0.019	0.013	<0.010	<0.010	<0.010
	Chrysene (mg/kg)	0.044	0.022	<0.010	<0.010	<0.010
	Dibenz(a,h)anthracene (mg/kg)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Fluoranthene (mg/kg)	0.023	0.018	<0.010	<0.010	<0.010
	Fluorene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Indeno(1,2,3-c,d)pyrene (mg/kg)	0.015	0.013	<0.010	<0.010	<0.010
	2-Methylnaphthalene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Naphthalene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Phenanthrene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Pyrene (mg/kg)	0.028	0.020	<0.010	<0.010	<0.010
	Surrogate: Acenaphthene d10 (%)	89.9	86.7	81.3	88.5	79.2
	Surrogate: Chrysene d12 (%)	97.8	94.7	85.2	93.6	85.8
Surrogate: Naphthalene d8 (%)	88.1	85.1	80.4	87.9	78.6	
Surrogate: Phenanthrene d10 (%)	90.1	87.6	80.9	87.2	78.6	
B(a)P Total Potency Equivalent (mg/kg)	0.045	0.028	<0.020	<0.020	<0.020	
IACR (CCME) (mg/kg)	0.61	0.36	<0.15	<0.15	<0.15	
Phenolics	4-Chloro-3-methylphenol (mg/kg)		<0.020	<0.020		
	2-Chlorophenol (mg/kg)		<0.020	<0.020		
	3-Chlorophenol (mg/kg)		<0.020	<0.020		
	4-Chlorophenol (mg/kg)		<0.020	<0.020		

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1907291-6 Sediment 30-MAR-17 10:00 SDS-13	L1907291-7 Sediment 30-MAR-17 10:00 SDS-14	L1907291-8 Sediment 30-MAR-17 10:00 SDS-15	L1907291-9 Sediment 30-MAR-17 10:00 SDS-16	L1907291-10 Sediment 30-MAR-17 10:00 SDS-17	
Grouping	Analyte					
SOIL						
Organometallics	Tetrabutyltin (ug/kg)					
	Tributyltin (ug/kg)					
	Tricyclohexyltin (ug/kg)					
	Triphenyltin (ug/kg)					
Hydrocarbons	EPH10-19 (mg/kg)					
	EPH19-32 (mg/kg)					
	LEPH (mg/kg)					
	HEPH (mg/kg)					
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Acenaphthylene (mg/kg)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Anthracene (mg/kg)	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
	Benz(a)anthracene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Benzo(a)pyrene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Benzo(b)fluoranthene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Benzo(b+j+k)fluoranthene (mg/kg)	<0.015	<0.015	<0.015	<0.015	<0.015
	Benzo(g,h,i)perylene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Benzo(k)fluoranthene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Chrysene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Dibenz(a,h)anthracene (mg/kg)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Fluoranthene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Fluorene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Indeno(1,2,3-c,d)pyrene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	2-Methylnaphthalene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Naphthalene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Phenanthrene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Pyrene (mg/kg)	<0.010	<0.010	<0.010	<0.010	<0.010
	Surrogate: Acenaphthene d10 (%)	82.3	83.5	87.0	83.9	87.2
	Surrogate: Chrysene d12 (%)	86.7	88.8	93.4	87.0	88.7
	Surrogate: Naphthalene d8 (%)	81.0	82.4	83.7	83.2	88.6
	Surrogate: Phenanthrene d10 (%)	81.1	84.1	86.2	84.1	85.3
	B(a)P Total Potency Equivalent (mg/kg)	<0.020	<0.020	<0.020	<0.020	<0.020
	IACR (CCME) (mg/kg)	<0.15	<0.15	<0.15	<0.15	<0.15
Phenolics	4-Chloro-3-methylphenol (mg/kg)					
	2-Chlorophenol (mg/kg)					
	3-Chlorophenol (mg/kg)					
	4-Chlorophenol (mg/kg)					

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1907291-11 Sediment 30-MAR-17 10:00 DUP-3				
Grouping	Analyte				
SOIL					
Organometallics	Tetrabutyltin (ug/kg)				
	Tributyltin (ug/kg)				
	Tricyclohexyltin (ug/kg)				
	Triphenyltin (ug/kg)				
Hydrocarbons	EPH10-19 (mg/kg)				
	EPH19-32 (mg/kg)				
	LEPH (mg/kg)				
	HEPH (mg/kg)				
Polycyclic Aromatic Hydrocarbons	Acenaphthene (mg/kg)	<0.0050			
	Acenaphthylene (mg/kg)	<0.0050			
	Anthracene (mg/kg)	<0.0040			
	Benz(a)anthracene (mg/kg)	<0.010			
	Benzo(a)pyrene (mg/kg)	<0.010			
	Benzo(b)fluoranthene (mg/kg)	<0.010			
	Benzo(b+j+k)fluoranthene (mg/kg)	<0.015			
	Benzo(g,h,i)perylene (mg/kg)	<0.010			
	Benzo(k)fluoranthene (mg/kg)	<0.010			
	Chrysene (mg/kg)	<0.010			
	Dibenz(a,h)anthracene (mg/kg)	<0.0050			
	Fluoranthene (mg/kg)	<0.010			
	Fluorene (mg/kg)	<0.010			
	Indeno(1,2,3-c,d)pyrene (mg/kg)	<0.010			
	2-Methylnaphthalene (mg/kg)	<0.010			
	Naphthalene (mg/kg)	<0.010			
	Phenanthrene (mg/kg)	<0.010			
	Pyrene (mg/kg)	<0.010			
	Surrogate: Acenaphthene d10 (%)	86.1			
	Surrogate: Chrysene d12 (%)	82.6			
	Surrogate: Naphthalene d8 (%)	84.5			
	Surrogate: Phenanthrene d10 (%)	82.2			
	B(a)P Total Potency Equivalent (mg/kg)	<0.020			
	IACR (CCME) (mg/kg)	<0.15			
Phenolics	4-Chloro-3-methylphenol (mg/kg)				
	2-Chlorophenol (mg/kg)				
	3-Chlorophenol (mg/kg)				
	4-Chlorophenol (mg/kg)				

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1907291-1 Sediment 30-MAR-17 10:00 SDS-8	L1907291-2 Sediment 30-MAR-17 10:00 SDS-9	L1907291-3 Sediment 30-MAR-17 10:00 SDS-10	L1907291-4 Sediment 30-MAR-17 10:00 SDS-11	L1907291-5 Sediment 30-MAR-17 10:00 SDS-12
Grouping	Analyte					
SOIL						
Phenolics	2,3-Dichlorophenol (mg/kg)		<0.020	<0.020		
	2,4 & 2,5-Dichlorophenol (mg/kg)		<0.020	<0.020		
	2,6-Dichlorophenol (mg/kg)		<0.020	<0.020		
	3,4-Dichlorophenol (mg/kg)		<0.020	<0.020		
	3,5-Dichlorophenol (mg/kg)		<0.020	<0.020		
	Pentachlorophenol (mg/kg)		<0.020	<0.020		
	2,3,4,5-Tetrachlorophenol (mg/kg)		<0.020	<0.020		
	2,3,4,6-Tetrachlorophenol (mg/kg)		<0.020	<0.020		
	2,3,5,6-Tetrachlorophenol (mg/kg)		<0.020	<0.020		
	2,3,4-Trichlorophenol (mg/kg)		<0.020	<0.020		
	2,3,5-Trichlorophenol (mg/kg)		<0.020	<0.020		
	2,3,6-Trichlorophenol (mg/kg)		<0.020	<0.020		
	2,4,5-Trichlorophenol (mg/kg)		<0.020	<0.020		
	2,4,6-Trichlorophenol (mg/kg)		<0.020	<0.020		
	3,4,5-Trichlorophenol (mg/kg)		<0.020	<0.020		

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID Description Sampled Date Sampled Time Client ID	L1907291-6 Sediment 30-MAR-17 10:00 SDS-13	L1907291-7 Sediment 30-MAR-17 10:00 SDS-14	L1907291-8 Sediment 30-MAR-17 10:00 SDS-15	L1907291-9 Sediment 30-MAR-17 10:00 SDS-16	L1907291-10 Sediment 30-MAR-17 10:00 SDS-17
Grouping	Analyte					
SOIL						
Phenolics	2,3-Dichlorophenol (mg/kg) 2,4 & 2,5-Dichlorophenol (mg/kg) 2,6-Dichlorophenol (mg/kg) 3,4-Dichlorophenol (mg/kg) 3,5-Dichlorophenol (mg/kg) Pentachlorophenol (mg/kg) 2,3,4,5-Tetrachlorophenol (mg/kg) 2,3,4,6-Tetrachlorophenol (mg/kg) 2,3,5,6-Tetrachlorophenol (mg/kg) 2,3,4-Trichlorophenol (mg/kg) 2,3,5-Trichlorophenol (mg/kg) 2,3,6-Trichlorophenol (mg/kg) 2,4,5-Trichlorophenol (mg/kg) 2,4,6-Trichlorophenol (mg/kg) 3,4,5-Trichlorophenol (mg/kg)					

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID Description Sampled Date Sampled Time Client ID	L1907291-11 Sediment 30-MAR-17 10:00 DUP-3				
Grouping	Analyte				
SOIL					
Phenolics	2,3-Dichlorophenol (mg/kg) 2,4 & 2,5-Dichlorophenol (mg/kg) 2,6-Dichlorophenol (mg/kg) 3,4-Dichlorophenol (mg/kg) 3,5-Dichlorophenol (mg/kg) Pentachlorophenol (mg/kg) 2,3,4,5-Tetrachlorophenol (mg/kg) 2,3,4,6-Tetrachlorophenol (mg/kg) 2,3,5,6-Tetrachlorophenol (mg/kg) 2,3,4-Trichlorophenol (mg/kg) 2,3,5-Trichlorophenol (mg/kg) 2,3,6-Trichlorophenol (mg/kg) 2,4,5-Trichlorophenol (mg/kg) 2,4,6-Trichlorophenol (mg/kg) 3,4,5-Trichlorophenol (mg/kg)				

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
---------------------	-----------	-----------	-----------------------------

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
C-TIC-PCT-SK	Soil	Total Inorganic Carbon in Soil	CSSS (2008) P216-217
A known quantity of acetic acid is consumed by reaction with carbonates in the soil. The pH of the resulting solution is measured and compared against a standard curve relating pH to weight of carbonate.			
C-TOC-CALC-SK	Soil	Total Organic Carbon Calculation	CSSS (2008) 21.2
Total Organic Carbon (TOC) is calculated by the difference between total carbon (TC) and total inorganic carbon. (TIC)			
C-TOT-LECO-SK	Soil	Total Carbon by combustion method	CSSS (2008) 21.2
The sample is ignited in a combustion analyzer where carbon in the reduced CO2 gas is determined using a thermal conductivity detector.			
CL-PASTE-IC-VA	Soil	Chloride in Soil (Paste) by IC	Carter-CSSS / EPA 300.1 (modified)
A soil extract produced by the saturated paste extraction procedure is analyzed for chloride by Ion Chromatography with conductivity detection.			
CLPHEN-TMB-MS-VA	Soil	Chlorinated Phenols by Tumbler/GCMS	EPA 3570, 8270D, Knapp(1979)
A subsample of the soil/sediment is rotary extracted by solvent, derivitized, and analysed by GC/MS.			
EPH-TUMB-FID-VA	Soil	EPH in Solids by Tumbler and GCFID	BC MOE EPH GCFID
Analysis is in accordance with BC MOE Lab Manual method "Extractable Petroleum Hydrocarbons in Solids by GC/FID", v2.1, July 1999. Soil samples are extracted with a 1:1 mixture of hexane and acetone using a rotary extraction technique modified from EPA 3570 prior to gas chromatography with flame ionization detection (GC-FID). EPH results include Polycyclic Aromatic Hydrocarbons (PAH) and are therefore not equivalent to Light and Heavy Extractable Petroleum Hydrocarbons (LEPH/HEPH).			
HG-200.2-CVAF-VA	Soil	Mercury in Soil by CVAFS	EPA 200.2/1631E (mod)
Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CVAFS.			
IC-CACO3-CALC-SK	Soil	Inorganic Carbon as CaCO3 Equivalent	Calculation
LEPH/HEPH-CALC-VA	Soil	LEPHs and HEPHs	BC MOE LABORATORY MANUAL (2005)
Light and Heavy Extractable Petroleum Hydrocarbons in Solids. These results are determined according to the British Columbia Ministry of Environment, Lands, and Parks Analytical Method for Contaminated Sites "Calculation of Light and Heavy Extractable Petroleum Hydrocarbons in Solids or Water". According to this method, LEPH and HEPH are calculated by subtracting selected Polycyclic Aromatic Hydrocarbon results from Extractable Petroleum Hydrocarbon results. To calculate LEPH, the individual results for Naphthalene and Phenanthrene are subtracted from EPH(C10-19). To calculate HEPH, the individual results for Benz(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Dibenz(a,h)anthracene, Indeno(1,2,3-c,d)pyrene, and Pyrene are subtracted from EPH(C19-32). Analysis of Extractable Petroleum Hydrocarbons adheres to all prescribed elements of the BCMELP method "Extractable Petroleum Hydrocarbons in Solids by GC/FID" (Version 2.1, July 20, 1999).			
MET-200.2-CCMS-VA	Soil	Metals in Soil by CRC ICPMS	EPA 200.2/6020A (mod)
Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CRC ICPMS.			
Method Limitation: This method is not a total digestion technique. It is a very strong acid digestion that is intended to dissolve those metals that may be environmentally available. This method does not dissolve all silicate materials and may result in a partial extraction. depending on the sample matrix, for some metals, including, but not limited to Al, Ba, Be, Cr, Sr, Ti, Tl, and V.			
MET-PASTE-ICP-VA	Soil	Metals in Soil (Paste) by ICPOES	Carter-CSSS / EPA 6010B (modified)
A soil extract produced by the saturated paste extraction procedure is analyzed for Sodium, Calcium, and Magnesium by ICPOES as per "Soil Sampling and Methods of Analysis" by M. Carter.			
MOISTURE-VA	Soil	Moisture content	CWS for PHC in Soil - Tier 1
This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of six hours.			
ORGANOTINS-FULL-LE	Soil	Organotins full standard	GC-ICPMS according to SS-EN 23161 (mod).
The analysis is carried out by GC-ICPMS according to SS-EN 23161 (mod).			
PAH-TMB-H/A-MS-VA	Soil	PAH - Rotary Extraction (Hexane/Acetone)	EPA 3570/8270
This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Methods 3570 & 8270, published by the United States Environmental Protection Agency (EPA). The procedure uses a mechanical shaking technique to extract a subsample of the sediment/soil with a 1:1 mixture of hexane and acetone. The extract is then solvent exchanged to toluene. The final extract is analysed by capillary column gas chromatography with mass spectrometric detection (GC/MS). Surrogate recoveries may not be reported in cases where interferences from the sample matrix prevent accurate quantitation. Because the two isomers cannot be readily chromatographically separated, benzo(j)fluoranthene is reported as part of the benzo(b)fluoranthene parameter.			
PH-1:2-VA	Soil	pH in Soil (1:2 Soil:Water Extraction)	BC WLAP METHOD: PH, ELECTROMETRIC, SOIL

Reference Information

This analysis is carried out in accordance with procedures described in the pH, Electrometric in Soil and Sediment method - Section B Physical/Inorganic and Misc. Constituents, BC Environmental Laboratory Manual 2007. The procedure involves mixing the dried (at <60 C) and sieved (No. 10 / 2mm) sample with deionized/distilled water at a 1:2 ratio of sediment to water. The pH of the solution is then measured using a standard pH probe.

PHEN-TMB-MS-VA Soil Phenolics by Tumbler/GC-MS EPA 3570, 8270D, Knapp(1979)

A subsample of the soil/sediment is rotary extracted by solvent, derivitized, and analysed by GC/MS.

PSA-PIPET+GRAVEL-SK Soil Particle size - Sieve and Pipette SSIR-51 METHOD 3.2.1

Particle size distribution is determined by a combination of techniques. Dry sieving is performed for coarse particles, wet sieving for sand particles and the pipette sedimentation method for clay particles.

Reference:

Burt, R. (2009). Soil Survey Field and Laboratory Methods Manual. Soil Survey Investigations Report No. 5. Method 3.2.1.2.2. United States Department of Agriculture Natural Resources Conservation Service.

SAT-PCNT-VA Soil Saturation Percentage Carter-CSSS

Saturation Percentage (SP) is the total volume of water present in a saturated paste (in mL) divided by the dry weight of the sample (in grams), expressed as a percentage, as described in "Soil Sampling and Methods of Analysis" by M. Carter.

** ALS test methods may incorporate modifications from specified 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
SK	ALS ENVIRONMENTAL - SASKATOON, SASKATCHEWAN, CANADA
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA
LE	ALS ENVIRONMENTAL - LULEÅ, SWEDEN

Chain of Custody Numbers:

15-587506

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

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 of sample.

mg/L - milligrams per litre.

< - Less than.

D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).

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.



Quality Control Report

Workorder: L1907291

Report Date: 10-APR-17

Page 1 of 12

Client: GOLDER ASSOCIATES LTD.
 Suite 200 - 2920 Virtual Way
 Vancouver BC V5M 0C4

Contact: Paddy McManus

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CL-PASTE-IC-VA								
	Soil							
Batch	R3696331							
WG2506067-4	DUP	L1907291-1						
Chloride (Cl)		1.79	1.58		mg/kg	13	30	08-APR-17
WG2506067-2	LCS							
Chloride (Cl)			98.3		%		70-130	08-APR-17
WG2506067-1	MB							
Chloride (Cl)			<1.0		mg/kg		1	08-APR-17
CLPHEN-TMB-MS-VA								
	Soil							
Batch	R3692694							
WG2502917-3	CRM	CRM 143						
2,4,5-Trichlorophenol			114.3		%		60-130	05-APR-17
2,4,6-Trichlorophenol			114.1		%		60-130	05-APR-17
Pentachlorophenol			121.6		%		60-130	05-APR-17
WG2502917-2	LCS							
2,3,4,5-Tetrachlorophenol			92.3		%		60-130	05-APR-17
2,3,4,6-Tetrachlorophenol			94.5		%		60-130	05-APR-17
2,3,4-Trichlorophenol			93.2		%		60-130	05-APR-17
2,3,5,6-Tetrachlorophenol			89.3		%		60-130	05-APR-17
2,3,5-Trichlorophenol			92.0		%		60-130	05-APR-17
2,3,6-Trichlorophenol			91.5		%		60-130	05-APR-17
2,4,5-Trichlorophenol			91.8		%		60-130	05-APR-17
2,4,6-Trichlorophenol			91.7		%		60-130	05-APR-17
3,4,5-Trichlorophenol			95.3		%		60-130	05-APR-17
Pentachlorophenol			93.1		%		60-130	05-APR-17
WG2502917-1	MB							
2,3,4,5-Tetrachlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,3,4,6-Tetrachlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,3,4-Trichlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,3,5,6-Tetrachlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,3,5-Trichlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,3,6-Trichlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,4,5-Trichlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,4,6-Trichlorophenol			<0.020		mg/kg		0.02	05-APR-17
3,4,5-Trichlorophenol			<0.020		mg/kg		0.02	05-APR-17
Pentachlorophenol			<0.020		mg/kg		0.02	05-APR-17
EPH-TUMB-FID-VA	Soil							



Quality Control Report

Workorder: L1907291

Report Date: 10-APR-17

Page 2 of 12

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
EPH-TUMB-FID-VA		Soil						
Batch	R3694875							
WG2505653-3	IRM	ALS PHC2 RM						
EPH10-19			84.1		%		70-130	06-APR-17
EPH19-32			98.8		%		70-130	06-APR-17
WG2505653-1	MB							
EPH10-19			<200		mg/kg		200	06-APR-17
EPH19-32			<200		mg/kg		200	06-APR-17
HG-200.2-CVAF-VA		Soil						
Batch	R3694635							
WG2505656-4	CRM	VA-NRC-STSD-3						
Mercury (Hg)			89.3		%		70-130	06-APR-17
WG2505656-2	DUP	L1907291-1						
Mercury (Hg)		0.0178	0.0144		mg/kg	21	40	06-APR-17
WG2505656-3	LCS							
Mercury (Hg)			103.3		%		70-130	06-APR-17
WG2505656-1	MB							
Mercury (Hg)			<0.0050		mg/kg		0.005	06-APR-17
Batch	R3695250							
WG2505665-4	CRM	VA-NRC-STSD-3						
Mercury (Hg)			86.5		%		70-130	07-APR-17
WG2505665-3	LCS							
Mercury (Hg)			100.8		%		70-130	07-APR-17
WG2505665-1	MB							
Mercury (Hg)			<0.0050		mg/kg		0.005	07-APR-17
MET-200.2-CCMS-VA		Soil						
Batch	R3695364							
WG2505656-4	CRM	VA-NRC-STSD-3						
Antimony (Sb)			109.4		%		70-130	06-APR-17
Arsenic (As)			89.9		%		70-130	06-APR-17
Barium (Ba)			99.7		%		70-130	06-APR-17
Beryllium (Be)			101.7		%		70-130	06-APR-17
Cadmium (Cd)			112.9		%		70-130	06-APR-17
Chromium (Cr)			97.5		%		70-130	06-APR-17
Cobalt (Co)			94.9		%		70-130	06-APR-17
Copper (Cu)			92.3		%		70-130	06-APR-17
Lead (Pb)			102.7		%		70-130	06-APR-17
Molybdenum (Mo)			102.9		%		70-130	06-APR-17
Nickel (Ni)			89.9		%		70-130	06-APR-17



Quality Control Report

Workorder: L1907291

Report Date: 10-APR-17

Page 3 of 12

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA		Soil						
Batch	R3695364							
WG2505656-4	CRM	VA-NRC-STSD-3						
Selenium (Se)			97.3		%		70-130	06-APR-17
Silver (Ag)			98.8		%		70-130	06-APR-17
Thallium (Tl)			107.0		%		70-130	06-APR-17
Uranium (U)			104.1		%		70-130	06-APR-17
Vanadium (V)			98.3		%		70-130	06-APR-17
Zinc (Zn)			91.0		%		70-130	06-APR-17
WG2505665-4	CRM	VA-NRC-STSD-3						
Antimony (Sb)			105.3		%		70-130	06-APR-17
Arsenic (As)			86.2		%		70-130	06-APR-17
Barium (Ba)			96.2		%		70-130	06-APR-17
Beryllium (Be)			101.4		%		70-130	06-APR-17
Cadmium (Cd)			110.1		%		70-130	06-APR-17
Chromium (Cr)			94.4		%		70-130	06-APR-17
Cobalt (Co)			92.6		%		70-130	06-APR-17
Copper (Cu)			90.3		%		70-130	06-APR-17
Lead (Pb)			92.5		%		70-130	06-APR-17
Molybdenum (Mo)			98.4		%		70-130	06-APR-17
Nickel (Ni)			88.3		%		70-130	06-APR-17
Selenium (Se)			98.2		%		70-130	06-APR-17
Silver (Ag)			94.7		%		70-130	06-APR-17
Thallium (Tl)			98.7		%		70-130	06-APR-17
Uranium (U)			100.1		%		70-130	06-APR-17
Vanadium (V)			96.8		%		70-130	06-APR-17
Zinc (Zn)			90.2		%		70-130	06-APR-17
WG2505656-2	DUP	L1907291-1						
Antimony (Sb)		0.16	0.16		mg/kg	3.1	30	06-APR-17
Arsenic (As)		3.16	3.09		mg/kg	2.3	30	06-APR-17
Barium (Ba)		41.5	38.8		mg/kg	6.6	40	06-APR-17
Beryllium (Be)		0.16	0.16		mg/kg	4.1	30	06-APR-17
Cadmium (Cd)		0.093	0.093		mg/kg	0.5	30	06-APR-17
Chromium (Cr)		14.5	16.7		mg/kg	14	30	06-APR-17
Cobalt (Co)		6.14	6.04		mg/kg	1.6	30	06-APR-17
Copper (Cu)		11.2	10.6		mg/kg	5.4	30	06-APR-17
Lead (Pb)		1.87	1.84		mg/kg	1.6	40	06-APR-17
Molybdenum (Mo)		0.24	0.29		mg/kg	20	40	06-APR-17

Quality Control Report

Workorder: L1907291

Report Date: 10-APR-17

Page 4 of 12

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA		Soil						
Batch	R3695364							
WG2505656-2	DUP	L1907291-1						
Nickel (Ni)		21.3	23.0		mg/kg	8.0	30	06-APR-17
Selenium (Se)		<0.20	<0.20	RPD-NA	mg/kg	N/A	30	06-APR-17
Silver (Ag)		<0.10	<0.10	RPD-NA	mg/kg	N/A	40	06-APR-17
Thallium (Tl)		<0.050	<0.050	RPD-NA	mg/kg	N/A	30	06-APR-17
Tin (Sn)		<2.0	<2.0	RPD-NA	mg/kg	N/A	40	06-APR-17
Uranium (U)		0.207	0.199		mg/kg	4.1	30	06-APR-17
Vanadium (V)		36.1	33.7		mg/kg	7.0	30	06-APR-17
Zinc (Zn)		32.3	31.4		mg/kg	2.8	30	06-APR-17
WG2505656-3	LCS							
Antimony (Sb)			100.8		%		80-120	06-APR-17
Arsenic (As)			101.6		%		80-120	06-APR-17
Barium (Ba)			103.5		%		80-120	06-APR-17
Beryllium (Be)			99.0		%		80-120	06-APR-17
Cadmium (Cd)			103.9		%		80-120	06-APR-17
Chromium (Cr)			98.1		%		80-120	06-APR-17
Cobalt (Co)			97.5		%		80-120	06-APR-17
Copper (Cu)			98.0		%		80-120	06-APR-17
Lead (Pb)			98.8		%		80-120	06-APR-17
Molybdenum (Mo)			99.2		%		80-120	06-APR-17
Nickel (Ni)			97.3		%		80-120	06-APR-17
Selenium (Se)			99.4		%		80-120	06-APR-17
Silver (Ag)			98.3		%		80-120	06-APR-17
Thallium (Tl)			97.3		%		80-120	06-APR-17
Tin (Sn)			97.1		%		80-120	06-APR-17
Uranium (U)			103.3		%		80-120	06-APR-17
Vanadium (V)			101.2		%		80-120	06-APR-17
Zinc (Zn)			92.6		%		80-120	06-APR-17
WG2505665-3	LCS							
Antimony (Sb)			103.8		%		80-120	06-APR-17
Arsenic (As)			99.8		%		80-120	06-APR-17
Barium (Ba)			99.8		%		80-120	06-APR-17
Beryllium (Be)			102.0		%		80-120	06-APR-17
Cadmium (Cd)			100.9		%		80-120	06-APR-17
Chromium (Cr)			95.8		%		80-120	06-APR-17
Cobalt (Co)			95.1		%		80-120	06-APR-17



Quality Control Report

Workorder: L1907291

Report Date: 10-APR-17

Page 5 of 12

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA		Soil						
Batch	R3695364							
WG2505665-3	LCS							
Copper (Cu)			94.8		%		80-120	06-APR-17
Lead (Pb)			93.6		%		80-120	06-APR-17
Molybdenum (Mo)			101.3		%		80-120	06-APR-17
Nickel (Ni)			95.3		%		80-120	06-APR-17
Selenium (Se)			98.1		%		80-120	06-APR-17
Silver (Ag)			98.3		%		80-120	06-APR-17
Thallium (Tl)			96.0		%		80-120	06-APR-17
Tin (Sn)			100.2		%		80-120	06-APR-17
Uranium (U)			100.1		%		80-120	06-APR-17
Vanadium (V)			98.4		%		80-120	06-APR-17
Zinc (Zn)			91.6		%		80-120	06-APR-17
WG2505656-1	MB							
Antimony (Sb)			<0.10		mg/kg		0.1	06-APR-17
Arsenic (As)			<0.10		mg/kg		0.1	06-APR-17
Barium (Ba)			<0.50		mg/kg		0.5	06-APR-17
Beryllium (Be)			<0.10		mg/kg		0.1	06-APR-17
Cadmium (Cd)			<0.020		mg/kg		0.02	06-APR-17
Chromium (Cr)			<0.50		mg/kg		0.5	06-APR-17
Cobalt (Co)			<0.10		mg/kg		0.1	06-APR-17
Copper (Cu)			<0.50		mg/kg		0.5	06-APR-17
Lead (Pb)			<0.50		mg/kg		0.5	06-APR-17
Molybdenum (Mo)			<0.10		mg/kg		0.1	06-APR-17
Nickel (Ni)			<0.50		mg/kg		0.5	06-APR-17
Selenium (Se)			<0.20		mg/kg		0.2	06-APR-17
Silver (Ag)			<0.10		mg/kg		0.1	06-APR-17
Thallium (Tl)			<0.050		mg/kg		0.05	06-APR-17
Tin (Sn)			<2.0		mg/kg		2	06-APR-17
Uranium (U)			<0.050		mg/kg		0.05	06-APR-17
Vanadium (V)			<0.20		mg/kg		0.2	06-APR-17
Zinc (Zn)			<2.0		mg/kg		2	06-APR-17
WG2505665-1	MB							
Antimony (Sb)			<0.10		mg/kg		0.1	06-APR-17
Arsenic (As)			<0.10		mg/kg		0.1	06-APR-17
Barium (Ba)			<0.50		mg/kg		0.5	06-APR-17
Beryllium (Be)			<0.10		mg/kg		0.1	06-APR-17



Quality Control Report

Workorder: L1907291

Report Date: 10-APR-17

Page 6 of 12

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-VA								
	Soil							
Batch	R3695364							
WG2505665-1	MB							
Cadmium (Cd)			<0.020		mg/kg		0.02	06-APR-17
Chromium (Cr)			<0.50		mg/kg		0.5	06-APR-17
Cobalt (Co)			<0.10		mg/kg		0.1	06-APR-17
Copper (Cu)			<0.50		mg/kg		0.5	06-APR-17
Lead (Pb)			<0.50		mg/kg		0.5	06-APR-17
Molybdenum (Mo)			<0.10		mg/kg		0.1	06-APR-17
Nickel (Ni)			<0.50		mg/kg		0.5	06-APR-17
Selenium (Se)			<0.20		mg/kg		0.2	06-APR-17
Silver (Ag)			<0.10		mg/kg		0.1	06-APR-17
Thallium (Tl)			<0.050		mg/kg		0.05	06-APR-17
Tin (Sn)			<2.0		mg/kg		2	06-APR-17
Uranium (U)			<0.050		mg/kg		0.05	06-APR-17
Vanadium (V)			<0.20		mg/kg		0.2	06-APR-17
Zinc (Zn)			<2.0		mg/kg		2	06-APR-17
MET-PASTE-ICP-VA								
	Soil							
Batch	R3695129							
WG2506067-4	DUP	L1907291-1						
Sodium (Na)		3.6	3.6		mg/kg	2.3	30	06-APR-17
WG2506067-2	LCS							
Sodium (Na)			101.3		%		80-120	06-APR-17
WG2506067-1	MB							
Sodium (Na)			<0.50		mg/kg		0.5	06-APR-17
MOISTURE-VA								
	Soil							
Batch	R3692608							
WG2505617-2	LCS							
Moisture			96.5		%		90-110	04-APR-17
WG2505617-6	LCS							
Moisture			97.2		%		90-110	04-APR-17
WG2505617-1	MB							
Moisture			<0.25		%		0.25	04-APR-17
WG2505617-5	MB							
Moisture			<0.25		%		0.25	04-APR-17
Batch	R3692615							
WG2505654-3	DUP	L1907291-3						
Moisture		15.9	13.1		%	20	20	04-APR-17
WG2505654-4	DUP	L1907291-10						



Quality Control Report

Workorder: L1907291

Report Date: 10-APR-17

Page 7 of 12

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-VA		Soil						
Batch	R3692615							
WG2505654-4	DUP	L1907291-10						
Moisture		19.9	20.0		%	0.7	20	04-APR-17
WG2505654-2	LCS							
Moisture			97.4		%		90-110	04-APR-17
WG2505654-1	MB							
Moisture			<0.25		%		0.25	04-APR-17
PAH-TMB-H/A-MS-VA		Soil						
Batch	R3692261							
WG2505666-2	LCS							
Acenaphthene			85.6		%		60-130	06-APR-17
Acenaphthylene			89.4		%		60-130	06-APR-17
Anthracene			63.5		%		60-130	06-APR-17
Benz(a)anthracene			89.9		%		60-130	06-APR-17
Benzo(a)pyrene			78.3		%		60-130	06-APR-17
Benzo(b)fluoranthene			92.3		%		60-130	06-APR-17
Benzo(g,h,i)perylene			68.8		%		60-130	06-APR-17
Benzo(k)fluoranthene			103.4		%		60-130	06-APR-17
Chrysene			96.0		%		60-130	06-APR-17
Dibenz(a,h)anthracene			76.0		%		60-130	06-APR-17
Fluoranthene			95.3		%		60-130	06-APR-17
Fluorene			91.8		%		60-130	06-APR-17
Indeno(1,2,3-c,d)pyrene			72.6		%		60-130	06-APR-17
2-Methylnaphthalene			90.8		%		60-130	06-APR-17
Naphthalene			97.3		%		50-130	06-APR-17
Phenanthrene			91.3		%		60-130	06-APR-17
Pyrene			92.1		%		60-130	06-APR-17
WG2505666-1	MB							
Acenaphthene			<0.0050		mg/kg		0.005	06-APR-17
Acenaphthylene			<0.0050		mg/kg		0.005	06-APR-17
Anthracene			<0.0040		mg/kg		0.004	06-APR-17
Benz(a)anthracene			<0.010		mg/kg		0.01	06-APR-17
Benzo(a)pyrene			<0.010		mg/kg		0.01	06-APR-17
Benzo(b)fluoranthene			<0.010		mg/kg		0.01	06-APR-17
Benzo(g,h,i)perylene			<0.010		mg/kg		0.01	06-APR-17
Benzo(k)fluoranthene			<0.010		mg/kg		0.01	06-APR-17
Chrysene			<0.010		mg/kg		0.01	06-APR-17



Quality Control Report

Workorder: L1907291

Report Date: 10-APR-17

Page 8 of 12

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-TMB-H/A-MS-VA		Soil						
Batch	R3692261							
WG2505666-1	MB							
Dibenz(a,h)anthracene			<0.0050		mg/kg		0.005	06-APR-17
Fluoranthene			<0.010		mg/kg		0.01	06-APR-17
Fluorene			<0.010		mg/kg		0.01	06-APR-17
Indeno(1,2,3-c,d)pyrene			<0.010		mg/kg		0.01	06-APR-17
2-Methylnaphthalene			<0.010		mg/kg		0.01	06-APR-17
Naphthalene			<0.010		mg/kg		0.01	06-APR-17
Phenanthrene			<0.010		mg/kg		0.01	06-APR-17
Pyrene			<0.010		mg/kg		0.01	06-APR-17
Surrogate: Naphthalene d8			73.6		%		50-130	06-APR-17
Surrogate: Acenaphthene d10			74.5		%		60-130	06-APR-17
Surrogate: Phenanthrene d10			73.0		%		60-130	06-APR-17
Surrogate: Chrysene d12			72.3		%		60-130	06-APR-17
Batch	R3693656							
WG2505653-2	LCS							
Acenaphthene			83.2		%		60-130	06-APR-17
Acenaphthylene			90.2		%		60-130	06-APR-17
Anthracene			64.1		%		60-130	06-APR-17
Benz(a)anthracene			95.8		%		60-130	06-APR-17
Benzo(a)pyrene			96.6		%		60-130	06-APR-17
Benzo(b)fluoranthene			90.2		%		60-130	06-APR-17
Benzo(g,h,i)perylene			82.8		%		60-130	06-APR-17
Benzo(k)fluoranthene			99.4		%		60-130	06-APR-17
Chrysene			100.6		%		60-130	06-APR-17
Dibenz(a,h)anthracene			86.4		%		60-130	06-APR-17
Fluoranthene			101.4		%		60-130	06-APR-17
Fluorene			90.9		%		60-130	06-APR-17
Indeno(1,2,3-c,d)pyrene			86.8		%		60-130	06-APR-17
2-Methylnaphthalene			88.0		%		60-130	06-APR-17
Naphthalene			91.9		%		50-130	06-APR-17
Phenanthrene			92.3		%		60-130	06-APR-17
Pyrene			101.0		%		60-130	06-APR-17
WG2505653-1	MB							
Acenaphthene			<0.0050		mg/kg		0.005	06-APR-17
Acenaphthylene			<0.0050		mg/kg		0.005	06-APR-17
Anthracene			<0.0040		mg/kg		0.004	06-APR-17



Quality Control Report

Workorder: L1907291

Report Date: 10-APR-17

Page 9 of 12

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-TMB-H/A-MS-VA								
	Soil							
Batch	R3693656							
WG2505653-1	MB							
Benz(a)anthracene			<0.010		mg/kg		0.01	06-APR-17
Benzo(a)pyrene			<0.010		mg/kg		0.01	06-APR-17
Benzo(b)fluoranthene			<0.010		mg/kg		0.01	06-APR-17
Benzo(g,h,i)perylene			<0.010		mg/kg		0.01	06-APR-17
Benzo(k)fluoranthene			<0.010		mg/kg		0.01	06-APR-17
Chrysene			<0.010		mg/kg		0.01	06-APR-17
Dibenz(a,h)anthracene			<0.0050		mg/kg		0.005	06-APR-17
Fluoranthene			<0.010		mg/kg		0.01	06-APR-17
Fluorene			<0.010		mg/kg		0.01	06-APR-17
Indeno(1,2,3-c,d)pyrene			<0.010		mg/kg		0.01	06-APR-17
2-Methylnaphthalene			<0.010		mg/kg		0.01	06-APR-17
Naphthalene			<0.010		mg/kg		0.01	06-APR-17
Phenanthrene			<0.010		mg/kg		0.01	06-APR-17
Pyrene			<0.010		mg/kg		0.01	06-APR-17
Surrogate: Naphthalene d8			70.8		%		50-130	06-APR-17
Surrogate: Acenaphthene d10			71.5		%		60-130	06-APR-17
Surrogate: Phenanthrene d10			71.2		%		60-130	06-APR-17
Surrogate: Chrysene d12			85.0		%		60-130	06-APR-17
PH-1:2-VA								
	Soil							
Batch	R3692986							
WG2505656-2	DUP	L1907291-1						
pH (1:2 soil:water)		7.53	7.56	J	pH	0.03	0.2	05-APR-17
WG2505656-5	IRM	VA-ALP-SRS1507						
pH (1:2 soil:water)			6.44		pH		6.2-6.8	05-APR-17
Batch	R3694285							
WG2505665-5	IRM	VA-ALP-SRS1507						
pH (1:2 soil:water)			6.48		pH		6.2-6.8	06-APR-17
PHEN-TMB-MS-VA								
	Soil							
Batch	R3692694							
WG2502917-3	CRM	CRM 143						
4-Chloro-3-methylphenol			110.1		%		60-130	05-APR-17
2-Chlorophenol			111.7		%		60-130	05-APR-17
2,4 & 2,5-Dichlorophenol			119.1		%		60-130	05-APR-17
WG2502917-2	LCS							



Quality Control Report

Workorder: L1907291

Report Date: 10-APR-17

Page 10 of 12

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PHEN-TMB-MS-VA		Soil						
Batch	R3692694							
WG2502917-2	LCS							
4-Chloro-3-methylphenol			92.4		%		60-130	05-APR-17
2-Chlorophenol			88.0		%		60-130	05-APR-17
3-Chlorophenol			89.1		%		60-130	05-APR-17
4-Chlorophenol			89.8		%		60-130	05-APR-17
2,3-Dichlorophenol			90.5		%		60-130	05-APR-17
2,4 & 2,5-Dichlorophenol			90.5		%		60-130	05-APR-17
2,6-Dichlorophenol			91.8		%		60-130	05-APR-17
3,4-Dichlorophenol			91.6		%		60-130	05-APR-17
3,5-Dichlorophenol			92.9		%		60-130	05-APR-17
WG2502917-1	MB							
4-Chloro-3-methylphenol			<0.020		mg/kg		0.02	05-APR-17
2-Chlorophenol			<0.020		mg/kg		0.02	05-APR-17
3-Chlorophenol			<0.020		mg/kg		0.02	05-APR-17
4-Chlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,3-Dichlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,4 & 2,5-Dichlorophenol			<0.020		mg/kg		0.02	05-APR-17
2,6-Dichlorophenol			<0.020		mg/kg		0.02	05-APR-17
3,4-Dichlorophenol			<0.020		mg/kg		0.02	05-APR-17
3,5-Dichlorophenol			<0.020		mg/kg		0.02	05-APR-17
PSA-PIPET+GRAVEL-SK		Soil						
Batch	R3694971							
WG2505423-1	DUP	L1907291-6						
% Gravel (>2mm)		<1.0	<1.0	RPD-NA	%	N/A	25	07-APR-17
% Sand (2.0mm - 0.063mm)		99.5	99.4	J	%	0.1	5	07-APR-17
% Silt (0.063mm - 4um)		<1.0	<1.0	RPD-NA	%	N/A	5	07-APR-17
% Clay (<4um)		<1.0	<1.0	RPD-NA	%	N/A	5	07-APR-17
WG2505423-2	IRM	10-105						
% Sand (2.0mm - 0.063mm)			37.3		%		30-40	07-APR-17
% Silt (0.063mm - 4um)			46.8		%		45-55	07-APR-17
% Clay (<4um)			15.9		%		10-20	07-APR-17
SAT-PCNT-VA		Soil						
Batch	R3694761							
WG2506067-4	DUP	L1907291-1						
% Saturation		23.7	23.8		%	N/A	20	06-APR-17
WG2506067-3	IRM	VA-ALP-SRS1507						



Quality Control Report

Workorder: L1907291

Report Date: 10-APR-17

Page 11 of 12

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SAT-PCNT-VA	Soil							
Batch	R3694761							
WG2506067-3	IRM	VA-ALP-SRS1507						
% Saturation			101.5		%		80-120	06-APR-17
WG2506067-1	MB							
% Saturation			50.0		%		50	06-APR-17

Quality Control Report

Workorder: L1907291

Report Date: 10-APR-17

Page 12 of 12

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
J	Duplicate results and limits are expressed in terms of absolute difference.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

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 pre-determined 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.

Report

Page 1 (3)



L1708025

2IF2S4J4ECX



Date received **2017-04-03**
Issued **2017-04-10**

ALS Vancouver
Amber Springer
8081 Lougheed Highway
Burnaby
British Columbia V5A 1W9
Canada

Project **L1907291**

Analysis: OJ19A

Your ID	L1907291-2					
	SDS-9					
LabID	U11307055					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
TS 105°C	80.8	2%	%	1	V	JOGR
monobutyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
dibutyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
tributyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
tetrabutyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
monoocetyltn	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
dioctyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
tricyclohexyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
monophenyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
diphenyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
triphenyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN

Your ID	L1907291-3					
	SDS-10					
LabID	U11307056					
Analysis	Results	Uncertainty (\pm)	Unit	Method	Issuer	Sign
TS 105°C	85.4	2%	%	1	V	JOGR
monobutyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
dibutyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
tributyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
tetrabutyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
monoocetyltn	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
dioctyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
tricyclohexyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
monophenyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
diphenyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN
triphenyltin	<1		$\mu\text{g}/\text{kg DW}$	2	T	ELEN

Report

Page 2 (3)



L1708025

2IF2S4J4ECX



Your ID	L1907291-3 Duplicate					
	SDS-10					
LabID	U11307057					
Analysis	Results	Uncertainty (±)	Unit	Method	Issuer	Sign
TS 105°C	85.4	2%	%	1	V	JOGR
monobutyltin	<1		µg/kg DW	2	T	ELEN
dibutyltin	<1		µg/kg DW	2	T	ELEN
tributyltin	<1		µg/kg DW	2	T	ELEN
tetrabutyltin	<1		µg/kg DW	2	T	ELEN
monooctyltin	<1		µg/kg DW	2	T	ELEN
dioctyltin	<1		µg/kg DW	2	T	ELEN
tricyclohexyltin	<1		µg/kg DW	2	T	ELEN
monophenyltin	<1		µg/kg DW	2	T	ELEN
diphenyltin	<1		µg/kg DW	2	T	ELEN
triphenyltin	<1		µg/kg DW	2	T	ELEN

Your ID	QC					
LabID	U11307058					
Analysis	Results	Unit	Method	Issuer	Sign	
monobutyltin recovery*	107	%	2	U	ELEN	
dibutyltin recovery*	97.3	%	2	U	ELEN	
tributyltin recovery*	109	%	2	U	ELEN	
tetrabutyltin recovery*	91.1	%	2	U	ELEN	
monooctyltin recovery*	110	%	2	U	ELEN	
dioctyltin recovery*	108	%	2	U	ELEN	
tricyclohexyltin recovery*	129	%	2	U	ELEN	
monophenyltin recovery*	106	%	2	U	ELEN	
diphenyltin recovery*	90.2	%	2	U	ELEN	
triphenyltin recovery*	94.9	%	2	U	ELEN	

Acceptance criteria for recovery is 50-150%.

Your ID	Blank					
LabID	U11307059					
Analysis	Results	Unit	Method	Issuer	Sign	
monobutyltin	<1	µg/kg DW	2	T	ELEN	
dibutyltin	<1	µg/kg DW	2	T	ELEN	
tributyltin	<1	µg/kg DW	2	T	ELEN	
tetrabutyltin	<1	µg/kg DW	2	T	ELEN	
monooctyltin	<1	µg/kg DW	2	T	ELEN	
dioctyltin	<1	µg/kg DW	2	T	ELEN	
tricyclohexyltin	<1	µg/kg DW	2	T	ELEN	
monophenyltin	<1	µg/kg DW	2	T	ELEN	
diphenyltin	<1	µg/kg DW	2	T	ELEN	
triphenyltin	<1	µg/kg DW	2	T	ELEN	

Method specification	
1	Analysed according to SS 028113.
2	Determination of organotin compounds according to ISO 23161:2011 with acidic extraction. The analyses are performed using GC-ICP-SFMS.

Approver	
ELEN	Elina Engström
JOGR	Jonna Grundström

Issuer ¹	
T	GC-ICP-QMS
U	GC-ICP-QMS
V	Våtkemi

* indicates unaccredited analysis.

The uncertainty is given as extended uncertainty (according to the definition in "Guide to the Expression of Uncertainty in Measurement", JCGM 100:2008 Corrected version 2010) calculated with a coverage factor of 2, which gives a confidence level of approximately 95%.

Measurement of uncertainty is reported only for detected substances with levels above the reporting limits.

The uncertainty from subcontractors is often given as extended uncertainty calculated with a coverage factor of 2. Contact the laboratory for further information.

This report may not be reproduced other than in full, except with the prior written approval of the issuing laboratory. The results apply only to the material that has been identified, received, and tested. Regarding the laboratory's liability in relation to assignment, please refer to our latest product catalogue or website <http://www.alsglobal.se>

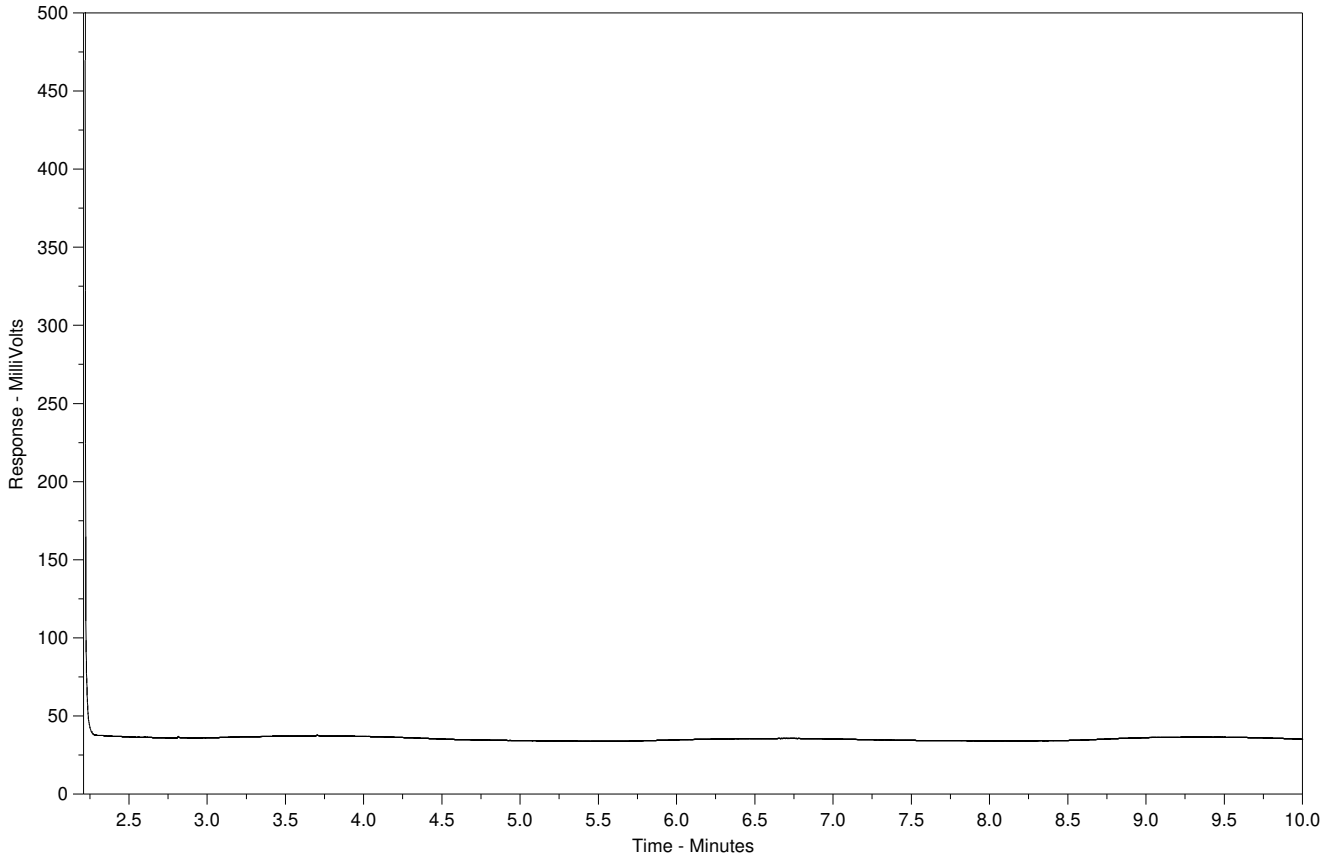
The digitally signed PDF file represents the original report. Any printouts are to be considered as copies.

¹ The technical unit within ALS Scandinavia where the analysis was carried out, alternatively the subcontractor for the analysis.

Hydrocarbon Distribution Report



ALS Sample ID: L1907291-3
Client Sample ID: SDS-10



nC10	nC19	nC32
174°C	330°C	467°C
346°F	626°F	873°F
← Gasoline →	← Diesel / Jet Fuels →	← Motor Oils / Lube Oils / Grease →

The EPH Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample. For further interpretation, a current library of reference products is available on www.alsglobal.com or upon request.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products, and three n-alkane hydrocarbon marker compounds. Retention times may vary between samples by as much as 0.5 minutes.

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

A "-L-" in the sample ID denotes a low level sample. A "-S-" denotes a silica gel cleaned sample.



L1907291-COFC

COC Number: 15 - 587506

Page 1 of 1

Report To		Report Format / Distribution			Select Service Level Below - Please confirm all E&P TATs with your AM - surcharges will apply																																																																																																																																																									
Company: <u>Golden Associates LTD</u>		Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL)			Regular [R] <input checked="" type="checkbox"/> Standard TAT if received by 3 pm - business days - no surcharges apply																																																																																																																																																									
Contact: <u>Paddy McManus; Elaine Irving</u>		Quality Control (QC) Report with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			PRIORITY (Business Days)		4 day [P4] <input type="checkbox"/>		EMERGENCY		1 Business day [E1] <input type="checkbox"/>																																																																																																																																																			
Phone: <u>604-246-1420</u>		<input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked			3 day [P3] <input type="checkbox"/>						Same Day, Weekend or Statutory holiday [E0] <input type="checkbox"/>																																																																																																																																																			
Street: <u>2920 Vantage Way</u>		Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			Date and Time Required for all E&P TATs: _____																																																																																																																																																									
City/Province: <u>Vancouver, BC</u>		Email 1 or Fax: <u>paddy-mcmanus@golden.com</u>			For tests that can not be performed according to the service level selected, you will be contacted.																																																																																																																																																									
Postal Code: <u>V5M 4X3</u>		Email 2: <u>elaine-irving@golden.com</u>			Analysis Request																																																																																																																																																									
Invoice To: Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below																																																																																																																																																									
Copy of Invoice with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		Email 1 or Fax: _____			<table border="1"> <thead> <tr> <th>Sample #</th> <th>Sample Description</th> <th>Gravel size</th> <th>TOC</th> <th>Moldure</th> <th>PAMS</th> <th>LEPM, MEPH, PAMS</th> <th>Metals</th> <th>Salinity</th> <th>Tributyl tin</th> <th>Poly chlorinated phenols</th> <th>Number of Containers</th> </tr> </thead> <tbody> <tr> <td>SDS-8</td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>(1 Bag + 4 Jars)</td> </tr> <tr> <td>SDS-9</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td>X</td> <td>X</td> <td></td> </tr> <tr> <td>SDS-10</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td>X</td> <td>X</td> <td></td> </tr> <tr> <td>SDS-11</td> <td></td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>SDS-12</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>SDS-13</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>SDS-14</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>SDS-15</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>SDS-16</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>SDS-17</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>DUP-3</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>										Sample #	Sample Description	Gravel size	TOC	Moldure	PAMS	LEPM, MEPH, PAMS	Metals	Salinity	Tributyl tin	Poly chlorinated phenols	Number of Containers	SDS-8		X	X	X	X	X	X	X	X	X	(1 Bag + 4 Jars)	SDS-9						X			X	X		SDS-10						X			X	X		SDS-11					X							SDS-12												SDS-13												SDS-14												SDS-15												SDS-16												SDS-17												DUP-3											
Sample #	Sample Description	Gravel size	TOC	Moldure	PAMS	LEPM, MEPH, PAMS	Metals	Salinity	Tributyl tin	Poly chlorinated phenols	Number of Containers																																																																																																																																																			
SDS-8		X	X	X	X	X	X	X	X	X	(1 Bag + 4 Jars)																																																																																																																																																			
SDS-9						X			X	X																																																																																																																																																				
SDS-10						X			X	X																																																																																																																																																				
SDS-11					X																																																																																																																																																									
SDS-12																																																																																																																																																														
SDS-13																																																																																																																																																														
SDS-14																																																																																																																																																														
SDS-15																																																																																																																																																														
SDS-16																																																																																																																																																														
SDS-17																																																																																																																																																														
DUP-3																																																																																																																																																														
Project Information		Oil and Gas Required Fields (client use)																																																																																																																																																												
ALS Account # / Quote #: <u>Q60179</u>		AFE/Cost Center: _____ PO# _____																																																																																																																																																												
Job #: <u>1525010/3400/3400.4</u>		Major/Minor Code: _____ Routing Code: _____																																																																																																																																																												
PO / AFE: _____		Requisitioner: _____																																																																																																																																																												
LSD: _____		Location: _____																																																																																																																																																												
ALS Lab Work Order # (lab use only)		ALS Contact: <u>A. Springer</u>			Sampler: <u>PM</u>																																																																																																																																																									
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type																																																																																																																																																										
Drinking Water (DW) Samples (client use)					Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below (electronic COC only)					SAMPLE CONDITION AS RECEIVED (lab use only)																																																																																																																																																				
Are samples taken from a Regulated DW System? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					Please use maximum 95% if enough volume.					Frozen <input type="checkbox"/> SIF Observations Yes <input type="checkbox"/> No <input type="checkbox"/>																																																																																																																																																				
Are samples for human drinking water use? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO										Ice Packs <input type="checkbox"/> Ice Cubes <input type="checkbox"/> Custody seal intact Yes <input type="checkbox"/> No <input type="checkbox"/>																																																																																																																																																				
					Cooling Initiated <input type="checkbox"/>					INITIAL COOLER TEMPERATURES °C: _____ FINAL COOLER TEMPERATURES °C: _____																																																																																																																																																				
					7																																																																																																																																																									
SHIPPING RELEASE (client use)					INITIAL SHIPMENT RECEPTION (lab use only)					FINAL SHIPMENT RECEPTION (lab use only)																																																																																																																																																				
Released by: <u>[Signature]</u>		Date: <u>30 Mar 17</u>		Time: _____		Received by: <u>Jik</u>		Date: <u>03/30/17</u>		Time: <u>11:00</u>		Received by: _____		Date: _____		Time: _____																																																																																																																																														



APPENDIX G

Information Review - Ecolog ERIS



DATABASE REPORT



Project Property: *CDM Annacis Outfall
Derwent Way And Eaton Place
Delta BC
1525010*

P.O. Number *1525010*

Report Type: *Quote - Custom-Build Your Own Report*

Order #: *20150908144*

Requested by: *Golder Associates Ltd.*

Date: *September 15, 2015*

Ecolog ERIS Ltd.
Environmental Risk Information
Service Ltd. (ERIS)
A division of Glacier Media Inc.
P: 1.866.517.5204
E: info@erisinfo.com
www.erisinfo.com

Table of Contents

Table of Contents.....	1
Executive Summary.....	2
Executive Summary: Report Summary.....	3
Executive Summary: Site Report Summary - Project Property.....	5
Executive Summary: Site Report Summary - Surrounding Properties.....	8
Executive Summary: Summary By Data Source.....	15
Map.....	25
Aerial.....	26
Detail Report.....	27
Unplottable Summary.....	104
Unplottable Report.....	105
Appendix: Database Descriptions.....	107
Definitions.....	114

Notice: IMPORTANT LIMITATIONS and YOUR LIABILITY

Reliance on information in Report: This report DOES NOT replace a full Phase I Environmental Site Assessment but is solely intended to be used as a database review on environmental records.

License for use of information in Report: No page of this report can be used without this cover page, this notice and the project property identifier. The information in Report(s) may not be modified or re-sold.

Your Liability for misuse: Using this Service and/or its reports in a manner contrary to this Notice or your agreement will be in breach of copyright and contract and ERIS may obtain damages for such mis-use, including damages caused to third parties, and gives ERIS the right to terminate your account, rescind your license to any previous reports and to bar you from future use of the Service.

No warranty of Accuracy or Liability for ERIS: The information contained in this report has been produced by EcoLog Environmental Risk Information Services Ltd ("ERIS") using various sources of information, including information provided by Federal and Provincial government departments. The report applies only to the address and up to the date specified on the cover of this report, and any alterations or deviation from this description will require a new report. This report and the data contained herein does not purport to be and does not constitute a guarantee of the accuracy of the information contained herein and does not constitute a legal opinion nor medical advice. Although ERIS has endeavored to present you with information that is accurate, EcoLog ERIS disclaims, any and all liability for any errors, omissions, or inaccuracies in such information and data, whether attributable to inadvertence, negligence or otherwise, and for any consequences arising therefrom. Liability on the part of EcoLog ERIS is limited to the monetary value paid for this report.

Trademark and Copyright: You may not use the ERIS trademarks or attribute any work to ERIS other than as outlined above. This Service and Report(s) are protected by copyright owned by EcoLog ERIS Ltd. Copyright in data used in the Service or Report(s) (the "Data") is owned by EcoLog ERIS or its licensors. The Service, Report(s) and Data may not be copied or reproduced in whole or in any substantial part without prior written consent of EcoLog ERIS.

Executive Summary

Property Information:

Project Property: *CDM Annacis Outfall
Derwent Way And Eaton Place Delta BC*

P.O. Number: *1525010*

Order Information:

Order No.: *20150908144*

Date Requested: *16/09/2015*

Requested by: *Golder Associates Ltd.*

Report Type: *Quote - Custom-Build Your Own Report*

Additional Products:

Executive Summary: Report Summary

Database	Name	Searched	Project Property	Boundary to 0.50km	Total
AMS	Authorization Management System (formerly WASTE)	Y	2	6	8
ARIS	Assessment Report Indexing System	Y	0	0	0
AUWR	Automobile Wrecking & Supplies	Y	0	1	1
BOGW	BC Oil and Gas Wells	Y	0	0	0
CHEM	Chemical Register	Y	0	2	2
COAL	Coal Tar Sites	Y	0	0	0
CONV	Compliance and Enforcement Summary	Y	0	0	0
DIS	Wastewater Discharge Inventory	Y	0	1	1
EEM	Environmental Effects Monitoring	Y	0	0	0
EHS	ERIS Historical Searches	Y	2	7	9
EIIS	Environmental Issues Inventory System	Y	0	0	0
FCON	Federal Convictions	Y	0	0	0
FCS	Contaminated Sites on Federal Land	Y	0	0	0
FISH	Commercial Fisheries	Y	0	0	0
FOFT	Fisheries & Oceans Fuel Tanks	Y	0	0	0
GEN	Waste Generators Summary	Y	4	9	13
IAFT	Indian & Northern Affairs Fuel Tanks	Y	0	0	0
LUM	Lumber Mills	Y	0	0	0
MINE	Canadian Mine Locations	Y	0	0	0
MNR	Minerals Deposits Database	Y	0	0	0
NATE	National Analysis of Trends in Emergencies System (NATES)	Y	0	0	0
NCPL	Non-Compliance Reports	Y	4	0	4
NDFT	National Defence & Canadian Forces Fuel Tanks	Y	0	0	0
NDSP	National Defence & Canadian Forces Spills	Y	0	0	0
NDWD	National Defence & Canadian Forces Waste Disposal Sites	Y	0	0	0
NEBW	National Energy Board Wells	Y	0	0	0
NEES	National Environmental Emergencies System (NEES)	Y	5	2	7
NPCB	National PCB Inventory	Y	0	3	3
NPRI	National Pollutant Release Inventory	Y	0	34	34
OGW	Oil and Gas Wells	Y	0	0	0
PAP	Canadian Pulp and Paper	Y	2	1	3
PCB	Inventory of PCB Storage Sites	Y	0	2	2
PCFT	Parks Canada Fuel Storage Tanks	Y	0	0	0
PES	Pesticide Register	Y	0	0	0
PRAI	Private Aggregate Inventory	Y	0	0	0
PUAI	Public Aggregate Inventory	Y	0	0	0
REC	Waste Receivers Summary	Y	0	17	17

<i>Database</i>	<i>Name</i>	<i>Searched</i>	<i>Project Property</i>	<i>Boundary to 0.50km</i>	<i>Total</i>	
RST	<i>Retail Fuel Storage Tanks</i>	Y	0	0	0	
SCT	<i>Scott's Manufacturing Directory</i>	Y	21	30	51	
SREG	<i>Site Registry</i>	Y	2	3	5	
TCFT	<i>Transport Canada Fuel Storage Tanks</i>	Y	0	0	0	
WDS	<i>Waste Disposal Site Inventory</i>	Y	1	1	2	
WWIS	<i>Water Well Information System</i>	Y	0	0	0	
<hr/>			Total:	43	119	162

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Dir/Dist m	Elev diff m	Page Number
1	GEN	ACME STRAPPING INC	1365 DERWENT WAY DELTA BC V3M 5V9	-/0.0	0.23	27
1	PAP	Samuel Strapping Systems	1365 Derwent Way New Westminster BC V3M 5V9	-/0.0	0.23	27
1	SCT	Samuel Strapping Systems	1365 Derwent Way Delta BC V3M 5V9	-/0.0	0.23	27
1	SCT	SAMUEL ACME STRAPPING SYSTEMS	1365 Derwent Way Delta BC V3M 5V9	-/0.0	0.23	27
2	SREG		1385 DERWENT WAY DELTA BC	-/0.0	-0.80	28
3	SCT	Northwestern Systems Corp.	1388 Derwent Way Delta BC V3M 6C4	-/0.0	0.39	28
4	EHS		450 DERWENT PLACE DELTA BC V3M 5Y9	-/0.0	0.00	29
4	SCT	SOPREMA INC.	450 Derwent PI Delta BC V3M 5Y9	-/0.0	0.00	29
5	SCT	Lochhead Haggerty Engineering	508 Eaton PI Delta BC V3M 6K9	-/0.0	-1.00	29
6	SCT	Direct Advantage Food Distributors	1331 Derwent Way Delta BC V3M 5V9	-/0.0	0.00	29
6	SCT	Island Farm Dairies	1331 Derwent Way Delta BC V3M 5V9	-/0.0	0.00	29
7	SCT	B.C. Shipper Supplies Ltd.	1302 Derwent Way Delta BC V3M 6C4	-/0.0	0.00	30
7	SCT	B.C. Shipper Supplies Limited	1302 Derwent Way Delta BC V3M 6C4	-/0.0	0.00	30
8	GEN	BURBANK ENTERPRISES	460 FRASERVIEW PL DELTA BC V3M 6H4	-/0.0	1.00	30
8	SCT	APEX MODULAR HOMES LTD.	460 Fraserview PI New Westminster BC V3M 6H4	-/0.0	1.00	30
9	SCT	Passive Fire Protect Partners	1412 Derwent Way Delta BC V3M 6H9	-/0.0	-1.00	31
10	PAP	Axton Incorporated	441 Derwent PI Delta BC V3M 5Y9	-/0.0	1.00	31

Map Key	DB	Company/Site Name	Address	Dir/Dist m	Elev diff m	Page Number
10	SCT	Axton Manufacturing Ltd.	441 Derwent PI Delta BC V3M 5Y9	-/0.0	1.00	31
10	SCT	Axton Manufacturing Incorporated	441 Derwent PI Delta BC V3M 5Y9	-/0.0	1.00	31
10	SCT	AXTON MANUFACTURING LTD	441 Derwent PI Delta BC V3M 5Y9	-/0.0	1.00	32
10	SCT	Axton Incorporated	441 Derwent PI Delta BC V3M 5Y9	-/0.0	1.00	33
10	SCT	Axton Incorporated	441 Derwent PI Delta BC V3M 5Y9	-/0.0	1.00	33
11	SCT	Sawridge Waters Ltd.	465 Fraserview PI Delta BC V3M 6H4	-/0.0	0.00	34
12	AMS	Greater Vancouver Sewerage	Delta, 1299 Derwent Way BC V3M 5V9	-/0.0	0.88	34
12	AMS	GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT	DELTA, 1299 DERWENT WAY, ANNACIS STP BC V3M 5V9	-/0.0	0.88	34
12	EHS		1299 Derwent Way Delta BC V3M 5V9	-/0.0	0.88	34
12	GEN	GREATER VANCOUVER REGIONAL DISTRICT	1299 DERWENT DELTA BC V3M 5V9	-/0.0	0.88	35
12	NEES	Delta, Corp of	Annacis Island Waste Water Treatment Plant at 1299 Derwent Way, Delta, BC Delta BC V3M 5V9	-/0.0	0.88	35
12	SREG		1299 DERWENT WAY - WASTE WATER TREATMENT FACILITY DELTA BC	-/0.0	0.88	35
12	WDS	GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT	DELTA, 1299 DERWENT WAY, ANNACIS STP DELTA BC	-/0.0	0.88	35
13	NCPL	GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT	ANNACIS ISLAND, DELTA BC	-/0.0	0.17	36
13	NCPL	GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT	ANNACIS ISLAND, DELTA BC	-/0.0	0.17	36
13	NCPL	GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT	ANNACIS ISLAND, DELTA BC	-/0.0	0.17	36
13	NCPL	GREATER VANCOUVER SEWERAGE & DRAINAGE DISTRICT	ANNACIS ISLAND, DELTA BC	-/0.0	0.17	36
13	NEES	GVRD	Annacis Island waste water treatment plant, Delta Annacis Island BC	-/0.0	0.17	37
13	NEES	GVRD	Annacis Island waste water treatment plant Annacis Island BC	-/0.0	0.17	37

Map Key	DB	Company/Site Name	Address	Dir/Dist m	Elev diff m	Page Number
13	NEES	GVRD - Annacis Island WWTP	Delt District Annacis Island BC	-/0.0	0.17	37
13	NEES	GVRD	GVRD Sewage Treatment Plant, Annacis Island Annacis Island BC	-/0.0	0.17	37
14	GEN	PACIFIC RIM CABINETS LTD	1-464 FRASERVIEW PLACE DELTA BC V3M 6H4	-/0.0	0.00	38
14	SCT	Pacific Coast Marine Windshield Ltd.	4-464 Frasersview PI Delta BC V3M 6H4	-/0.0	0.00	38
14	SCT	FRASER ENVELOPES LTD.	3-464 Frasersview PI Delta BC V3M 6H4	-/0.0	0.00	38
14	SCT	Pacific Rim Cabinets Ltd	1-464 Frasersview PI Annacis Island Delta BC V3M 6H4	-/0.0	0.00	39
14	SCT	PAC. COAST MARINE WINDSHIELD	4-464 Frasersview PI Delta BC V3M 6H4	-/0.0	0.00	39

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Dir/Dist m	Elev diff m	Page Number
15	SCT	Texcan	1420 Derwent Way Delta BC V3M 6H9	W/37.3	-1.00	39
15	SCT	Sonepar Canada Inc.	1420 Derwent Way Delta BC V3M 6H9	W/37.3	-1.00	39
16	SCT	Trus Joist - Weyerhaeuser Bus.	1272 Derwent Way Delta BC V3M 5R1	NE/34.7	0.00	40
16	SCT	iLevel by Weyerhaeuser	1272 Derwent Way Delta BC V3M 5R1	NE/34.7	0.00	40
17	AMS	Magnacharge Battery Corporation	1279 Derwent Way, Delta BC V3M 5V9 BC V3M 5V9	NNE/15.6	0.00	40
17	AMS	Magnacharge Battery Corporation	1279 Derwent Way, Delta BC V3M 5V9 BC V3M 5V9	NNE/15.6	0.00	40
17	AMS	MAGNACHARGE BATTERY CORPORATION	1279 DERWENT WAY DELTA BC V3M5V9	NNE/15.6	0.00	40
17	GEN	MAGNACHARGE BATTERY CORPORATION	1279 DERWENT WAY NEW WESTMINSTER BC V3M 5V9	NNE/15.6	0.00	41
17	REC	MAGNACHARGE BATTERY CORPORATION	1279 DERWENT WAY NEW WESTMINSTER BC	NNE/15.6	0.00	41
17	REC	MAGNACHARGE BATTERY CORPORATION	1279 DERWENT WAY NEW WESTMINSTER BC	NNE/15.6	0.00	41
17	REC	MAGNACHARGE BATTERY CORPORATION	1279 DERWENT WAY NEW WESTMINSTER BC	NNE/15.6	0.00	41
17	REC	MAGNACHARGE BATTERY CORPORATION	1279 DERWENT WAY NEW WESTMINSTER BC	NNE/15.6	0.00	41
17	REC	MAGNACHARGE BATTERY CORPORATION	1279 DERWENT WAY NEW WESTMINSTER BC	NNE/15.6	0.00	42
17	REC	MAGNACHARGE BATTERY CORPORATION	1279 DERWENT WAY NEW WESTMINSTER BC	NNE/15.6	0.00	42
17	REC	MAGNACHARGE BATTERY CORPORATION	1279 Derwent Way New Westminster BC V3M 5V9	NNE/15.6	0.00	42
17	REC	MAGNACHARGE BATTERY CORPORATION	1279 Derwent Way New Westminster BC V3M 5V9	NNE/15.6	0.00	42

Map Key	DB	Company/Site Name	Address	Dir/Dist m	Elev diff m	Page Number
17	REC	MAGNACHARGE BATTERY CORPORATION	1279 DERWENT WAY NEW WESTMINSTER BC V3M 5V9	NNE/15.6	0.00	42
17	REC	MAGNACHARGE BATTERY CORPORATION	1279 DERWENT WAY NEW WESTMINSTER BC V3M 5V9	NNE/15.6	0.00	43
17	REC	MAGNACHARGE BATTERY CORPORATION	1279 DERWENT WAY NEW WESTMINSTER BC V3M 5V9	NNE/15.6	0.00	43
17	REC	MAGNACHARGE BATTERY CORPORATION	1279 DERWENT WAY NEW WESTMINSTER BC V3M 5V9	NNE/15.6	0.00	43
17	REC	MAGNACHARGE BATTERY CORPORATION	1279 DERWENT WAY NEW WESTMINSTER BC V3M 5V9	NNE/15.6	0.00	43
17	REC	MAGNACHARGE BATTERY CORPORATION	1279 Derwent Way New Westminster BC V3M 5V9	NNE/15.6	0.00	44
17	REC	MAGNACHARGE BATTERY CORPORATION	1279 DERWENT WAY NEW WESTMINSTER BC V3M 5V9	NNE/15.6	0.00	44
17	REC	MAGNACHARGE BATTERY CORPORATION	1279 Derwent Way New Westminster BC V3M 5V9	NNE/15.6	0.00	44
17	SCT	Alliance Woodcraft Manufacturing Inc.	2-1279 Derwent Way Delta BC V3M 5V9	NNE/15.6	0.00	44
17	SCT	Alliance Woodcraft Mfg Inc.	2-1279 Derwent Way Delta BC V3M 5V9	NNE/15.6	0.00	44
17	SCT	Magnacharge Battery Corp.	1279 Derwent Way Delta BC V3M 5V9	NNE/15.6	0.00	45
17	SREG		1279 DERWENT WAY NEW WESTMINSTER BC	NNE/15.6	0.00	45
18	NPRI	WEYERHAEUSER COMPANY LIMITED	0 - 1272 Derwent Way West Delta BC V3M5R1	ENE/75.1	0.00	45
19	NPRI	Weyerhaeuser Company Limited	1272 Derwent Way West Delta BC V3M5R1	NE/76.9	0.00	46
19	NPRI	Weyerhaeuser Company Limited	1272 Derwent Way West Delta BC V3M5R1	NE/76.9	0.00	47
19	NPRI	Weyerhaeuser Company Limited	1272 Derwent Way West Delta BC V3M5R1	NE/76.9	0.00	48
19	NPRI	Weyerhaeuser Company Limited	0 - 1272 Derwent Way West Delta BC V3M5R1	NE/76.9	0.00	48
19	NPRI	Weyerhaeuser Company Limited	1272 Derwent Way West Delta BC V3M5R1	NE/76.9	0.00	49
19	NPRI	Weyerhaeuser Company Limited	1272 Derwent Way West Delta BC V3M5R1	NE/76.9	0.00	50

Map Key	DB	Company/Site Name	Address	Dir/Dist m	Elev diff m	Page Number
19	NPRI	Weyerhaeuser Company Limited	1272 Derwent Way, Annacis Island Delta BC V3M 5R1	NE/76.9	0.00	50
19	NPRI	Weyerhaeuser Company Limited	1272 Derwent Way West Delta BC V3M5R1	NE/76.9	0.00	51
19	NPRI	Weyerhaeuser Company Limited	1272 Derwent Way West Delta BC V3M5R1	NE/76.9	0.00	52
19	NPRI	Weyerhaeuser Company Limited	1272 Derwent Way West Delta BC V3M5R1	NE/76.9	0.00	53
19	NPRI	Weyerhaeuser Company Limited	1272 Derwent Way West Delta BC V3M5R1	NE/76.9	0.00	53
20	SCT	Special Alloy Fabricators Ltd.	1232 Derwent Way Delta BC V3M 5R1	NE/159.9	1.00	54
20	SCT	Special Alloy Fabricators Ltd.	1232 Derwent Way Delta BC V3M 5R1	NE/159.9	1.00	54
21	SCT	CPP - Custom Plate & Profiles	1223 Derwent Way Delta BC V3M 5V9	NE/145.6	0.00	54
21	SCT	CUSTOM PLATE & PROFILES LTD.	1223 Derwent Way Annacis Business Park Delta BC V3M 5V9	NE/145.6	0.00	55
22	NPRI	The Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M 5V9	NNW/165.5	1.00	55
22	NPRI	Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M5V9	NNW/165.5	1.00	56
22	NPRI	Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M5V9	NNW/165.5	1.00	58
22	NPRI	Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M 5V9	NNW/165.5	1.00	61
22	NPRI	ANNACIS ISLAND WWTP	DELTA BC	NNW/165.5	1.00	63
22	NPRI	Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M5V9	NNW/165.5	1.00	64
22	NPRI	Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M 5V9	NNW/165.5	1.00	66
22	NPRI	GREATER VANCOUVER REGIONAL DISTRICT	1299 Derwent Way Delta BC V3M5V9	NNW/165.5	1.00	66
22	NPRI	Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M5V9	NNW/165.5	1.00	69
22	NPRI	Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M5V9	NNW/165.5	1.00	71

Map Key	DB	Company/Site Name	Address	Dir/Dist m	Elev diff m	Page Number
22	NPRI	Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M5V9	NNW/165.5	1.00	74
22	NPRI	Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M5V9	NNW/165.5	1.00	77
22	NPRI	Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M 5V9	NNW/165.5	1.00	80
22	NPRI	Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M 5V9	NNW/165.5	1.00	80
22	NPRI	Annacis Island Wastewater Treatment Plant	1299 Derwent Way Delta BC V3M 5V9	NNW/165.5	1.00	81
22	NPRI	The Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M 5V9	NNW/165.5	1.00	81
22	NPRI	Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M 5V9	NNW/165.5	1.00	81
22	NPRI	Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M5V9	NNW/165.5	1.00	81
22	NPRI	Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M5V9	NNW/165.5	1.00	84
22	NPRI	Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M5V9	NNW/165.5	1.00	87
22	NPRI	Annacis Island Wastewater Treatment Plant	1299 Derwent Way Delta BC V3M 5V9	NNW/165.5	1.00	89
23	SCT	Data Business Forms Limited	575 Ebury Pl Delta BC V3M 6M8	WSW/175.1	0.00	90
24	DIS	GREATER VANCOUVER SEWERAGE AND DRAINAGE	ANNACIS ISLAND FRASER R. DISTRICT BC	ENE/187.9	0.00	90
25	AMS	PRAXAIR	ANNACIS ISLAND 1470 DERWENT WAY DELTA BC V3M6H9	W/245.9	0.81	90
25	GEN	PRAXAIR CANADA INC.	1470 DERWENT WAY DELTA BC V3M 6H9	W/245.9	0.81	90
25	GEN	B.C. WELDING SUPPLIES	1470 DERWENT WAY DELTA BC V3M 6H9	W/245.9	0.81	91
25	NEES	Praxair	1470 Derwent Way, Anancis Island, Delta Annacis Island BC	W/245.9	0.81	91
25	PAP	Praxair Canada Inc.	1470 Derwent Way Annacis Island Delta BC V3M 6H9	W/245.9	0.81	91
25	PCB	PRAXAIR CANADA INC.	1470 DERWENT WAY DELTA BC V3M 6H9	W/245.9	0.81	91

Map Key	DB	Company/Site Name	Address	Dir/Dist m	Elev diff m	Page Number
25	PCB	B.C. WELDING SUPPLIES	1470 DERWENT WAY DELTA BC V3M 6M9	W/245.9	0.81	92
25	REC	PRAXAIR CANADA INC.	1470 DERWENT WAY DELTA BC V3M 6H9	W/245.9	0.81	92
25	SCT	Praxair Canada Inc.	1470 Derwent Way Delta BC V3M 6H9	W/245.9	0.81	92
26	SCT	Moventis Wireless Inc.	570 Ebury PI Delta BC V3M 6M8	WSW/165.8	-1.37	92
26	SCT	International Energy Systems (1983) Ltd.	570 Ebury PI Delta BC V3M 6M8	WSW/165.8	-1.37	93
27	SCT	National Signcorp Investments	1471 Derwent Way Delta BC V3M 6N2	W/259.7	0.00	93
28	SCT	Vinyltek Windows Corp.	587 Ebury PI Delta BC V3M 6M8	WSW/270.1	-0.29	93
28	SCT	VINYLTEK WINDOWS	587 Ebury PI Delta BC V3M 6M8	WSW/270.1	-0.29	93
29	NPRI	Great Western Chemical Company, Inc. - A Canadian Company	1599 Derwent Way Annacis Island Delta BC V3M 6K8	W/326.2	-1.00	94
30	SCT	Exchange A Blade Ltd.	584 Ebury PI Delta BC V3M 6M8	WSW/292.5	-1.00	94
31	EHS		1488 Derwent Way Delta BC V3M 6H9	W/360.4	-1.00	94
31	EHS		1488 Derwent Way Delta (Annacis Island) BC	W/360.4	-1.00	95
31	SCT	Western Waffles Corp.	1488 Derwent Way Delta BC V3M 6H9	W/360.4	-1.00	95
32	EHS		1188 Derwent Way Delta BC V3M 5R1	NE/377.6	2.00	95
32	NEES	Unknown contractor	1188 DERWENT WAY, ANNACIS ISLAND Delta BC V3M 5R1	NE/377.6	2.00	95
33	AMS	ARCA APPLIANCE RECYCLING CENTER (B.C.) LTD.	NEW WESTMINSTER, #202 - 590 EBURY PLACE BC	WSW/377.3	-1.00	95
33	AMS	ARCA APPLIANCE RECYCLING CENTER (B.C.) LTD.	NEW WESTMINSTER, #202 - 590 EBURY PLACE BC	WSW/377.3	-1.00	96
33	AUWR	BAY METAL INC	590 EBURY PL UNIT 208 ANNACIS ISLAND BC V3M6K7	WSW/377.3	-1.00	96
33	EHS		590 EBURY PLACE NEW WESTMINSTER BC	WSW/377.3	-1.00	96

Map Key	DB	Company/Site Name	Address	Dir/Dist m	Elev diff m	Page Number
33	GEN	BRITISH COLUMBIA HYDRO AND POWER AUTHORITY	202 - 590 EBURY PL NEW WESTMINSTER BC V6M 6K7	WSW/377.3	-1.00	96
33	GEN	398177 BC LTD DBA NATIONAL BATTERY CORPORATION	112 - 590 EBURY PLACE NEW WESTMINSTER BC V3M 6K7	WSW/377.3	-1.00	96
33	GEN	ARCA APPLIANCE RECYCLING CENTER	202 590 EBURY PLACE NEW WESTMINSTER BC V3M 6K7	WSW/377.3	-1.00	97
33	GEN	FIRST CHOICE LOGISTICS	300 - 590 EBURY PL DELTA BC V3M 6K7	WSW/377.3	-1.00	97
33	SCT	B.G.E. SERVICE & SUPPLY LTD.	202-590 Ebury PI Delta BC V3M 6K7	WSW/377.3	-1.00	97
33	SCT	Sialco Materials Ltd.	108-590 Ebury PI Delta BC V3M 6K7	WSW/377.3	-1.00	97
33	SCT	THE ORIGINAL PRINT BIND INC.	113-590 Ebury PI Delta BC V3M 6K7	WSW/377.3	-1.00	98
33	SCT	B.G.E. Service & Supply Ltd	202-590 Ebury PI Delta BC V3M 6K7	WSW/377.3	-1.00	98
33	SREG		590 EBURY PLACE DELTA BC	WSW/377.3	-1.00	98
33	WDS	ARCA APPLIANCE RECYCLING CENTER (B.C.) LTD.	NEW WESTMINSTER, #202 - 590 EBURY PLACE NEW WESTMINSTER BC	WSW/377.3	-1.00	98
34	CHEM	CANADA COLORS & CHEMICALS LTD	1511 DERWENT WAY SUITE 106 DELTA BC V3M6N4	W/448.4	0.00	9
34	CHEM	CANADA COLORS & CHEMICALS LTD	106-1511 DERWENT WAY DELTA BC V3M6N4	W/448.4	0.00	99
34	EHS		205-1511 Derwent Way Delta BC V3M 6N4	W/448.4	0.00	99
34	SCT	Q.M. Bearings & Power Trans	205-1511 Derwent Way Delta BC V3M 6N4	W/448.4	0.00	99
34	SCT	Soprema Inc.	201-1511 Derwent Way Delta BC V3M 6N4	W/448.4	0.00	99
34	SCT	Q.M. Bearings & Power Transmission Ltd.	206-1511 Derwent Way Delta BC V3M 6N4	W/448.4	0.00	99
34	SCT	Canada Colors and Chemicals Limited	106-1511 Derwent Way Delta BC V3M 6N4	W/448.4	0.00	100
34	SCT	CANADA COLORS & CHEMICALS LTD.	106-1511 Derwent Way Delta BC V3M 6N4	W/448.4	0.00	100
35	EHS		1500 Derwent Way Delta BC V3M6N7	W/475.2	-0.64	101

Map Key	DB	Company/Site Name	Address	Dir/Dist m	Elev diff m	Page Number
36	EHS		1510 Derwent Way Delta BC V3M 6N7	W/486.8	0.00	101
37	GEN	METRO VANCOUVER	1360 LINDSEY PLACE DELTA BC V3M 5V9	NW/440.1	0.00	101
37	SREG		1360 LINDSEY PLACE (WAS) DELTA BC	NW/440.1	0.00	101
38	NPCB	DOMINION BRIDGE AMCA INTERNATIONAL,VANCOU ER	1170 DERWENT WAY-ANNACIS ISL DELTA BC V3H 5V6	NE/494.5	2.00	101
38	NPCB	DOMINION BRIDGE AMCA INTERNATIONAL, VANCOUVER	1170 DERWENT WAY - ANNACIS ISL DELTA, B.C. DELTA, B.C. BC V3H5V6	NE/494.5	2.00	101
38	NPCB	DOMINION BRIDGE AMCA INTERNATIONAL VANCOUVER	1170 DERWENT WAY- ANNACIS ISLAND Delta BC V3M 5R1	NE/494.5	2.00	102
39	SCT	Saginaw Bakery Ltd.	561 Chester Rd Delta BC V3M 6G7	NNE/479.7	1.00	102
40	GEN	HENKEL CANADA LIMITED	575 CHESTER ST NEW WESTMINISTER BC V3M 4G7	NNE/485.1	0.88	102

Executive Summary: Summary By Data Source

AMS - Authorization Management System (formerly WASTE)

A search of the AMS database, dated 1957-Jan 2012 has found that there are 8 AMS site(s) within approximately 0.50 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
Greater Vancouver Sewerage	Delta, 1299 Derwent Way BC V3M 5V9	0.0	12
GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT	DELTA, 1299 DERWENT WAY, ANNACIS STP BC V3M 5V9	0.0	12
MAGNACHARGE BATTERY CORPORATION	1279 DERWENT WAY DELTA BC V3M5V9	15.6	17
Magnacharge Battery Corporation	1279 Derwent Way, Delta BC V3M 5V9 BC V3M 5V9	15.6	17
Magnacharge Battery Corporation	1279 Derwent Way, Delta BC V3M 5V9 BC V3M 5V9	15.6	17
PRAXAIR	ANNACIS ISLAND 1470 DERWENT WAY DELTA BC V3M6H9	245.9	25
ARCA APPLIANCE RECYCLING CENTER (B.C.) LTD.	NEW WESTMINSTER, #202 - 590 EBURY PLACE BC	377.3	33
ARCA APPLIANCE RECYCLING CENTER (B.C.) LTD.	NEW WESTMINSTER, #202 - 590 EBURY PLACE BC	377.3	33

AUWR - Automobile Wrecking & Supplies

A search of the AUWR database, dated 2001-Jul 2014 has found that there are 1 AUWR site(s) within approximately 0.50 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
BAY METAL INC	590 EBURY PL UNIT 208 ANNACIS ISLAND BC V3M6K7	377.3	33

CHEM - Chemical Register

A search of the CHEM database, dated 1999-Jul 2014 has found that there are 2 CHEM site(s) within approximately 0.50 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
CANADA COLORS & CHEMICALS LTD	106-1511 DERWENT WAY DELTA BC V3M6N4	448.4	34

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
CANADA COLORS & CHEMICALS LTD	1511 DERWENT WAY SUITE 106 DELTA BC V3M6N4	448.4	34

DIS - Wastewater Discharge Inventory

A search of the DIS database, dated 1957-1995* has found that there are 1 DIS site(s) within approximately 0.50 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
GREATER VANCOUVER SEWERAGE AND DRAINAGE	ANNACIS ISLAND FRASER R. DISTRICT BC	187.9	24

EHS - ERIS Historical Searches

A search of the EHS database, dated 1999-Aug 2014 has found that there are 9 EHS site(s) within approximately 0.50 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
	450 DERWENT PLACE DELTA BC V3M 5Y9	0.0	4
	1299 Derwent Way Delta BC V3M 5V9	0.0	12
	1488 Derwent Way Delta BC V3M 6H9	360.4	31
	1488 Derwent Way Delta (Annacis Island) BC	360.4	31
	1188 Derwent Way Delta BC V3M 5R1	377.6	32
	590 EBURY PLACE NEW WESTMINSTER BC	377.3	33
	205-1511 Derwent Way Delta BC V3M 6N4	448.4	34
	1500 Derwent Way Delta BC V3M6N7	475.2	35
	1510 Derwent Way Delta BC V3M 6N7	486.8	36

GEN - Waste Generators Summary

A search of the GEN database, dated 1993-2010 has found that there are 13 GEN site(s) within approximately 0.50 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
ACME STRAPPING INC	1365 DERWENT WAY DELTA BC V3M 5V9	0.0	1

Site	Address	Distance m	Map Key
BURBANK ENTERPRISES	460 FRASERVIEW PL DELTA BC V3M 6H4	0.0	8
GREATER VANCOUVER REGIONAL DISTRICT	1299 DERWENT DELTA BC V3M 5V9	0.0	12
PACIFIC RIM CABINETS LTD	1-464 FRASERVIEW PLACE DELTA BC V3M 6H4	0.0	14
MAGNACHARGE BATTERY CORPORATION	1279 DERWENT WAY NEW WESTMINSTER BC V3M 5V9	15.6	17
B.C. WELDING SUPPLIES	1470 DERWENT WAY DELTA BC V3M 6H9	245.9	25
PRAXAIR CANADA INC.	1470 DERWENT WAY DELTA BC V3M 6H9	245.9	25
FIRST CHOICE LOGISTICS	300 - 590 EBURY PL DELTA BC V3M 6K7	377.3	33
ARCA APPLIANCE RECYCLING CENTER	202 590 EBURY PLACE NEW WESTMINSTER BC V3M 6K7	377.3	33
398177 BC LTD DBA NATIONAL BATTERY CORPORATION	112 - 590 EBURY PLACE NEW WESTMINSTER BC V3M 6K7	377.3	33
BRITISH COLUMBIA HYDRO AND POWER AUTHORITY	202 - 590 EBURY PL NEW WESTMINSTER BC V6M 6K7	377.3	33
METRO VANCOUVER	1360 LINDSEY PLACE DELTA BC V3M 5V9	440.1	37
HENKEL CANADA LIMITED	575 CHESTER ST NEW WESTMINSTER BC V3M 4G7	485.1	40

NCPL - Non-Compliance Reports

A search of the NCPL database, dated 1990-Mar 2001* has found that there are 4 NCPL site(s) within approximately 0.50 kilometers of the project property.

Site	Address	Distance m	Map Key
GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT	ANNACIS ISLAND, DELTA BC	0.0	13
GREATER VANCOUVER SEWERAGE & DRAINAGE DISTRICT	ANNACIS ISLAND, DELTA BC	0.0	13
GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT	ANNACIS ISLAND, DELTA BC	0.0	13
GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT	ANNACIS ISLAND, DELTA BC	0.0	13

NEES - National Environmental Emergencies System (NEES)

A search of the NEES database, dated 1974-2003* has found that there are 7 NEES site(s) within approximately 0.50 kilometers of the project property.

Site	Address	Distance m	Map Key
Delta, Corp of	Annacis Island Waste Water Treatment Plant at 1299 Derwent Way, Delta, BC Delta BC V3M 5V9	0.0	12
GVRD	GVRD Sewage Treatment Plant, Annacis Island	0.0	13
GVRD	Annacis Island BC Annacis Island waste water treatment plant, Delta	0.0	13
GVRD	Annacis Island BC Annacis Island waste water treatment plant	0.0	13
GVRD - Annacis Island WWTP	Annacis Island BC Delt District Annacis Island BC	0.0	13
Praxair	1470 Derwent Way, Anancis Island, Delta Annacis Island BC	245.9	25
Unknown contractor	1188 DERWENT WAY, ANNACIS ISLAND Delta BC V3M 5R1	377.6	32

NPCB - National PCB Inventory

A search of the NPCB database, dated 1988-2008* has found that there are 3 NPCB site(s) within approximately 0.50 kilometers of the project property.

Site	Address	Distance m	Map Key
DOMINION BRIDGE AMCA INTERNATIONAL,VANCOUVER	1170 DERWENT WAY-ANNACIS ISL DELTA BC V3H 5V6	494.5	38
DOMINION BRIDGE AMCA INTERNATIONAL, VANCOUVER	1170 DERWENT WAY - ANNACIS ISL DELTA, B.C. DELTA, B.C. BC V3H5V6	494.5	38
DOMINION BRIDGE AMCA INTERNATIONAL VANCOUVER	1170 DERWENT WAY- ANNACIS ISLAND Delta BC V3M 5R1	494.5	38

NPRI - National Pollutant Release Inventory

A search of the NPRI database, dated 1993-2013 has found that there are 34 NPRI site(s) within approximately 0.50 kilometers of the project property.

Site	Address	Distance m	Map Key
WEYERHAEUSER COMPANY LIMITED	0 - 1272 Derwent Way West Delta BC V3M5R1	75.1	18
Weyerhaeuser Company Limited	1272 Derwent Way West Delta BC V3M5R1	76.9	19
Weyerhaeuser Company Limited	1272 Derwent Way West Delta BC V3M5R1	76.9	19

Site	Address	Distance m	Map Key
Weyerhaeuser Company Limited	1272 Derwent Way West Delta BC V3M5R1	76.9	19
Weyerhaeuser Company Limited	0 - 1272 Derwent Way West Delta BC V3M5R1	76.9	19
Weyerhaeuser Company Limited	1272 Derwent Way West Delta BC V3M5R1	76.9	19
Weyerhaeuser Company Limited	1272 Derwent Way West Delta BC V3M5R1	76.9	19
Weyerhaeuser Company Limited	1272 Derwent Way, Annacis Island Delta BC V3M 5R1	76.9	19
Weyerhaeuser Company Limited	1272 Derwent Way West Delta BC V3M5R1	76.9	19
Weyerhaeuser Company Limited	1272 Derwent Way West Delta BC V3M5R1	76.9	19
Weyerhaeuser Company Limited	1272 Derwent Way West Delta BC V3M5R1	76.9	19
Weyerhaeuser Company Limited	1272 Derwent Way West Delta BC V3M5R1	76.9	19
Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M 5V9	165.5	22
GREATER VANCOUVER REGIONAL DISTRICT	1299 Derwent Way Delta BC V3M5V9	165.5	22
Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M5V9	165.5	22
Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M5V9	165.5	22
Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M5V9	165.5	22
Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M5V9	165.5	22
ANNACIS ISLAND WWTP	DELTA BC	165.5	22
Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M5V9	165.5	22
Annacis Island Wastewater Treatment Plant	1299 Derwent Way Delta BC V3M 5V9	165.5	22
The Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M 5V9	165.5	22
Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M5V9	165.5	22
Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M5V9	165.5	22
Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M 5V9	165.5	22

Site	Address	Distance m	Map Key
Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M 5V9	165.5	22
Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M 5V9	165.5	22
Annacis Island Wastewater Treatment Plant	1299 Derwent Way Delta BC V3M 5V9	165.5	22
The Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M 5V9	165.5	22
Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M 5V9	165.5	22
Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M5V9	165.5	22
Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M5V9	165.5	22
Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M5V9	165.5	22
Greater Vancouver Regional District	1299 Derwent Way Delta BC V3M5V9	165.5	22
Great Western Chemical Company, Inc. - A Canadian Company	1599 Derwent Way Annacis Island Delta BC V3M 6K8	326.2	29

PAP - Canadian Pulp and Paper

A search of the PAP database, dated 1999, 2002, 2004, 2005, 2009 has found that there are 3 PAP site(s) within approximately 0.50 kilometers of the project property.

Site	Address	Distance m	Map Key
Samuel Strapping Systems	1365 Derwent Way New Westminster BC V3M 5V9	0.0	1
Axton Incorporated	441 Derwent Pl Delta BC V3M 5Y9	0.0	10
Praxair Canada Inc.	1470 Derwent Way Annacis Island Delta BC V3M 6H9	245.9	25

PCB - Inventory of PCB Storage Sites

A search of the PCB database, dated 1989, May 1993-2010 has found that there are 2 PCB site(s) within approximately 0.50 kilometers of the project property.

Site	Address	Distance m	Map Key
PRAXAIR CANADA INC.	1470 DERWENT WAY DELTA BC V3M 6H9	245.9	25
B.C. WELDING SUPPLIES	1470 DERWENT WAY DELTA BC V3M 6M9	245.9	25

REC - Waste Receivers Summary

A search of the REC database, dated 1992-2010 has found that there are 17 REC site(s) within approximately 0.50 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
MAGNACHARGE BATTERY CORPORATION	1279 DERWENT WAY NEW WESTMINSTER BC V3M 5V9	15.6	<u>17</u>
MAGNACHARGE BATTERY CORPORATION	1279 DERWENT WAY NEW WESTMINSTER BC	15.6	<u>17</u>
MAGNACHARGE BATTERY CORPORATION	1279 DERWENT WAY NEW WESTMINSTER BC	15.6	<u>17</u>
MAGNACHARGE BATTERY CORPORATION	1279 DERWENT WAY NEW WESTMINSTER BC	15.6	<u>17</u>
MAGNACHARGE BATTERY CORPORATION	1279 DERWENT WAY NEW WESTMINSTER BC	15.6	<u>17</u>
MAGNACHARGE BATTERY CORPORATION	1279 DERWENT WAY NEW WESTMINSTER BC	15.6	<u>17</u>
MAGNACHARGE BATTERY CORPORATION	1279 Derwent Way New Westminster BC V3M 5V9	15.6	<u>17</u>
MAGNACHARGE BATTERY CORPORATION	1279 Derwent Way New Westminster BC V3M 5V9	15.6	<u>17</u>
MAGNACHARGE BATTERY CORPORATION	1279 DERWENT WAY NEW WESTMINSTER BC V3M 5V9	15.6	<u>17</u>
MAGNACHARGE BATTERY CORPORATION	1279 DERWENT WAY NEW WESTMINSTER BC V3M 5V9	15.6	<u>17</u>
MAGNACHARGE BATTERY CORPORATION	1279 DERWENT WAY NEW WESTMINSTER BC V3M 5V9	15.6	<u>17</u>
MAGNACHARGE BATTERY CORPORATION	1279 DERWENT WAY NEW WESTMINSTER BC V3M 5V9	15.6	<u>17</u>
MAGNACHARGE BATTERY CORPORATION	1279 Derwent Way New Westminster BC V3M 5V9	15.6	<u>17</u>
MAGNACHARGE BATTERY CORPORATION	1279 DERWENT WAY NEW WESTMINSTER BC V3M 5V9	15.6	<u>17</u>
MAGNACHARGE BATTERY CORPORATION	1279 Derwent Way New Westminster BC V3M 5V9	15.6	<u>17</u>
PRAXAIR CANADA INC.	1470 DERWENT WAY DELTA BC V3M 6H9	245.9	<u>25</u>

SCT - Scott's Manufacturing Directory

A search of the SCT database, dated 1992-Mar 2011 has found that there are 51 SCT site(s) within approximately 0.50 kilometers of the project property.

Site	Address	Distance m	Map Key
SAMUEL ACME STRAPPING SYSTEMS	1365 Derwent Way Delta BC V3M 5V9	0.0	1
Samuel Strapping Systems	1365 Derwent Way Delta BC V3M 5V9	0.0	1
Northwestern Systems Corp.	1388 Derwent Way Delta BC V3M 6C4	0.0	3
SOPREMA INC.	450 Derwent Pl Delta BC V3M 5Y9	0.0	4
Lochhead Haggerty Engineering	508 Eaton Pl Delta BC V3M 6K9	0.0	5
Direct Advantage Food Distributors	1331 Derwent Way Delta BC V3M 5V9	0.0	6
Island Farm Dairies	1331 Derwent Way Delta BC V3M 5V9	0.0	6
B.C. Shipper Supplies Ltd.	1302 Derwent Way Delta BC V3M 6C4	0.0	7
B.C. Shipper Supplies Limited	1302 Derwent Way Delta BC V3M 6C4	0.0	7
APEX MODULAR HOMES LTD.	460 Frasersview Pl New Westminster BC V3M 6H4	0.0	8
Passive Fire Protect Partners	1412 Derwent Way Delta BC V3M 6H9	0.0	9
Axton Manufacturing Ltd.	441 Derwent Pl Delta BC V3M 5Y9	0.0	10
Axton Manufacturing Incorporated	441 Derwent Pl Delta BC V3M 5Y9	0.0	10
AXTON MANUFACTURING LTD	441 Derwent Pl Delta BC V3M 5Y9	0.0	10
Axton Incorporated	441 Derwent Pl Delta BC V3M 5Y9	0.0	10
Axton Incorporated	441 Derwent Pl Delta BC V3M 5Y9	0.0	10
Sawridge Waters Ltd.	465 Frasersview Pl Delta BC V3M 6H4	0.0	11
Pacific Coast Marine Windshield Ltd.	4-464 Frasersview Pl Delta BC V3M 6H4	0.0	14
FRASER ENVELOPES LTD.	3-464 Frasersview Pl Delta BC V3M 6H4	0.0	14
Pacific Rim Cabinets Ltd	1-464 Frasersview Pl Annacis Island Delta BC V3M 6H4	0.0	14
PAC. COAST MARINE WINDSHIELD	4-464 Frasersview Pl Delta BC V3M 6H4	0.0	14
Texcan	1420 Derwent Way Delta BC V3M 6H9	37.3	15
Sonepar Canada Inc.	1420 Derwent Way Delta BC V3M 6H9	37.3	15

Site	Address	Distance m	Map Key
Trus Joist - Weyerhaeuser Bus.	1272 Derwent Way Delta BC V3M 5R1	34.7	16
iLevel by Weyerhaeuser	1272 Derwent Way Delta BC V3M 5R1	34.7	16
Alliance Woodcraft Manufacturing Inc.	2-1279 Derwent Way Delta BC V3M 5V9	15.6	17
Alliance Woodcraft Mfg Inc.	2-1279 Derwent Way Delta BC V3M 5V9	15.6	17
Magnacharge Battery Corp.	1279 Derwent Way Delta BC V3M 5V9	15.6	17
Special Alloy Fabricators Ltd.	1232 Derwent Way Delta BC V3M 5R1	159.9	20
Special Alloy Fabricators Ltd.	1232 Derwent Way Delta BC V3M 5R1	159.9	20
CPP - Custom Plate & Profiles	1223 Derwent Way Delta BC V3M 5V9	145.6	21
CUSTOM PLATE & PROFILES LTD.	1223 Derwent Way Annacis Business Park Delta BC V3M 5V9	145.6	21
Data Business Forms Limited	575 Ebury Pl Delta BC V3M 6M8	175.1	23
Praxair Canada Inc.	1470 Derwent Way Delta BC V3M 6H9	245.9	25
Moventis Wireless Inc.	570 Ebury Pl Delta BC V3M 6M8	165.8	26
International Energy Systems (1983) Ltd.	570 Ebury Pl Delta BC V3M 6M8	165.8	26
National Signcorp Investments	1471 Derwent Way Delta BC V3M 6N2	259.7	27
Vinyltek Windows Corp.	587 Ebury Pl Delta BC V3M 6M8	270.1	28
VINYLTEK WINDOWS	587 Ebury Pl Delta BC V3M 6M8	270.1	28
Exchange A Blade Ltd.	584 Ebury Pl Delta BC V3M 6M8	292.5	30
Western Waffles Corp.	1488 Derwent Way Delta BC V3M 6H9	360.4	31
Sialco Materials Ltd.	108-590 Ebury Pl Delta BC V3M 6K7	377.3	33
THE ORIGINAL PRINT BIND INC.	113-590 Ebury Pl Delta BC V3M 6K7	377.3	33
B.G.E. Service & Supply Ltd	202-590 Ebury Pl Delta BC V3M 6K7	377.3	33
B.G.E. SERVICE & SUPPLY LTD.	202-590 Ebury Pl Delta BC V3M 6K7	377.3	33
Q.M. Bearings & Power Trans	205-1511 Derwent Way Delta BC V3M 6N4	448.4	34

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
Soprema Inc.	201-1511 Derwent Way Delta BC V3M 6N4	448.4	34
Q.M. Bearings & Power Transmission Ltd.	206-1511 Derwent Way Delta BC V3M 6N4	448.4	34
Canada Colors and Chemicals Limited	106-1511 Derwent Way Delta BC V3M 6N4	448.4	34
CANADA COLORS & CHEMICALS LTD.	106-1511 Derwent Way Delta BC V3M 6N4	448.4	34
Saginaw Bakery Ltd.	561 Chester Rd Delta BC V3M 6G7	479.7	39

SREG - Site Registry

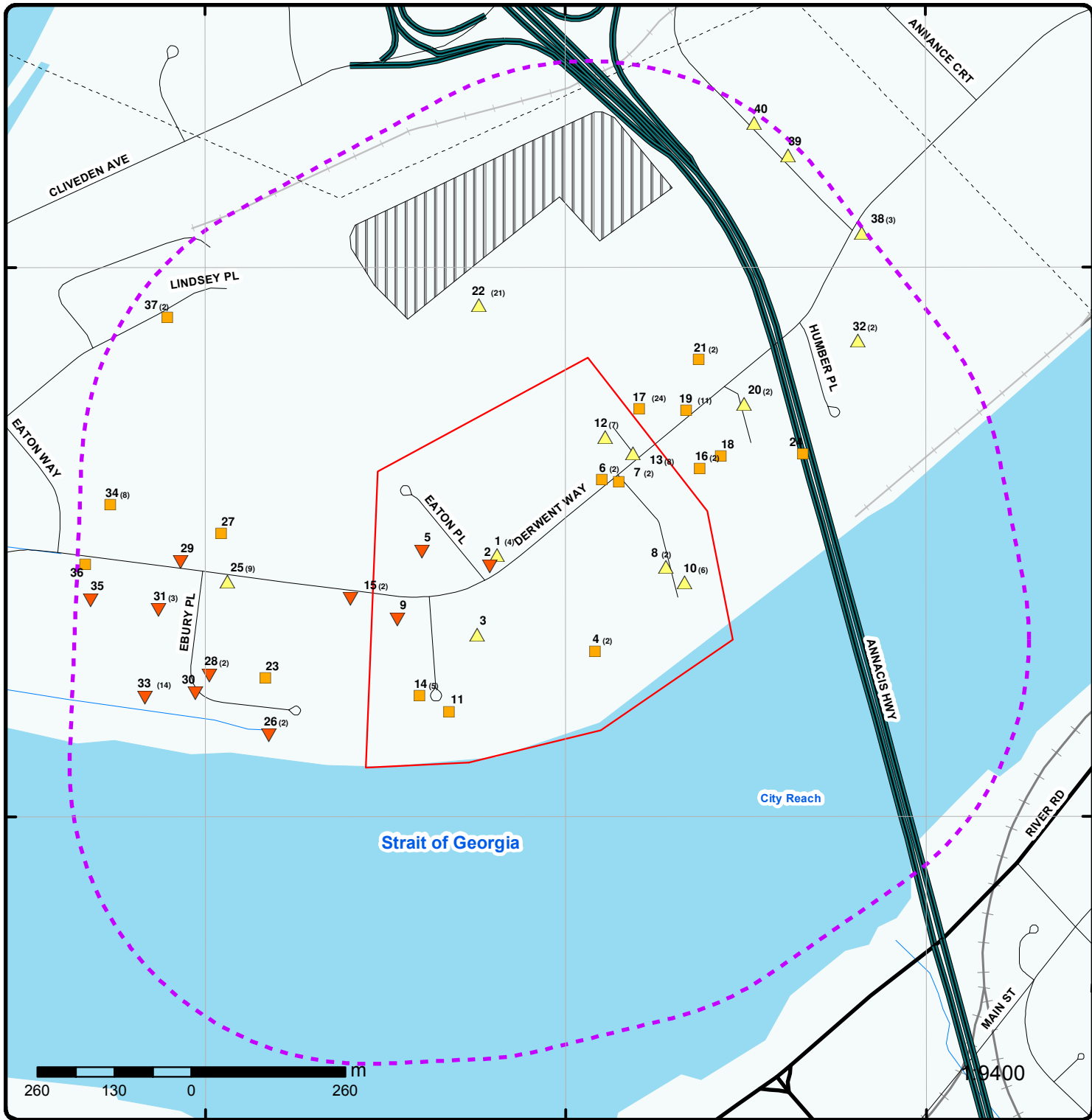
A search of the SREG database, dated 1985-Jun 2015, Detail Rpt Up to Oct 2012 has found that there are 5 SREG site(s) within approximately 0.50 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
	1385 DERWENT WAY DELTA BC	0.0	2
	1299 DERWENT WAY - WASTE WATER TREATMENT FACILITY DELTA BC	0.0	12
	1279 DERWENT WAY NEW WESTMINSTER BC	15.6	17
	590 EBURY PLACE DELTA BC	377.3	33
	1360 LINDSEY PLACE (WAS) DELTA BC	440.1	37

WDS - Waste Disposal Site Inventory

A search of the WDS database, dated 1980-1998* has found that there are 2 WDS site(s) within approximately 0.50 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance m</u>	<u>Map Key</u>
GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT	DELTA, 1299 DERWENT WAY, ANNACIS STP DELTA BC	0.0	12
ARCA APPLIANCE RECYCLING CENTER (B.C.) LTD.	NEW WESTMINSTER, #202 - 590 EBURY PLACE NEW WESTMINSTER BC	377.3	33

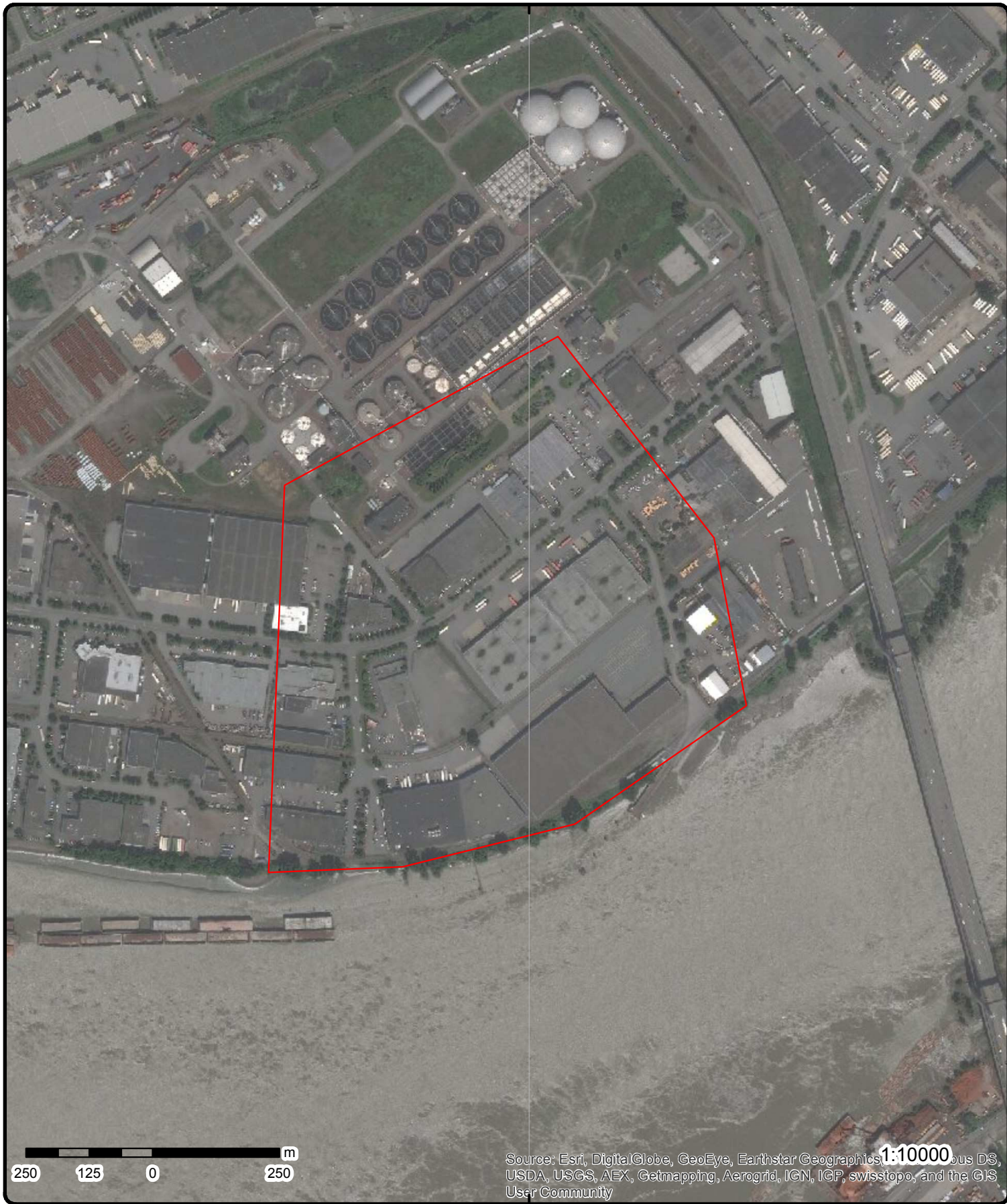


Map

Order No: 20150908144

Address: Derwent Way And Eaton Place, Delta, BC

Project Property	Expressway	Industrial and Resource - Regions	National Park
Buffer Outline	Principal Highway	Main Line	Provincial or Territorial Park
Eris Sites with Higher Elevation	Secondary Highway	Sidetrack	Other Park
Eris Sites with Same Elevation	Major Road	Transit Line	Golf Course or Driving Range
Eris Sites with Lower Elevation	Local road	Abandoned Line	Park or Sports Field
Eris Sites with Unknown Elevation	Trail		Other Recreation Area
	Proposed Road		
	Ferry Route/Ice Road		



Aerial

Order No: 20150908144

Address: Derwent Way And Eaton Place, Delta, BC

Detail Report

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
1	1 of 4	-/0.0	7.2	ACME STRAPPING INC 1365 DERWENT WAY DELTA BC V3M 5V9	GEN
Generator NO:		BCG19189	Status Date:		7/16/1996
Status:		ACTIVE	Registration Dt:		7/16/1996
Mailing Addr:		1365 DERWENT WAY, DELTA, BC, CA V3M 5V9			
--- Details ---					
Waste:		Ethyl methyl ketone or Methyl ethyl ketone			
1	2 of 4	-/0.0	7.2	Samuel Strapping Systems 1365 Derwent Way New Westminster BC V3M 5V9	PAP
Division:					
Mailing Address:		1365 Derwent Way, New Westminster BC V3M 5V9			
Year:		2009			
Company ID:		275467486			
Mill Notes:					
History:					
Operation:					
Type:					
Status:		Inactive			
1	3 of 4	-/0.0	7.2	Samuel Strapping Systems 1365 Derwent Way Delta BC V3M 5V9	SCT
Established:		1983			
Plant Size (ft²):		1500			
Employment:		40			
--- Details ---					
Description:		Industrial Machinery, Equipment and Supplies Wholesaler-Distributors			
SIC/NAICS Code:		417230			
1	4 of 4	-/0.0	7.2	SAMUEL ACME STRAPPING SYSTEMS 1365 Derwent Way Delta BC V3M 5V9	SCT
Established:		1983			
Plant Size (ft²):		1500			
Employment:		30			
--- Details ---					
Description:		Industrial Machinery, Equipment and Supplies Wholesaler-Distributors			
SIC/NAICS Code:		417230			
+					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Description:		Hand and Edge tools, Except Machine tools and Hand Saws			
SIC/NAICS Code:		3423			
+					
Description:		Fabricated Metal Products, Not Elsewhere Classified			
SIC/NAICS Code:		3499			
+					
Description:		Metalworking Machinery, Not Elsewhere Classified			
SIC/NAICS Code:		3549			
+					
Description:		Industrial Machinery and Equipment			
SIC/NAICS Code:		5084			
+					
Description:		Industrial Supplies			
SIC/NAICS Code:		5085			
+					
Description:		Cutlery and Hand Tool Manufacturing			
SIC/NAICS Code:		332210			
+					
Description:		All Other Miscellaneous Fabricated Metal Product Manufacturing			
SIC/NAICS Code:		332999			
+					
Description:		Other Metalworking Machinery Manufacturing			
SIC/NAICS Code:		333519			

2	1 of 1	-/0.0	6.2	1385 DERWENT WAY DELTA BC	SREG
Site ID NO:	340			Cleanup Status:	
Site Description:	Unranked			Registered:	
Victoria File NO:	26250-20/0349			Updated:	
Regional File NO:	26250-20/0027			Detail Removed:	
Region:	SURREY, LOWER MAINLAND			Latitude:	49.165042
Location Desc:	Annacis Island. Location Derived By Bc Environment Referencing The Transportation Centerline Network(Tcn), Nad 83 Using Orthophoto On July 23/96.			Longitude:	122.958186
Common Name:	POLE STORAGE YARD				

3	1 of 1	-/0.0	7.4	Northwestern Systems Corp. 1388 Derwent Way Delta BC V3M 6C4	SCT
Established:	01-NOV-99				
Plant Size (ft²):	35000				
Employment:					
--- Details ---					
Description:	Medical Equipment and Supplies Manufacturing				
SIC/NAICS Code:	339110				
+					
Description:	Professional Machinery, Equipment and Supplies Wholesaler-Distributors				
SIC/NAICS Code:	417930				
+					
Description:	Pharmaceutical and Medicine Manufacturing				
SIC/NAICS Code:	325410				
+					
Description:	Medical Equipment and Supplies Manufacturing				
SIC/NAICS Code:	339110				

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
4	1 of 2	-/0.0	7.0	450 DERWENT PLACE DELTA BC V3M 5Y9	EHS
Addit. Info Ordered: Order No.: 20060901008w Report Date: 9/1/2006 Report Type: Online Mapless Search Radius (km): 0.25					
4	2 of 2	-/0.0	7.0	SOPREMA INC. 450 Derwent PI Delta BC V3M 5Y9	SCT
Established: 1983 Plant Size (ft²): 0 Employment: 6 --- Details --- Description: Asphalt Felts and Coatings SIC/NAICS Code: 2952					
5	1 of 1	-/0.0	6.0	Lochhead Haggerty Engineering 508 Eaton PI Delta BC V3M 6K9	SCT
Established: 01-DEC-54 Plant Size (ft²): 20000 Employment: --- Details --- Description: All Other General-Purpose Machinery Manufacturing SIC/NAICS Code: 333990 + Description: Engineering Services SIC/NAICS Code: 541330 + Description: All Other Industrial Machinery Manufacturing SIC/NAICS Code: 333299					
6	1 of 2	-/0.0	7.0	Direct Advantage Food Distributors 1331 Derwent Way Delta BC V3M 5V9	SCT
Established: 1994 Plant Size (ft²): Employment: 20 --- Details --- Description: Fluid Milk Manufacturing SIC/NAICS Code: 311511 + Description: Dairy and Milk Products Wholesaler-Distributors SIC/NAICS Code: 413120					
6	2 of 2	-/0.0	7.0	Island Farm Dairies 1331 Derwent Way	SCT

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Delta BC V3M 5V9					
Established:		01-JAN-94			
Plant Size (ft²):					
Employment:					
--- Details ---					
Description:		Dairy and Milk Products Wholesaler-Distributors			
SIC/NAICS Code:		413120			
+					
Description:		Dairy and Milk Products Wholesaler-Distributors			
SIC/NAICS Code:		413120			
<u>7</u>	1 of 2	-/0.0	7.0	B.C. Shipper Supplies Ltd. 1302 Derwent Way Delta BC V3M 6C4	SCT
Established:		1948			
Plant Size (ft²):					
Employment:		80			
--- Details ---					
Description:		Corrugated and Solid Fibre Box Manufacturing			
SIC/NAICS Code:		322211			
+					
Description:		Industrial Machinery, Equipment and Supplies Wholesaler-Distributors			
SIC/NAICS Code:		417230			
+					
Description:		Other Paper and Disposable Plastic Product Wholesaler-Distributors			
SIC/NAICS Code:		418220			
<u>7</u>	2 of 2	-/0.0	7.0	B.C. Shipper Supplies Limited 1302 Derwent Way Delta BC V3M 6C4	SCT
Established:		01-JAN-48			
Plant Size (ft²):					
Employment:					
--- Details ---					
Description:		Corrugated and Solid Fibre Box Manufacturing			
SIC/NAICS Code:		322211			
<u>8</u>	1 of 2	-/0.0	8.0	BURBANK ENTERPRISES 460 FRASERVIEW PL DELTA BC V3M 6H4	GEN
Generator NO:	BCG27119			Status Date:	8/3/2001
Status:	ACTIVE			Registration Dt:	
Mailing Addr:					
--- Details ---					
Waste:		ASBESTOS, WHITE			
<u>8</u>	2 of 2	-/0.0	8.0	APEX MODULAR HOMES LTD. 460 Fraserview PI New Westminster BC V3M 6H4	SCT

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Established:		0000			
Plant Size (ft²):		0			
Employment:		6			
--- Details ---					
Description:		Prefabricated Wood Building Manufacturing			
SIC/NAICS Code:		321992			
9	1 of 1	-/0.0	6.0	Passive Fire Protect Partners 1412 Derwent Way Delta BC V3M 6H9	SCT
Established:		01-FEB-98			
Plant Size (ft²):					
Employment:					
--- Details ---					
Description:		Adhesive Manufacturing			
SIC/NAICS Code:		325520			
+					
Description:		Adhesive Manufacturing			
SIC/NAICS Code:		325520			
10	1 of 6	-/0.0	8.0	Axton Incorporated 441 Derwent PI Delta BC V3M 5Y9	PAP
Division:					
Mailing Address:		441 Derwent PI, Delta BC V3M 5Y9			
Year:		2009			
Company ID:		146988067			
Mill Notes:					
History:					
Operation:					
Type:					
Status:		Active			
10	2 of 6	-/0.0	8.0	Axton Manufacturing Ltd. 441 Derwent PI Delta BC V3M 5Y9	SCT
Established:		1976			
Plant Size (ft²):		50000			
Employment:		100			
10	3 of 6	-/0.0	8.0	Axton Manufacturing Incorporated 441 Derwent PI Delta BC V3M 5Y9	SCT
Established:		1976			
Plant Size (ft²):		50000			
Employment:		100			
--- Details ---					
Description:		Power Boiler and Heat Exchanger Manufacturing			
SIC/NAICS Code:		332410			
+					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Description:		Metal Tank (Heavy Gauge) Manufacturing			
SIC/NAICS Code:		332420			
+					
Description:		Machine Shops			
SIC/NAICS Code:		332710			
+					
Description:		Turned Product and Screw, Nut and Bolt Manufacturing			
SIC/NAICS Code:		332720			
+					
Description:		All Other Miscellaneous Fabricated Metal Product Manufacturing			
SIC/NAICS Code:		332999			
+					
Description:		Mining and Oil and Gas Field Machinery Manufacturing			
SIC/NAICS Code:		333130			
+					
Description:		Paper Industry Machinery Manufacturing			
SIC/NAICS Code:		333291			
+					
Description:		Material Handling Equipment Manufacturing			
SIC/NAICS Code:		333920			
+					
Description:		All Other General-Purpose Machinery Manufacturing			
SIC/NAICS Code:		333990			

[10](#)

4 of 6

-/0.0

8.0

AXTON MANUFACTURING LTD
441 Derwent PI
Delta BC V3M 5Y9

SCT

Established: 1976
Plant Size (ft²): 50000
Employment: 100

--- Details ---

Description: Turned Product and Screw, Nut and Bolt Manufacturing
SIC/NAICS Code: 332720
+
Description: All Other Miscellaneous Fabricated Metal Product Manufacturing
SIC/NAICS Code: 332999
+
Description: Mining and Oil and Gas Field Machinery Manufacturing
SIC/NAICS Code: 333130
+
Description: Paper Industry Machinery Manufacturing
SIC/NAICS Code: 333291
+
Description: Material Handling Equipment Manufacturing
SIC/NAICS Code: 333920
+
Description: All Other General-Purpose Machinery Manufacturing
SIC/NAICS Code: 333990
+
Description: Fabricated Plate Work (Boiler Shops)
SIC/NAICS Code: 3443
+
Description: Conveyors and Conveying Equipment
SIC/NAICS Code: 3535
+
Description: Paper Industries Machinery
SIC/NAICS Code: 3554
+
Description: Industrial Machinery and Equipment

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
SIC/NAICS Code:		5084			
+					
Description:		Power Boiler and Heat Exchanger Manufacturing			
SIC/NAICS Code:		332410			
+					
Description:		Metal Tank (Heavy Gauge) Manufacturing			
SIC/NAICS Code:		332420			
+					
Description:		Machine Shops			
SIC/NAICS Code:		332710			
+					
Description:		Industrial and Commercial Machinery and Equipment, Not Elsewhere Classified			
SIC/NAICS Code:		3599			

<u>10</u>	5 of 6	-/0.0	8.0	Axton Incorporated 441 Derwent PI Delta BC V3M 5Y9	SCT
-----------	--------	-------	-----	---	------------

Established: 1976
Plant Size (ft²): 50000
Employment:

--- Details ---

Description: Power Boiler and Heat Exchanger Manufacturing
SIC/NAICS Code: 332410
+
Description: Metal Tank (Heavy Gauge) Manufacturing
SIC/NAICS Code: 332420
+
Description: Machine Shops
SIC/NAICS Code: 332710
+
Description: Turned Product and Screw, Nut and Bolt Manufacturing
SIC/NAICS Code: 332720
+
Description: All Other Miscellaneous Fabricated Metal Product Manufacturing
SIC/NAICS Code: 332999
+
Description: Paper Industry Machinery Manufacturing
SIC/NAICS Code: 333291
+
Description: Material Handling Equipment Manufacturing
SIC/NAICS Code: 333920
+
Description: All Other General-Purpose Machinery Manufacturing
SIC/NAICS Code: 333990
+
Description: Mining and Oil and Gas Field Machinery Manufacturing
SIC/NAICS Code: 333130

<u>10</u>	6 of 6	-/0.0	8.0	Axton Incorporated 441 Derwent PI Delta BC V3M 5Y9	SCT
-----------	--------	-------	-----	---	------------

Established:
Plant Size (ft²):
Employment:

--- Details ---

Description: Mining and Oil and Gas Field Machinery Manufacturing

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
SIC/NAICS Code:		333130			
+					
Description:		Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance			
SIC/NAICS Code:		811310			
+					
Description:		Construction Machinery Manufacturing			
SIC/NAICS Code:		333120			
+					
Description:		Other Plate Work and Fabricated Structural Product Manufacturing			
SIC/NAICS Code:		332319			
+					
Description:		Metal Tank (Heavy Gauge) Manufacturing			
SIC/NAICS Code:		332420			

11	1 of 1	-/0.0	7.0	Sawridge Waters Ltd. 465 Fraserview PI Delta BC V3M 6H4	SCT
Established:					
Plant Size (ft²):					
Employment:		12			

Details ---					
Description:		Soft Drink and Ice Manufacturing			
SIC/NAICS Code:		312110			

12	1 of 7	-/0.0	7.9	Greater Vancouver Sewerage Delta, 1299 Derwent Way BC V3M 5V9	AMS
File NO:	ME-0387(05)			Date Issued:	March 3, 1971
Status:	Active			Dt Ammnded:	4/23/2004
Status As Of:	Aug 2011			SIC Code:	NC02
Permit Type:	Municipal (Operational Certificate) For Effluent			Location:	Delta, 1299 Derwent Way
Mailing Address:	4TH FL., 4330 KINGSWAY, BURNABY, BC V5H 4G8 (MBC)				

12	2 of 7	-/0.0	7.9	GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT DELTA, 1299 DERWENT WAY, ANNACIS STP BC V3M 5V9	AMS
File NO:				Date Issued:	3/3/1971
Status:	Active			Dt Ammnded:	4/23/2004
Status As Of:	Jan 2012			SIC Code:	562210
Permit Type:	Operational Certificate - effluent			Location:	DELTA, 1299 DERWENT WAY, ANNACIS STP
Mailing Address:	FINANCE DEPARTMENT 4TH FL., 4330 KINGSWAY BURNABY, BC V5H 4G8				

12	3 of 7	-/0.0	7.9	1299 Derwent Way Delta BC V3M 5V9	EHS
Addit. Info Ordered:					
Order No.:	20070927017				

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Report Date:		10/9/2007			
Report Type:		CAN - BC Complete Report Plus			
Search Radius (km):		0.25			
12	4 of 7	-/0.0	7.9	GREATER VANCOUVER REGIONAL DISTRICT 1299 DERWENT DELTA BC V3M 5V9	GEN
Generator NO:	BCG03118	Status Date:	4/27/1994		
Status:	INACTIVE	Registration Dt:	1/13/1995		
Mailing Addr:	1299 DERWENT, DELTA, BC, CA V3M 5V9				
--- Details ---					
Waste:	Chloroform				
+					
Waste:	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S.				
+					
Waste:	leachate toxic waste				
12	5 of 7	-/0.0	7.9	Delta, Corp of Annacis Island Waste Water Treatment Plant at 1299 Derwent Way, Delta, BC Delta BC V3M 5V9	NEES
Incident Date:	9/5/01 5:40				
Contaminant:	effluent (NOS)				
Amount:					
Units:					
Quantity:	[Other]				
Cause:	Discharge				
Source:	Municipal Sewage Treatment Plant				
Reason:	Power Failure				
Sector:	Government Local				
12	6 of 7	-/0.0	7.9	1299 DERWENT WAY - WASTE WATER TREATMENT FACILITY DELTA BC	SREG
Site ID NO:	17971	Cleanup Status:			
Site Description:	Unranked	Registered:			
Victoria File NO:	26250-20/17971	Updated:			
Regional File NO:	No File	Detail Removed:			
Region:	SURREY, LOWER MAINLAND	Latitude:	49.163853		
Location Desc:	Lat/Longs Confirmed Using Google May 19, 2015	Longitude:	122.864906		
Common Name:	1299 DERWENT WAY - ANNACIS ISLAND				
12	7 of 7	-/0.0	7.9	GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT DELTA, 1299 DERWENT WAY, ANNACIS STP DELTA BC	WDS
Permit NO:	PE-387(3)				

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<i>Waste Type:</i> <i>Manner of Operation:</i>		EFFLUENT PERMIT			
13	1 of 8	-/0.0	7.2	GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT ANNACIS ISLAND, DELTA BC	NCPL
<i>Type of Concern:</i> <i>From Date:</i> <i>To Date:</i> <i>Region:</i> <i>Memo:</i>		MUNICIPAL SEWAGE 04011995 09301995 the plant is required to be upgraded to secondary treatment and to be fully operational by december 31, 1998; funding has been secured for the project and construction is on schedule. eleventh time on report.			
13	2 of 8	-/0.0	7.2	GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT ANNACIS ISLAND, DELTA BC	NCPL
<i>Type of Concern:</i> <i>From Date:</i> <i>To Date:</i> <i>Region:</i> <i>Memo:</i>		MUNICIPAL SEWAGE 10011996 03311997 regional district received federal/provincial infrastructure funding and first phase of secondary treatment upgrading has been completed; final phase expected to be completed by december 31,1998; stage 2 of the liquid waste management plan underway. fourteenth time on report.			
13	3 of 8	-/0.0	7.2	GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT ANNACIS ISLAND, DELTA BC	NCPL
<i>Type of Concern:</i> <i>From Date:</i> <i>To Date:</i> <i>Region:</i> <i>Memo:</i>		MUNICIPAL SEWAGE 10011995 03311996 exceeded permit limits for toxicity 1 of 6 times, iron 6 of 6 times, biochemical oxygen demand 38 percent, total suspended solids daily loading 53 percent and biochemical oxygen demand daily loading 26 percent of the reporting period; based on permittee data. regional district received federal/provincial infrastructure funding and plant is being upgraded to secondary treatment; stage 2 of the liquid waste management plan underway; plan will include implementation of additional source control bylaws. twelfth time on report.			
13	4 of 8	-/0.0	7.2	GREATER VANCOUVER SEWERAGE & DRAINAGE DISTRICT ANNACIS ISLAND, DELTA BC	NCPL
<i>Type of Concern:</i> <i>From Date:</i> <i>To Date:</i> <i>Region:</i>		MUNICIPAL SEWAGE 04011996 09301996 			

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<i>Memo:</i>		stage 2 of the liquid waste management plan underway; permittee received federal/provincial infrastructure funding; plant is being upgraded to secondary treatment; first phase of the project will be in service by april 1997 with the balance to be completed by december 31,1998. thirteenth time on report.			
13	5 of 8	-/0.0	7.2	GVRD Annacis Island waste water treatment plant, Delta Annacis Island BC	NEES
<i>Incident Date:</i>		2/3/00 7:27			
<i>Contaminant:</i>		sewage			
<i>Amount:</i>		2000000			
<i>Units:</i>		Litres			
<i>Quantity:</i>		Estimate			
<i>Cause:</i>		Overflow			
<i>Source:</i>		Municipal Sewer			
<i>Reason:</i>		Error			
<i>Sector:</i>		Government Local			
13	6 of 8	-/0.0	7.2	GVRD Annacis Island waste water treatment plant Annacis Island BC	NEES
<i>Incident Date:</i>		2/2/00 7:00			
<i>Contaminant:</i>		sewage			
<i>Amount:</i>		4500000			
<i>Units:</i>		Litres			
<i>Quantity:</i>		Estimate			
<i>Cause:</i>		Overflow			
<i>Source:</i>		Municipal Sewer			
<i>Reason:</i>		Error			
<i>Sector:</i>		Government Local			
13	7 of 8	-/0.0	7.2	GVRD - Annacis Island WWTP Delt District Annacis Island BC	NEES
<i>Incident Date:</i>		6/28/02 8:30			
<i>Contaminant:</i>		sewage			
<i>Amount:</i>		10000000			
<i>Units:</i>		Litres			
<i>Quantity:</i>		Estimate			
<i>Cause:</i>		Discharge			
<i>Source:</i>		Municipal Sewage Treatment Plant			
<i>Reason:</i>		Error			
<i>Sector:</i>		Government Local			
13	8 of 8	-/0.0	7.2	GVRD GVRD Sewage Treatment Plant, Annacis Island Annacis Island BC	NEES
<i>Incident Date:</i>		6/14/00 0:00			

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Contaminant:		hydrogen sulphide			
Amount:					
Units:					
Quantity:		[Other]			
Cause:		Pipe Leak			
Source:		Municipal Sewage Treatment Plant			
Reason:		Unknown			
Sector:		Government Local			
14	1 of 5	-/0.0	7.0	PACIFIC RIM CABINETS LTD 1-464 FRASERVIEW PLACE DELTA BC V3M 6H4	GEN
Generator NO:		BCG27189	Status Date:		10/10/2001
Status:		ACTIVE	Registration Dt:		10/10/2001
Mailing Addr:		1-464 FRASERVIEW PLACE, DELTA, BC, CA V3M 6H4			
--- Details ---					
Waste:		Paints, Enamels, Lacquers, Stains, Shellac, Varnish, Polishes, Fillers, Thinners			
14	2 of 5	-/0.0	7.0	Pacific Coast Marine Windshield Ltd. 4-464 Frasersview Pl Delta BC V3M 6H4	SCT
Established:		1990			
Plant Size (ft²):					
Employment:		9			
14	3 of 5	-/0.0	7.0	FRASER ENVELOPES LTD. 3-464 Frasersview Pl Delta BC V3M 6H4	SCT
Established:		1990			
Plant Size (ft²):		0			
Employment:		25			
--- Details ---					
Description:		Envelopes			
SIC/NAICS Code:		2677			
+					
Description:		Commercial Printing, Lithographic			
SIC/NAICS Code:		2752			
+					
Description:		Commercial Printing, Not Elsewhere Classified			
SIC/NAICS Code:		2759			
+					
Description:		Stationery and Office Supplies			
SIC/NAICS Code:		5112			
+					
Description:		Stationery Product Manufacturing			
SIC/NAICS Code:		322230			
+					
Description:		Quick Printing			
SIC/NAICS Code:		323114			
+					
Description:		Digital Printing			
SIC/NAICS Code:		323115			

Map Key	Number of Records	Direction/Distance m	Elevation m	Site	DB
+ Description: Other Printing SIC/NAICS Code: 323119					
14	4 of 5	-/0.0	7.0	Pacific Rim Cabinets Ltd 1-464 Fraserview PI Annacis Island Delta BC V3M 6H4	SCT
Established: Plant Size (ft²): Employment: 20					
--- Details --- Description: Wood Kitchen Cabinet and Counter Top Manufacturing SIC/NAICS Code: 337110					
14	5 of 5	-/0.0	7.0	PAC. COAST MARINE WINDSHIELD 4-464 Fraserview PI Delta BC V3M 6H4	SCT
Established: 1990 Plant Size (ft²): 0 Employment: 9					
--- Details --- Description: Glass Products, Made of Purchased Glass SIC/NAICS Code: 3231 + Description: Glass Product Manufacturing from Purchased Glass SIC/NAICS Code: 327215					
15	1 of 2	W/37.3	6.0	Texcan 1420 Derwent Way Delta BC V3M 6H9	SCT
Established: 01-JAN-78 Plant Size (ft²): Employment:					
--- Details --- Description: Electrical Wiring and Construction Supplies Wholesaler-Distributors SIC/NAICS Code: 416110 + Description: Electrical Wiring and Construction Supplies Wholesaler-Distributors SIC/NAICS Code: 416110 + Description: Electronic Components, Navigational and Communications Equipment and Supplies Wholesaler-Distributors SIC/NAICS Code: 417320					
15	2 of 2	W/37.3	6.0	Sonepar Canada Inc. 1420 Derwent Way Delta BC V3M 6H9	SCT
Established: 01-DEC-84 Plant Size (ft²): Employment:					
--- Details ---					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<i>Description:</i>		Electrical Wiring and Construction Supplies Wholesaler-Distributors			
<i>SIC/NAICS Code:</i>		416110			
16	1 of 2	NE/34.7	7.0	Trus Joist - Weyerhaeuser Bus. 1272 Derwent Way Delta BC V3M 5R1	SCT
<i>Established:</i>		1985			
<i>Plant Size (ft²):</i>					
<i>Employment:</i>		200			
--- Details ---					
<i>Description:</i>		Structural Wood Product Manufacturing			
<i>SIC/NAICS Code:</i>		321215			
16	2 of 2	NE/34.7	7.0	iLevel by Weyerhaeuser 1272 Derwent Way Delta BC V3M 5R1	SCT
<i>Established:</i>		01-JAN-85			
<i>Plant Size (ft²):</i>					
<i>Employment:</i>					
--- Details ---					
<i>Description:</i>		Structural Wood Product Manufacturing			
<i>SIC/NAICS Code:</i>		321215			
17	1 of 24	NNE/15.6	7.0	Magnacharge Battery Corporation 1279 Derwent Way, Delta BC V3M 5V9 BC V3M 5V9	AMS
<i>File NO:</i>				<i>Date Issued:</i>	4/8/2008
<i>Status:</i>		Active		<i>Dt Ammnded:</i>	
<i>Status As Of:</i>		Jan 2012		<i>SIC Code:</i>	562920
<i>Permit Type:</i>		Hazardous Waste Regulation		<i>Location:</i>	1279 Derwent Way, Delta BC V3M 5V9
<i>Mailing Address:</i>		1279 Derwent Way, Delta BC V3M 5V9			
17	2 of 24	NNE/15.6	7.0	Magnacharge Battery Corporation 1279 Derwent Way, Delta BC V3M 5V9 BC V3M 5V9	AMS
<i>File NO:</i>				<i>Date Issued:</i>	4/8/2008
<i>Status:</i>		Active		<i>Dt Ammnded:</i>	
<i>Status As Of:</i>		Aug 2009		<i>SIC Code:</i>	
<i>Permit Type:</i>		Hazardous Waste Regulation		<i>Location:</i>	1279 Derwent Way, Delta BC V3M 5V9
<i>Mailing Address:</i>		1279 Derwent Way, Delta BC V3M 5V9			
17	3 of 24	NNE/15.6	7.0	MAGNACHARGE BATTERY CORPORATION 1279 DERWENT WAY DELTA BC V3M5V9	AMS
<i>File NO:</i>		PA-90280(02)		<i>Date Issued:</i>	
<i>Status:</i>				<i>Dt Ammnded:</i>	
<i>Status As Of:</i>		Dec-98		<i>SIC Code:</i>	
<i>Permit Type:</i>					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Mailing Address:					
17	4 of 24	NNE/15.6	7.0	MAGNACHARGE BATTERY CORPORATION 1279 DERWENT WAY NEW WESTMINSTER BC V3M 5V9	GEN
Generator NO:	BCG09123	Status Date:	11/12/1999		
Status:	ACTIVE	Registration Dt:	1/13/1995		
Mailing Addr:	1279 DERWENT WAY, NEW WESTMINSTER, BC, CA V3M 5V9				
--- Details ---					
Waste:	Batteries, wet, filled with acid or Battery, electric storage, wet				
17	5 of 24	NNE/15.6	7.0	MAGNACHARGE BATTERY CORPORATION 1279 DERWENT WAY NEW WESTMINSTER BC	REC
Company NO:	BCG09123				
Year:	1999				
Region:	LOWER MAINLAND				
--- Details ---					
Type of Waste:	batteries, wet, filled with acid or battery, electric storage, wet				
17	6 of 24	NNE/15.6	7.0	MAGNACHARGE BATTERY CORPORATION 1279 DERWENT WAY NEW WESTMINSTER BC	REC
Company NO:	BCG09123				
Year:	2000				
Region:	LOWER MAINLAND				
--- Details ---					
Type of Waste:	batteries, wet, filled with acid or battery, electric storage, wet				
17	7 of 24	NNE/15.6	7.0	MAGNACHARGE BATTERY CORPORATION 1279 DERWENT WAY NEW WESTMINSTER BC	REC
Company NO:	BCG09124				
Year:	1999				
Region:	LOWER MAINLAND				
--- Details ---					
Type of Waste:	batteries, wet, filled with acid or battery, electric storage, wet				
17	8 of 24	NNE/15.6	7.0	MAGNACHARGE BATTERY CORPORATION 1279 DERWENT WAY NEW WESTMINSTER BC	REC
Company NO:	BCG09124				
Year:	1995				

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Region:		LOWER MAINLAND			
--- Details ---					
Type of Waste:		batteries, wet, filled with acid or battery, electric storage, wet			
17	9 of 24	NNE/15.6	7.0	MAGNACHARGE BATTERY CORPORATION 1279 DERWENT WAY NEW WESTMINSTER BC	REC
Company NO:		BCG09123			
Year:		1995			
Region:		LOWER MAINLAND			
--- Details ---					
Type of Waste:		batteries, wet, filled with acid or battery, electric storage, wet			
17	10 of 24	NNE/15.6	7.0	MAGNACHARGE BATTERY CORPORATION 1279 DERWENT WAY NEW WESTMINSTER BC	REC
Company NO:		BCG09124			
Year:		1997			
Region:		LOWER MAINLAND			
--- Details ---					
Type of Waste:		batteries, wet, filled with acid or battery, electric storage, wet			
17	11 of 24	NNE/15.6	7.0	MAGNACHARGE BATTERY CORPORATION 1279 Derwent Way New Westminster BC V3M 5V9	REC
Company NO:		BCG09123			
Year:		2006			
Region:		LOWER MAINLAND			
--- Details ---					
Type of Waste:		Batteries, wet, filled with acid or Battery, electric storage, wet			
17	12 of 24	NNE/15.6	7.0	MAGNACHARGE BATTERY CORPORATION 1279 Derwent Way New Westminster BC V3M 5V9	REC
Company NO:		BCG00859			
Year:		2006			
Region:		LOWER MAINLAND			
--- Details ---					
Type of Waste:		Batteries, wet, filled with acid or Battery, electric storage, wet			
17	13 of 24	NNE/15.6	7.0	MAGNACHARGE BATTERY CORPORATION 1279 DERWENT WAY NEW WESTMINSTER BC V3M 5V9	REC

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Company NO:		BCG09123			
Year:		2004			
Region:		LOWER MAINLAND			
--- Details ---					
Type of Waste:		batteries, wet, filled with acid or battery, electric storage, wet			
17	14 of 24	NNE/15.6	7.0	MAGNACHARGE BATTERY CORPORATION 1279 DERWENT WAY NEW WESTMINSTER BC V3M 5V9	REC
Company NO:		BCG09123			
Year:		2001			
Region:		LOWER MAINLAND			
--- Details ---					
Type of Waste:		batteries, wet, filled with acid or battery, electric storage, wet			
+					
Type of Waste:		batteries, wet, filled with alkali or battery, electric storage, wet			
17	15 of 24	NNE/15.6	7.0	MAGNACHARGE BATTERY CORPORATION 1279 DERWENT WAY NEW WESTMINSTER BC V3M 5V9	REC
Company NO:		BCG09124			
Year:		2003			
Region:		LOWER MAINLAND			
--- Details ---					
Type of Waste:		batteries, wet, filled with acid or battery, electric storage, wet			
17	16 of 24	NNE/15.6	7.0	MAGNACHARGE BATTERY CORPORATION 1279 DERWENT WAY NEW WESTMINSTER BC V3M 5V9	REC
Company NO:		BCG09123			
Year:		2002			
Region:		LOWER MAINLAND			
--- Details ---					
Type of Waste:		batteries, wet, filled with acid or battery, electric storage, wet			
17	17 of 24	NNE/15.6	7.0	MAGNACHARGE BATTERY CORPORATION 1279 DERWENT WAY NEW WESTMINSTER BC V3M 5V9	REC
Company NO:		BCG09123			
Year:		2003			
Region:		LOWER MAINLAND			
--- Details ---					
Type of Waste:		batteries, wet, filled with acid or battery, electric storage, wet			

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
17	18 of 24	NNE/15.6	7.0	MAGNACHARGE BATTERY CORPORATION 1279 Derwent Way New Westminster BC V3M 5V9	REC
Company NO:		BCG00110			
Year:		2006			
Region:		LOWER MAINLAND			
--- Details ---					
Type of Waste:		Batteries, wet, filled with acid or Battery, electric storage, wet			
17	19 of 24	NNE/15.6	7.0	MAGNACHARGE BATTERY CORPORATION 1279 DERWENT WAY NEW WESTMINSTER BC V3M 5V9	REC
Company NO:		BCG09124			
Year:		2001			
Region:		LOWER MAINLAND			
--- Details ---					
Type of Waste:		batteries, wet, filled with acid or battery, electric storage, wet			
17	20 of 24	NNE/15.6	7.0	MAGNACHARGE BATTERY CORPORATION 1279 Derwent Way New Westminster BC V3M 5V9	REC
Company NO:		BCG09123			
Year:		2007			
Region:		LOWER MAINLAND			
--- Details ---					
Type of Waste:		Batteries, wet, filled with acid or Battery, electric storage, wet			
17	21 of 24	NNE/15.6	7.0	Alliance Woodcraft Manufacturing Inc. 2-1279 Derwent Way Delta BC V3M 5V9	SCT
Established:		1996			
Plant Size (ft²):					
Employment:		10			
--- Details ---					
Description:		Prefabricated Wood Building Manufacturing			
SIC/NAICS Code:		321992			
+					
Description:		All Other Miscellaneous Wood Product Manufacturing			
SIC/NAICS Code:		321999			
17	22 of 24	NNE/15.6	7.0	Alliance Woodcraft Mfg Inc. 2-1279 Derwent Way Delta BC V3M 5V9	SCT
Established:		01-JAN-96			
Plant Size (ft²):		30000			
Employment:					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
--- Details ---					
	Description:	General-Line Building Supplies Wholesaler-Distributors			
	SIC/NAICS Code:	416310			
	+				
	Description:	Prefabricated Wood Building Manufacturing			
	SIC/NAICS Code:	321992			
	+				
	Description:	All Other Miscellaneous Wood Product Manufacturing			
	SIC/NAICS Code:	321999			
	+				
	Description:	All Other Wholesaler-Distributors			
	SIC/NAICS Code:	418990			
	+				
	Description:	Other Specialty-Line Building Supplies Wholesaler-Distributors			
	SIC/NAICS Code:	416390			
	+				
	Description:	Prefabricated Wood Building Manufacturing			
	SIC/NAICS Code:	321992			

17	23 of 24	NNE/15.6	7.0	Magnacharge Battery Corp. 1279 Derwent Way Delta BC V3M 5V9	SCT
Established:	01-MAR-62				
Plant Size (ft²):	20000				
Employment:					
--- Details ---					
	Description:	Electrical Wiring and Construction Supplies Wholesaler-Distributors			
	SIC/NAICS Code:	416110			
	+				
	Description:	Other New Motor Vehicle Parts and Accessories Wholesaler-Distributors			
	SIC/NAICS Code:	415290			

17	24 of 24	NNE/15.6	7.0	1279 DERWENT WAY NEW WESTMINSTER BC	SREG
Site ID NO:	320		Cleanup Status:		
Site Description:	Unranked		Registered:		
Victoria File NO:	26250-20/0364		Updated:		
Regional File NO:	26250-20/0697		Detail Removed:		
Region:	SURREY, LOWER MAINLAND		Latitude:	49.164683	
Location Desc:	Location Derived By Bc Environment Referencing Rectified Nad 83 Orthophotography - Nov.14,1996		Longitude:	122.947975	
Common Name:	MAGNACHARGE BATTERY SITE				

18	1 of 1	ENE/75.1	7.0	WEYERHAEUSER COMPANY LIMITED 0 - 1272 Derwent Way West Delta BC V3M5R1	NPRI
Longitude:	-122.9464				
NPRI #:	0000007769				
Year:	2013				
Latitude:	49.1638				
--- Details ---					
Units:	tonnes				
Air:	41.65				

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Water:					
Substances Released:		Carbon monoxide			
Land:					
+					
Units:		tonnes			
Air:		3			
Water:					
Substances Released:		PM10 - Particulate Matter <= 10 Microns			
Land:					
+					
Units:		tonnes			
Air:		1.57			
Water:					
Substances Released:		Formaldehyde			
Land:					
+					
Units:		tonnes			
Air:		1.47			
Water:					
Substances Released:		PM2.5 - Particulate Matter <= 2.5 Microns			
Land:					
+					
Units:		tonnes			
Air:		63.1			
Water:					
Substances Released:		Volatile Organic Compounds (VOCs)			
Land:					
+					
Units:		tonnes			
Air:		2.16			
Water:					
Substances Released:		Methanol			
Land:					

[19](#)

1 of 11

NE/76.9

7.0

**Weyerhaeuser Company Limited
1272 Derwent Way West
Delta BC V3M5R1**

NPRI

Longitude: -122.9472
NPRI #: 0000007769
Year: 2007
Latitude: 49.1645

--- Details ---

Units: tonnes
Air: 33.242000000000004
Water:
Substances Released: Volatile Organic Compounds (VOCs)
Land:
+
Units: tonnes
Air: 10.07
Water:
Substances Released: PM2.5 - Particulate Matter <= 2.5 Microns
Land:
+
Units: tonnes
Air: 31.606
Water:
Substances Released: PM - Total Particulate Matter
Land:

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
+					
Units:		tonnes			
Air:		13.663			
Water:					
Substances Released:		PM10 - Particulate Matter <= 10 Microns			
Land:					
+					
Units:		tonnes			
Air:		27.33			
Water:					
Substances Released:		Carbon monoxide			
Land:					
+					
Units:		tonnes			
Air:		7.23			
Water:					
Substances Released:		Methanol			
Land:					

19	2 of 11	NE/76.9	7.0	Weyerhaeuser Company Limited 1272 Derwent Way West Delta BC V3M5R1	NPRI
--------------------	---------	---------	-----	---	-------------

Longitude: -122.9472
 NPRI #: 0000007769
 Year: 2009
 Latitude: 49.1645

--- Details ---

Units:	tonnes
Air:	14.118
Water:	
Substances Released:	Volatile Organic Compounds (VOCs)
Land:	
+	
Units:	tonnes
Air:	9.01
Water:	
Substances Released:	PM2.5 - Particulate Matter <= 2.5 Microns
Land:	
+	
Units:	tonnes
Air:	18.215
Water:	
Substances Released:	PM - Total Particulate Matter
Land:	
+	
Units:	tonnes
Air:	9.01
Water:	
Substances Released:	PM10 - Particulate Matter <= 10 Microns
Land:	
+	
Units:	tonnes
Air:	15.27
Water:	
Substances Released:	Carbon monoxide
Land:	
+	
Units:	tonnes
Air:	4.59

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Water: Substances Released: Land:		Methanol			

19	3 of 11	NE/76.9	7.0	Weyerhaeuser Company Limited 1272 Derwent Way West Delta BC V3M5R1	NPRI
--------------------	---------	---------	-----	--	------

Longitude: -122.9472
 NPRI #: 0000007769
 Year: 2006
 Latitude: 49.1645

--- Details ---

Units: tonnes
 Air: 42.43
 Water:
 Substances Released: PM2.5 - Particulate Matter <= 2.5 Microns
 Land:
 +
 Units: tonnes
 Air: 93.637
 Water:
 Substances Released: PM - Total Particulate Matter
 Land:
 +
 Units: tonnes
 Air: 26.241999999999997
 Water:
 Substances Released: Volatile Organic Compounds (VOCs)
 Land:
 +
 Units: tonnes
 Air: 44.36
 Water:
 Substances Released: PM10 - Particulate Matter <= 10 Microns
 Land:
 +
 Units: tonnes
 Air: 24.03
 Water:
 Substances Released: Carbon monoxide
 Land:
 +
 Units: tonnes
 Air: 8.39
 Water:
 Substances Released: Methanol
 Land:

19	4 of 11	NE/76.9	7.0	Weyerhaeuser Company Limited 0 - 1272 Derwent Way West Delta BC V3M5R1	NPRI
--------------------	---------	---------	-----	--	------

Longitude: -122.9472
 NPRI #: 0000007769
 Year: 2012
 Latitude: 49.1645

--- Details ---

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Units:		tonnes			
Air:		22.4			
Water:					
Substances Released:		Volatile Organic Compounds (VOCs)			
Land:					
+					
Units:		tonnes			
Air:		1.18			
Water:					
Substances Released:		PM2.5 - Particulate Matter <= 2.5 Microns			
Land:					
+					
Units:		tonnes			
Air:		2.35			
Water:					
Substances Released:		PM10 - Particulate Matter <= 10 Microns			
Land:					
+					
Units:		tonnes			
Air:		1.57			
Water:					
Substances Released:		Formaldehyde			
Land:					
+					
Units:		tonnes			
Air:		1.87			
Water:					
Substances Released:		Methanol			
Land:					

[19](#)

5 of 11

NE/76.9

7.0

Weyerhaeuser Company Limited
1272 Derwent Way West
Delta BC V3M5R1

[NPRI](#)

Longitude: -122.9472
 NPRI #: 0000007769
 Year: 2004
 Latitude: 49.1645

--- Details ---

Units: tonnes
 Air: 125.6
 Water:
 Substances Released: PM - Total Particulate Matter
 Land:
 +
 Units: tonnes
 Air: 44.42
 Water:
 Substances Released: PM2.5 - Particulate Matter <= 2.5 Microns
 Land:
 +
 Units: tonnes
 Air: 29.939999999999998
 Water:
 Substances Released: Volatile Organic Compounds (VOCs)
 Land:
 +
 Units: tonnes
 Air: 44.42
 Water:

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<i>Substances Released:</i> PM10 - Particulate Matter <= 10 Microns <i>Land:</i> + <i>Units:</i> tonnes <i>Air:</i> 23.89 <i>Water:</i> <i>Substances Released:</i> Carbon monoxide <i>Land:</i>					
19	6 of 11	NE/76.9	7.0	Weyerhaeuser Company Limited 1272 Derwent Way West Delta BC V3M5R1	NPRI
<i>Longitude:</i> -122.9472 <i>NPRI #:</i> 0000007769 <i>Year:</i> 2010 <i>Latitude:</i> 49.1645 --- Details --- <i>Units:</i> tonnes <i>Air:</i> 16.95 <i>Water:</i> <i>Substances Released:</i> Volatile Organic Compounds (VOCs) <i>Land:</i> + <i>Units:</i> tonnes <i>Air:</i> 2.95 <i>Water:</i> <i>Substances Released:</i> PM2.5 - Particulate Matter <= 2.5 Microns <i>Land:</i> + <i>Units:</i> tonnes <i>Air:</i> 7.77 <i>Water:</i> <i>Substances Released:</i> PM - Total Particulate Matter <i>Land:</i> + <i>Units:</i> tonnes <i>Air:</i> 3.56 <i>Water:</i> <i>Substances Released:</i> PM10 - Particulate Matter <= 10 Microns <i>Land:</i> + <i>Units:</i> tonnes <i>Air:</i> 4.59 <i>Water:</i> <i>Substances Released:</i> Formaldehyde <i>Land:</i> + <i>Units:</i> tonnes <i>Air:</i> 4.59 <i>Water:</i> <i>Substances Released:</i> Methanol <i>Land:</i>					
19	7 of 11	NE/76.9	7.0	Weyerhaeuser Company Limited 1272 Derwent Way, Annacis Island Delta BC V3M 5R1	NPRI
<i>Longitude:</i> -122.9472					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
NPRI #:		0000007769			
Year:		2002			
Latitude:		49.1645			
--- Details ---					
Units:		tonnes			
Air:		26.52			
Water:					
Substances Released:		Volatile Organic Compounds (VOCs)			
Land:					
+					
Units:		tonnes			
Air:		124.24000000000001			
Water:					
Substances Released:		PM - Total Particulate Matter			
Land:					
+					
Units:		tonnes			
Air:		44.3			
Water:					
Substances Released:		PM2.5 - Particulate Matter <= 2.5 Microns			
Land:					
+					
Units:		tonnes			
Air:		22.99			
Water:					
Substances Released:		Carbon monoxide			
Land:					
+					
Units:		tonnes			
Air:		46.99			
Water:					
Substances Released:		PM10 - Particulate Matter <= 10 Microns			
Land:					

19	8 of 11	NE/76.9	7.0	Weyerhaeuser Company Limited 1272 Derwent Way West Delta BC V3M5R1	NPRI
--------------------	----------------	----------------	------------	---	-------------

Longitude: -122.9472
NPRI #: 0000007769
Year: 2003
Latitude: 49.1645

--- Details ---

Units: tonnes
Air: 33.36
Water:
Substances Released: Volatile Organic Compounds (VOCs)
Land:

+

Units: tonnes
Air: 135.76
Water:
Substances Released: PM - Total Particulate Matter
Land:

+

Units: tonnes
Air: 54.24
Water:
Substances Released: PM2.5 - Particulate Matter <= 2.5 Microns

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Land:					
+					
Units:		tonnes			
Air:		24.06			
Water:					
Substances Released:		Carbon monoxide			
Land:					
+					
Units:		tonnes			
Air:		56.9			
Water:					
Substances Released:		PM10 - Particulate Matter <= 10 Microns			
Land:					
19	9 of 11	NE/76.9	7.0	Weyerhaeuser Company Limited 1272 Derwent Way West Delta BC V3M5R1	NPRI
Longitude:		-122.9472			
NPRI #:		0000007769			
Year:		2008			
Latitude:		49.1645			
--- Details ---					
Units:		tonnes			
Air:		16.35			
Water:					
Substances Released:		Volatile Organic Compounds (VOCs)			
Land:					
+					
Units:		tonnes			
Air:		9.43			
Water:					
Substances Released:		PM2.5 - Particulate Matter <= 2.5 Microns			
Land:					
+					
Units:		tonnes			
Air:		23.204			
Water:					
Substances Released:		PM - Total Particulate Matter			
Land:					
+					
Units:		tonnes			
Air:		11.26			
Water:					
Substances Released:		PM10 - Particulate Matter <= 10 Microns			
Land:					
+					
Units:		tonnes			
Air:		23.61			
Water:					
Substances Released:		Carbon monoxide			
Land:					
+					
Units:		tonnes			
Air:		5.5			
Water:					
Substances Released:		Methanol			
Land:					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
19	10 of 11	NE/76.9	7.0	Weyerhaeuser Company Limited 1272 Derwent Way West Delta BC V3M5R1	NPRI

Longitude: -122.9472
 NPRI #: 0000007769
 Year: 2005
 Latitude: 49.1645

--- Details ---

Units: tonnes
 Air: 121.701
 Water:
 Substances Released: PM - Total Particulate Matter
 Land:

+
 Units: tonnes
 Air: 52.24
 Water:
 Substances Released: PM2.5 - Particulate Matter <= 2.5 Microns
 Land:

+
 Units: tonnes
 Air: 31.01
 Water:
 Substances Released: Volatile Organic Compounds (VOCs)
 Land:

+
 Units: tonnes
 Air: 53.235
 Water:
 Substances Released: PM10 - Particulate Matter <= 10 Microns
 Land:

+
 Units: tonnes
 Air: 24.87
 Water:
 Substances Released: Carbon monoxide
 Land:

+
 Units: tonnes
 Air: 10.4
 Water:
 Substances Released: Methanol
 Land:

19	11 of 11	NE/76.9	7.0	Weyerhaeuser Company Limited 1272 Derwent Way West Delta BC V3M5R1	NPRI
--------------------	----------	---------	-----	--	------

Longitude: -122.9472
 NPRI #: 0000007769
 Year: 2011
 Latitude: 49.1645

--- Details ---

Units: tonnes
 Air: 24.75
 Water:
 Substances Released: Volatile Organic Compounds (VOCs)
 Land:

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<p>+</p> <p>Units: tonnes</p> <p>Air: 1.12</p> <p>Water:</p> <p>Substances Released: PM2.5 - Particulate Matter <= 2.5 Microns</p> <p>Land:</p>					
<p>+</p> <p>Units: tonnes</p> <p>Air: 2.2199999999999998</p> <p>Water:</p> <p>Substances Released: PM10 - Particulate Matter <= 10 Microns</p> <p>Land:</p>					
<p>+</p> <p>Units: tonnes</p> <p>Air: 1.66</p> <p>Water:</p> <p>Substances Released: Formaldehyde</p> <p>Land:</p>					
<p>+</p> <p>Units: tonnes</p> <p>Air: 1.86</p> <p>Water:</p> <p>Substances Released: Methanol</p> <p>Land:</p>					
<u>20</u>	1 of 2	NE/159.9	8.0	Special Alloy Fabricators Ltd. 1232 Derwent Way Delta BC V3M 5R1	SCT
<p>Established: 01-JAN-89</p> <p>Plant Size (ft²): 22000</p> <p>Employment:</p> <p>--- Details ---</p> <p>Description: All Other General-Purpose Machinery Manufacturing</p> <p>SIC/NAICS Code: 333990</p> <p>+</p> <p>Description: Metal Valve Manufacturing</p> <p>SIC/NAICS Code: 332910</p> <p>+</p> <p>Description: Metal Valve Manufacturing</p> <p>SIC/NAICS Code: 332910</p>					
<u>20</u>	2 of 2	NE/159.9	8.0	Special Alloy Fabricators Ltd. 1232 Derwent Way Delta BC V3M 5R1	SCT
<p>Established: 1989</p> <p>Plant Size (ft²): 22000</p> <p>Employment:</p> <p>--- Details ---</p> <p>Description: Metal Valve Manufacturing</p> <p>SIC/NAICS Code: 332910</p> <p>+</p> <p>Description: All Other General-Purpose Machinery Manufacturing</p> <p>SIC/NAICS Code: 333990</p>					
<u>21</u>	1 of 2	NE/145.6	7.0	CPP - Custom Plate & Profiles	SCT

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
				1223 Derwent Way Delta BC V3M 5V9	
				Established: 01-JAN-86 Plant Size (ft²): 40000 Employment:	
				--- Details --- Description: Other Plate Work and Fabricated Structural Product Manufacturing SIC/NAICS Code: 332319 + Description: Other Ornamental and Architectural Metal Product Manufacturing SIC/NAICS Code: 332329 + Description: Metal Service Centres SIC/NAICS Code: 416210 + Description: Machine Shops SIC/NAICS Code: 332710 + Description: Steel Foundries SIC/NAICS Code: 331514	
21	2 of 2	NE/145.6	7.0	CUSTOM PLATE & PROFILES LTD. 1223 Derwent Way Annacis Business Park Delta BC V3M 5V9	SCT
				Established: 1986 Plant Size (ft²): 40000 Employment: 35	
				--- Details --- Description: Steel Foundries, Not Elsewhere Classified SIC/NAICS Code: 3325 + Description: Steel Foundries SIC/NAICS Code: 331514 + Description: Other Plate Work and Fabricated Structural Product Manufacturing SIC/NAICS Code: 332319 + Description: Other Ornamental and Architectural Metal Products Manufacturing SIC/NAICS Code: 332329 + Description: Machine Shops SIC/NAICS Code: 332710	
22	1 of 21	NNW/165.5	8.0	The Greater Vancouver Regional District 1299 Derwent Way Delta BC V3M 5V9	NPRI
				Longitude: -122.952 NPRI #: 0000001338 Year: 1996 Latitude: 49.1661	
				--- Details --- Units: tonnes Air: Water:	

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<i>Substances Released:</i>					
<i>Land:</i>					
22	2 of 21	NNW/165.5	8.0	Greater Vancouver Regional District 1299 Derwent Way Delta BC V3M5V9	NPRI
<i>Longitude:</i>		-122.952			
<i>NPRI #:</i>		0000001338			
<i>Year:</i>		2008			
<i>Latitude:</i>		49.1661			
--- Details ---					
<i>Units:</i>		tonnes			
<i>Air:</i>		79.916			
<i>Water:</i>					
<i>Substances Released:</i>		Nitrogen oxides (expressed as NO2)			
<i>Land:</i>					
+					
<i>Units:</i>		kg			
<i>Air:</i>					
<i>Water:</i>		2.892			
<i>Substances Released:</i>		Pyrene - PAH			
<i>Land:</i>					
.004					
+					
<i>Units:</i>		kg			
<i>Air:</i>					
<i>Water:</i>		.188			
<i>Substances Released:</i>		Benzo(b)fluoranthene - PAH			
<i>Land:</i>					
.001					
+					
<i>Units:</i>		kg			
<i>Air:</i>					
<i>Water:</i>		1.819			
<i>Substances Released:</i>		Fluoranthene - PAH			
<i>Land:</i>					
.004					
+					
<i>Units:</i>		kg			
<i>Air:</i>					
<i>Water:</i>		.167			
<i>Substances Released:</i>		Benzo(g,h,i)perylene - PAH			
<i>Land:</i>					
+					
<i>Units:</i>		tonnes			
<i>Air:</i>		1.457			
<i>Water:</i>					
<i>Substances Released:</i>		PM2.5 - Particulate Matter <= 2.5 Microns			
<i>Land:</i>					
+					
<i>Units:</i>		tonnes			
<i>Air:</i>					
<i>Water:</i>					
<i>Substances Released:</i>		Chlorine			
<i>Land:</i>					
+					
<i>Units:</i>		tonnes			
<i>Air:</i>					
<i>Water:</i>		9.241999999999999			
<i>Substances Released:</i>		Hydrogen sulphide			
<i>Land:</i>					
.007					
+					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Units:		kg			
Air:					
Water:		.924			
Substances Released:		Fluorene - PAH			
Land:		.004			
+					
Units:		tonnes			
Air:					
Water:		9.773			
Substances Released:		Copper (and its compounds)			
Land:		.002			
+					
Units:		kg			
Air:					
Water:		112.772			
Substances Released:		Lead (and its compounds)			
Land:		.134			
+					
Units:		tonnes			
Air:					
Water:		5.227			
Substances Released:		Nitrate ion in solution at pH >= 6.0			
Land:		.005			
+					
Units:		tonnes			
Air:		95.566			
Water:		4579.129999999999			
Substances Released:		Ammonia (total)			
Land:		.554			
+					
Units:		tonnes			
Air:					
Water:		6.35			
Substances Released:		Zinc (and its compounds)			
Land:		.003			
+					
Units:		tonnes			
Air:					
Water:		5.827999999999999			
Substances Released:		Nonylphenol and its ethoxylates			
Land:		.003			
+					
Units:		tonnes			
Air:					
Water:		476.428			
Substances Released:		Phosphorus (total)			
Land:		.12			
+					
Units:		tonnes			
Air:		1.457			
Water:					
Substances Released:		PM10 - Particulate Matter <= 10 Microns			
Land:					
+					
Units:		kg			
Air:					
Water:		.237			
Substances Released:		Benzo(a)anthracene - PAH			
Land:		0			
+					
Units:		kg			
Air:					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Water:		.265			
Substances Released:		Indeno(1,2,3-c,d)pyrene - PAH			
Land:		.001			
+					
Units:		tonnes			
Air:		200.773			
Water:					
Substances Released:		Carbon monoxide			
Land:					
+					
Units:		kg			
Air:					
Water:		.9809999999999999			
Substances Released:		Phenanthrene - PAH			
Land:		.008			
+					
Units:		kg			
Air:					
Water:		.867			
Substances Released:		Acenaphthene - PAH			
Land:		.004			
+					
Units:		kg			
Air:					
Water:		90.926			
Substances Released:		Arsenic (and its compounds)			
Land:		.015			
+					
Units:		kg			
Air:					
Water:		43.794			
Substances Released:		Cadmium (and its compounds)			
Land:		.007			
+					
Units:		tonnes			
Air:					
Water:		10.816999999999998			
Substances Released:		Manganese (and its compounds)			
Land:		.002			
+					
Units:		kg			
Air:					
Water:		4.45			
Substances Released:		Mercury (and its compounds)			
Land:		.005			

[22](#)

3 of 21

NNW/165.5

8.0

Greater Vancouver Regional District
1299 Derwent Way
Delta BC V3M5V9

NPRI

Longitude: -122.952
NPRI #: 0000001338
Year: 2005
Latitude: 49.1661

--- Details ---

Units: tonnes
Air: 91.876
Water:
Substances Released: Nitrogen oxides (expressed as NO2)
Land:

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
+					
Units:		kg			
Air:					
Water:					
Substances Released:		Pyrene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:					
Substances Released:		Benzo(k)fluoranthene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:					
Substances Released:		Benzo(b)fluoranthene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:					
Substances Released:		Fluoranthene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:					
Substances Released:		Benzo(e)pyrene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:					
Substances Released:		Benzo(g,h,i)perylene - PAH			
Land:					
+					
Units:		tonnes			
Air:					
Water:		0			
Substances Released:		Chlorine			
Land:					
+					
Units:		kg			
Air:					
Water:		121.19200000000001			
Substances Released:		Lead (and its compounds)			
Land:					
+					
Units:		tonnes			
Air:					
Water:		5.628			
Substances Released:		Copper (and its compounds)			
Land:					
+					
Units:		tonnes			
Air:					
Water:		4.736			
Substances Released:		Zinc (and its compounds)			
Land:					
+					
Units:		tonnes			

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Air:					
Water:		8.611			
Substances Released:		Nitrate ion in solution at pH >= 6.0			
Land:					
+					
Units:		tonnes			
Air:		96.977			
Water:		4867.821			
Substances Released:		Ammonia (total)			
Land:					
+					
Units:		tonnes			
Air:					
Water:		2.8139999999999996			
Substances Released:		Nonylphenol and its ethoxylates			
Land:					
+					
Units:		tonnes			
Air:					
Water:		461.06399999999996			
Substances Released:		Phosphorus (total)			
Land:					
+					
Units:		tonnes			
Air:		1.86			
Water:					
Substances Released:		PM2.5 - Particulate Matter <= 2.5 Microns			
Land:					
+					
Units:		kg			
Air:					
Water:		8.094999999999999			
Substances Released:		Mercury (and its compounds)			
Land:					
+					
Units:		tonnes			
Air:		1.861			
Water:					
Substances Released:		PM10 - Particulate Matter <= 10 Microns			
Land:					
+					
Units:		kg			
Air:					
Water:					
Substances Released:		Benzo(a)pyrene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:					
Substances Released:		Benzo(a)anthracene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:					
Substances Released:		Indeno(1,2,3-c,d)pyrene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Substances Released: Land:		Dibenzo(a,h)anthracene - PAH			
+					
Units:		tonnes			
Air:		321.922			
Water:					
Substances Released: Land:		Carbon monoxide			
+					
Units:		kg			
Air:					
Water:					
Substances Released: Land:		Phenanthrene - PAH			
+					
Units:		tonnes			
Air:					
Water:		11.508000000000001			
Substances Released: Land:		Manganese (and its compounds)			
+					
Units:		kg			
Air:					
Water:		45.21			
Substances Released: Land:		Cadmium (and its compounds)			
+					
Units:		kg			
Air:					
Water:		103.023			
Substances Released: Land:		Arsenic (and its compounds)			

[22](#)

4 of 21

NNW/165.5

8.0

Greater Vancouver Regional District
1299 Derwent Way
Delta BC V3M 5V9

[NPRI](#)

Longitude: -122.952
NPRI #: 0000001338
Year: 2002
Latitude: 49.1661

--- Details ---

Units: tonnes
Air: 77.533
Water:
Substances Released: Nitrogen oxides (expressed as NO2)
Land:
+
Units: kg
Air:
Water: 4.7090000000000005
Substances Released: Pyrene - PAH
Land:
+
Units: kg
Air:
Water: .176
Substances Released: Benzo(b)fluoranthene - PAH
Land:
+

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Units:		kg			
Air:					
Water:		2.086999999999997			
Substances Released:		Fluoranthene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		.078			
Substances Released:		Benzo(e)pyrene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		.178			
Substances Released:		Benzo(g,h,i)perylene - PAH			
Land:					
+					
Units:		tonnes			
Air:					
Water:		0			
Substances Released:		Chlorine			
Land:					
+					
Units:		kg			
Air:					
Water:		225.917			
Substances Released:		Lead (and its compounds)			
Land:					
+					
Units:		tonnes			
Air:					
Water:		9.542			
Substances Released:		Copper (and its compounds)			
Land:					
+					
Units:		tonnes			
Air:					
Water:		4.812			
Substances Released:		Zinc (and its compounds)			
Land:					
+					
Units:		tonnes			
Air:					
Water:		4380.978			
Substances Released:		Ammonia (total)			
Land:					
+					
Units:		tonnes			
Air:					
Water:		17.426000000000002			
Substances Released:		Nitrate ion in solution at pH >= 6.0			
Land:					
+					
Units:		tonnes			
Air:		.655			
Water:					
Substances Released:		PM2.5 - Particulate Matter <= 2.5 Microns			
Land:					
+					
Units:		kg			
Air:					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Water:		.579			
Substances Released:		Benzo(a)anthracene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		.222000000000000003			
Substances Released:		Benzo(a)pyrene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		.174			
Substances Released:		Indeno(1,2,3-CD)pyrene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		.098			
Substances Released:		Dibenzo(a,h)anthracene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		96.131			
Substances Released:		Arsenic (and its compounds)			
Land:					
+					
Units:		kg			
Air:					
Water:		.995			
Substances Released:		Phenanthrene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		46.702			
Substances Released:		Cadmium (and its compounds)			
Land:					
+					
Units:		tonnes			
Air:					
Water:		11.232			
Substances Released:		Manganese (and its compounds)			
Land:					
+					
Units:		kg			
Air:					
Water:		4.512			
Substances Released:		Mercury (and its compounds)			
Land:					
+					
Units:		tonnes			
Air:		.655			
Water:					
Substances Released:		PM10 - Particulate Matter <= 10 Microns			
Land:					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Longitude:		-122.952			
NPRI #:		0000001338			
Year:		1993			
Latitude:		49.1661			
--- Details ---					
Units:		tonnes			
Air:		0			
Water:		0			
Substances Released:					
Land:		0			
22	6 of 21	NNW/165.5	8.0	Greater Vancouver Regional District 1299 Derwent Way Delta BC V3M5V9	NPRI
Longitude:		-122.952			
NPRI #:		0000001338			
Year:		2007			
Latitude:		49.1661			
--- Details ---					
Units:		tonnes			
Air:		96.131			
Water:					
Substances Released:		Nitrogen oxides (expressed as NO2)			
Land:					
+					
Units:		tonnes			
Air:		1.684			
Water:					
Substances Released:		PM2.5 - Particulate Matter <= 2.5 Microns			
Land:					
+					
Units:		tonnes			
Air:					
Water:		.014			
Substances Released:		Chlorine			
Land:					
+					
Units:		tonnes			
Air:					
Water:		9.887			
Substances Released:		Hydrogen sulphide			
Land:					
+					
Units:		tonnes			
Air:					
Water:		9.021			
Substances Released:		Copper (and its compounds)			
Land:		.001			
+					
Units:		kg			
Air:					
Water:		118.577			
Substances Released:		Lead (and its compounds)			
Land:		.04			
+					
Units:		tonnes			
Air:					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Water:		4.837			
Substances Released:		Nitrate ion in solution at pH >= 6.0			
Land:		.002			
+					
Units:		tonnes			
Air:					
Water:		5.793			
Substances Released:		Zinc (and its compounds)			
Land:		.001			
+					
Units:		tonnes			
Air:		102.356			
Water:		4567.858			
Substances Released:		Ammonia (total)			
Land:		.153			
+					
Units:		tonnes			
Air:					
Water:		447.189			
Substances Released:		Phosphorus (total)			
Land:		.034			
+					
Units:		tonnes			
Air:					
Water:		6.364			
Substances Released:		Nonylphenol and its ethoxylates			
Land:		.001			
+					
Units:		tonnes			
Air:		1.684			
Water:					
Substances Released:		PM10 - Particulate Matter <= 10 Microns			
Land:					
+					
Units:		tonnes			
Air:		243.67			
Water:					
Substances Released:		Carbon monoxide			
Land:					
+					
Units:		tonnes			
Air:					
Water:		12.613999999999999			
Substances Released:		Manganese (and its compounds)			
Land:		.001			
+					
Units:		kg			
Air:					
Water:		47.456			
Substances Released:		Cadmium (and its compounds)			
Land:		.002			
+					
Units:		kg			
Air:					
Water:		108.549			
Substances Released:		Arsenic (and its compounds)			
Land:		.005			
+					
Units:		kg			
Air:					
Water:		8.768			
Substances Released:		Mercury (and its compounds)			

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Land:		.002			
22	7 of 21	NNW/165.5	8.0	Greater Vancouver Regional District 1299 Derwent Way Delta BC V3M 5V9	NPRI
Longitude:		-122.952			
NPRI #:		0000001338			
Year:		2000			
Latitude:		49.1661			
--- Details ---					
Units:		tonnes			
Air:					
Water:		0			
Substances Released:					
Land:					
+					
Units:		tonnes			
Air:					
Water:		12			
Substances Released:					
Land:					
+					
Units:		tonnes			
Air:					
Water:		4310			
Substances Released:					
Land:					
22	8 of 21	NNW/165.5	8.0	GREATER VANCOUVER REGIONAL DISTRICT 1299 Derwent Way Delta BC V3M5V9	NPRI
Longitude:		-122.952			
NPRI #:		0000001338			
Year:		2013			
Latitude:		49.1661			
--- Details ---					
Units:		kg			
Air:					
Water:		.2028			
Substances Released:		Benzo(g,h,i)perylene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		.2985			
Substances Released:		Indeno(1,2,3-c,d)pyrene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		.2127			
Substances Released:		Benzo(b)fluoranthene - PAH			
Land:					
+					
Units:		kg			

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Air:					
Water:		1.8855			
Substances Released:		Fluoranthene - PAH			
Land:					
+					
Units:		tonnes			
Air:		1.6677			
Water:					
Substances Released:		PM10 - Particulate Matter <= 10 Microns			
Land:					
+					
Units:		kg			
Air:					
Water:		2.9439			
Substances Released:		Pyrene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		.2678			
Substances Released:		Benzo(a)anthracene - PAH			
Land:					
+					
Units:		tonnes			
Air:		75.6937			
Water:					
Substances Released:		Nitrogen oxides (expressed as NO2)			
Land:					
+					
Units:		tonnes			
Air:		1.6677			
Water:					
Substances Released:		PM2.5 - Particulate Matter <= 2.5 Microns			
Land:					
+					
Units:		tonnes			
Air:					
Water:		9.1252			
Substances Released:		Hydrogen sulphide			
Land:					
+					
Units:		tonnes			
Air:		187.0624			
Water:					
Substances Released:		Carbon monoxide			
Land:					
+					
Units:		kg			
Air:					
Water:		17.9691			
Substances Released:		Cadmium (and its compounds)			
Land:					
+					
Units:		kg			
Air:					
Water:		100.3612			
Substances Released:		Lead (and its compounds)			
Land:					
+					
Units:		kg			
Air:					
Water:		.9187			

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<i>Substances Released:</i>		Acenaphthene - PAH			
<i>Land:</i>					
+					
<i>Units:</i>		kg			
<i>Air:</i>					
<i>Water:</i>		1.0509			
<i>Substances Released:</i>		Phenanthrene - PAH			
<i>Land:</i>					
+					
<i>Units:</i>		kg			
<i>Air:</i>					
<i>Water:</i>		.9901			
<i>Substances Released:</i>		Fluorene - PAH			
<i>Land:</i>					
+					
<i>Units:</i>		tonnes			
<i>Air:</i>					
<i>Water:</i>		.7339			
<i>Substances Released:</i>		Nonylphenol and its ethoxylates			
<i>Land:</i>					
+					
<i>Units:</i>		tonnes			
<i>Air:</i>					
<i>Water:</i>		5.9753			
<i>Substances Released:</i>		Zinc (and its compounds)			
<i>Land:</i>					
+					
<i>Units:</i>		tonnes			
<i>Air:</i>					
<i>Water:</i>		11.2353			
<i>Substances Released:</i>		Manganese (and its compounds)			
<i>Land:</i>					
+					
<i>Units:</i>		tonnes			
<i>Air:</i>					
<i>Water:</i>		498.7927			
<i>Substances Released:</i>		Phosphorus (total)			
<i>Land:</i>					
+					
<i>Units:</i>		tonnes			
<i>Air:</i>					
<i>Water:</i>		5.2188			
<i>Substances Released:</i>		Copper (and its compounds)			
<i>Land:</i>					
+					
<i>Units:</i>		tonnes			
<i>Air:</i>					
<i>Water:</i>					
<i>Substances Released:</i>		Chlorine			
<i>Land:</i>					
+					
<i>Units:</i>		kg			
<i>Air:</i>					
<i>Water:</i>		134.9487			
<i>Substances Released:</i>		Arsenic (and its compounds)			
<i>Land:</i>					
+					
<i>Units:</i>		kg			
<i>Air:</i>					
<i>Water:</i>		4.437			
<i>Substances Released:</i>		Mercury (and its compounds)			
<i>Land:</i>					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
+ Units: tonnes Air: 94.3892 Water: 5464.9201 Substances Released: Ammonia (total) Land:					
22	9 of 21	NNW/165.5	8.0	Greater Vancouver Regional District 1299 Derwent Way Delta BC V3M5V9	NPRI
Longitude: -122.952 NPRI #: 0000001338 Year: 2004 Latitude: 49.1661					
--- Details ---					
+ Units: tonnes Air: 81.689 Water: Substances Released: Nitrogen oxides (expressed as NO2) Land:					
+ Units: kg Air: Water: 5.2310000000000001 Substances Released: Pyrene - PAH Land:					
+ Units: kg Air: Water: .57800000000000001 Substances Released: Benzo(b)fluoranthene - PAH Land:					
+ Units: kg Air: Water: 2.479 Substances Released: Fluoranthene - PAH Land:					
+ Units: kg Air: Water: .087000000000000001 Substances Released: Benzo(e)pyrene - PAH Land:					
+ Units: kg Air: Water: .156 Substances Released: Benzo(g,h,i)perylene - PAH Land:					
+ Units: tonnes Air: Water: 0 Substances Released: Chlorine Land:					
+ Units: tonnes Air:					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Water:		6.138			
Substances Released:		Copper (and its compounds)			
Land:					
+					
Units:		kg			
Air:					
Water:		294.35400000000004			
Substances Released:		Lead (and its compounds)			
Land:					
+					
Units:		tonnes			
Air:					
Water:		5.023			
Substances Released:		Zinc (and its compounds)			
Land:					
+					
Units:		tonnes			
Air:					
Water:		1.908			
Substances Released:		Nitrate ion in solution at pH >= 6.0			
Land:					
+					
Units:		tonnes			
Air:					
Water:		4908.692999999999			
Substances Released:		Ammonia (total)			
Land:					
+					
Units:		tonnes			
Air:					
Water:		2.871			
Substances Released:		Nonylphenol and its ethoxylates			
Land:					
+					
Units:		tonnes			
Air:					
Water:		447.408			
Substances Released:		Phosphorus (total)			
Land:					
+					
Units:		tonnes			
Air:		1.88			
Water:					
Substances Released:		PM2.5 - Particulate Matter <= 2.5 Microns			
Land:					
+					
Units:		tonnes			
Air:		12.742			
Water:					
Substances Released:		Volatile Organic Compounds (VOCs)			
Land:					
+					
Units:		kg			
Air:					
Water:		10.487			
Substances Released:		Mercury (and its compounds)			
Land:					
+					
Units:		tonnes			
Air:		1.888			
Water:					
Substances Released:		PM10 - Particulate Matter <= 10 Microns			

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Land:					
+					
Units:		kg			
Air:					
Water:		.261			
Substances Released:		Benzo(a)pyrene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		.659			
Substances Released:		Benzo(a)anthracene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		.229			
Substances Released:		Indeno(1,2,3-CD)pyrene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		.087			
Substances Released:		Dibenzo(a,h)anthracene - PAH			
Land:					
+					
Units:		tonnes			
Air:		59.002			
Water:					
Substances Released:		Carbon monoxide			
Land:					
+					
Units:		kg			
Air:					
Water:		98.16			
Substances Released:		Arsenic (and its compounds)			
Land:					
+					
Units:		kg			
Air:					
Water:		1.682			
Substances Released:		Phenanthrene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		54.536			
Substances Released:		Cadmium (and its compounds)			
Land:					
+					
Units:		tonnes			
Air:					
Water:		12.738999999999999			
Substances Released:		Manganese (and its compounds)			
Land:					

[22](#)

10 of 21

NNW/165.5

8.0

Greater Vancouver Regional District
1299 Derwent Way
Delta BC V3M5V9

NPRI

Longitude:

-122.952

71

erisinfo.com | EcoLog ERIS Ltd.
CDM Annacis Outfall Derwent Way And Eaton Place Delta BC

Order #: 20150908144

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
NPRI #:		0000001338			
Year:		2003			
Latitude:		49.1661			
--- Details ---					
Units:		tonnes			
Air:		77			
Water:					
Substances Released:		Nitrogen oxides (expressed as NO2)			
Land:					
+					
Units:		kg			
Air:					
Water:		5.045			
Substances Released:		Pyrene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		2.255			
Substances Released:		Fluoranthene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		.185			
Substances Released:		Benzo(b)fluoranthene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		.082			
Substances Released:		Benzo(e)pyrene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		.214			
Substances Released:		Benzo(g,h,i)perylene - PAH			
Land:					
+					
Units:		tonnes			
Air:					
Water:		0			
Substances Released:		Chlorine			
Land:					
+					
Units:		kg			
Air:					
Water:		250.63299999999998			
Substances Released:		Lead (and its compounds)			
Land:					
+					
Units:		tonnes			
Air:					
Water:		10.094000000000001			
Substances Released:		Copper (and its compounds)			
Land:					
+					
Units:		tonnes			
Air:					
Water:		5.0840000000000005			

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<i>Substances Released:</i>		Zinc (and its compounds)			
<i>Land:</i>					
+					
<i>Units:</i>		tonnes			
<i>Air:</i>					
<i>Water:</i>		17.287			
<i>Substances Released:</i>		Nitrate ion in solution at pH >= 6.0			
<i>Land:</i>					
+					
<i>Units:</i>		tonnes			
<i>Air:</i>					
<i>Water:</i>		4625.107			
<i>Substances Released:</i>		Ammonia (total)			
<i>Land:</i>					
+					
<i>Units:</i>		tonnes			
<i>Air:</i>					
<i>Water:</i>		415.205			
<i>Substances Released:</i>		Phosphorus (total)			
<i>Land:</i>					
+					
<i>Units:</i>		tonnes			
<i>Air:</i>		1.43			
<i>Water:</i>					
<i>Substances Released:</i>		PM2.5 - Particulate Matter <= 2.5 Microns			
<i>Land:</i>					
+					
<i>Units:</i>		kg			
<i>Air:</i>					
<i>Water:</i>		.626			
<i>Substances Released:</i>		Benzo(a)anthracene - PAH			
<i>Land:</i>					
+					
<i>Units:</i>		kg			
<i>Air:</i>					
<i>Water:</i>		.213			
<i>Substances Released:</i>		Benzo(a)pyrene - PAH			
<i>Land:</i>					
+					
<i>Units:</i>		kg			
<i>Air:</i>					
<i>Water:</i>		.209			
<i>Substances Released:</i>		Indeno(1,2,3-CD)pyrene - PAH			
<i>Land:</i>					
+					
<i>Units:</i>		tonnes			
<i>Air:</i>		46.7			
<i>Water:</i>					
<i>Substances Released:</i>		Carbon monoxide			
<i>Land:</i>					
+					
<i>Units:</i>		kg			
<i>Air:</i>					
<i>Water:</i>		.119			
<i>Substances Released:</i>		Dibenzo(a,h)anthracene - PAH			
<i>Land:</i>					
+					
<i>Units:</i>		kg			
<i>Air:</i>					
<i>Water:</i>		1.142			
<i>Substances Released:</i>		Phenanthrene - PAH			
<i>Land:</i>					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
+					
Units:		kg			
Air:					
Water:		104.241			
Substances Released:		Arsenic (and its compounds)			
Land:					
+					
Units:		kg			
Air:					
Water:		50.354			
Substances Released:		Cadmium (and its compounds)			
Land:					
+					
Units:		tonnes			
Air:					
Water:		11.842			
Substances Released:		Manganese (and its compounds)			
Land:					
+					
Units:		kg			
Air:					
Water:		4.830999999999995			
Substances Released:		Mercury (and its compounds)			
Land:					
+					
Units:		tonnes			
Air:		1.439			
Water:					
Substances Released:		PM10 - Particulate Matter <= 10 Microns			
Land:					

22	11 of 21	NNW/165.5	8.0	Greater Vancouver Regional District 1299 Derwent Way Delta BC V3M5V9	NPRI
--------------------	----------	-----------	-----	---	-------------

Longitude: -122.952
NPRI #: 0000001338
Year: 2009
Latitude: 49.1661

--- Details ---

Units: tonnes
Air: 61.758
Water:
Substances Released: Nitrogen oxides (expressed as NO2)
Land:

+

Units: kg
Air:
Water: 3.199
Substances Released: Pyrene - PAH
Land: .005

+

Units: kg
Air:
Water: 2.118999999999998
Substances Released: Fluoranthene - PAH
Land: .005

+

Units: kg
Air:

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Water:		.24899999999999997			
Substances Released:		Benzo(b)fluoranthene - PAH			
Land:		.001			
+					
Units:		kg			
Air:					
Water:		.236			
Substances Released:		Benzo(g,h,i)perylene - PAH			
Land:		0			
+					
Units:		tonnes			
Air:		1.33			
Water:					
Substances Released:		PM2.5 - Particulate Matter <= 2.5 Microns			
Land:					
+					
Units:		tonnes			
Air:					
Water:					
Substances Released:		Chlorine			
Land:					
+					
Units:		tonnes			
Air:					
Water:		9.632			
Substances Released:		Hydrogen sulphide			
Land:		.009			
+					
Units:		kg			
Air:					
Water:		1.054			
Substances Released:		Fluorene - PAH			
Land:		.005			
+					
Units:		tonnes			
Air:					
Water:		8.125			
Substances Released:		Copper (and its compounds)			
Land:		.003			
+					
Units:		tonnes			
Air:		97.76			
Water:		5188.076			
Substances Released:		Ammonia (total)			
Land:		.734			
+					
Units:		tonnes			
Air:					
Water:		6.883			
Substances Released:		Zinc (and its compounds)			
Land:		.004			
+					
Units:		tonnes			
Air:					
Water:		3.74			
Substances Released:		Nitrate ion in solution at pH >= 6.0			
Land:		.003			
+					
Units:		tonnes			
Air:					
Water:		6.036			
Substances Released:		Nonylphenol and its ethoxylates			

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Land:		.004			
+					
Units:		tonnes			
Air:					
Water:		563.876			
Substances Released:		Phosphorus (total)			
Land:		.166			
+					
Units:		kg			
Air:					
Water:		5.123			
Substances Released:		Mercury (and its compounds)			
Land:		.007			
+					
Units:		tonnes			
Air:		1.33			
Water:					
Substances Released:		PM10 - Particulate Matter <= 10 Microns			
Land:					
+					
Units:		kg			
Air:					
Water:		.301			
Substances Released:		Benzo(a)anthracene - PAH			
Land:		.001			
+					
Units:		kg			
Air:					
Water:		.359			
Substances Released:		Indeno(1,2,3-c,d)pyrene - PAH			
Land:		.002			
+					
Units:		tonnes			
Air:		152.041			
Water:					
Substances Released:		Carbon monoxide			
Land:					
+					
Units:		kg			
Air:					
Water:		1.282			
Substances Released:		Phenanthrene - PAH			
Land:		.011			
+					
Units:		kg			
Air:					
Water:		.992			
Substances Released:		Acenaphthene - PAH			
Land:		.005			
+					
Units:		kg			
Air:					
Water:		182.48000000000002			
Substances Released:		Lead (and its compounds)			
Land:		.209			
+					
Units:		kg			
Air:					
Water:		126.006			
Substances Released:		Arsenic (and its compounds)			
Land:		.047			
+					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Units:		tonnes			
Air:					
Water:		11.504000000000001			
Substances Released:		Manganese (and its compounds)			
Land:		.003			
+					
Units:		kg			
Air:					
Water:		45.601			
Substances Released:		Cadmium (and its compounds)			
Land:		.009			

22	12 of 21	NNW/165.5	8.0	Greater Vancouver Regional District 1299 Derwent Way Delta BC V3M5V9	NPRI
--------------------	----------	-----------	-----	--	------

Longitude:		-122.952			
NPRI #:		0000001338			
Year:		2006			
Latitude:		49.1661			
--- Details ---					
Units:		tonnes			
Air:		99.699			
Water:					
Substances Released:		Nitrogen oxides (expressed as NO2)			
Land:					
+					
Units:		kg			
Air:					
Water:		5.353			
Substances Released:		Pyrene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		.224			
Substances Released:		Benzo(k)fluoranthene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		.039			
Substances Released:		Acenaphthylene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		.457			
Substances Released:		Benzo(b)fluoranthene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		2.6020000000000003			
Substances Released:		Fluoranthene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		.181			

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Substances Released: Land:		Benzo(g,h,i)perylene - PAH			
+					
Units:		kg			
Air:					
Water:		.086000000000000001			
Substances Released: Land:		Benzo(e)pyrene - PAH			
+					
Units:		tonnes			
Air:		1.718			
Water:					
Substances Released: Land:		PM2.5 - Particulate Matter <= 2.5 Microns			
+					
Units:		tonnes			
Air:					
Water:		0			
Substances Released: Land:		Chlorine			
+					
Units:		kg			
Air:					
Water:		1.6629999999999998			
Substances Released: Land:		Fluorene - PAH			
+					
Units:		tonnes			
Air:					
Water:		6.4239999999999995			
Substances Released: Land:		Copper (and its compounds)			
+					
Units:		kg			
Air:					
Water:		167.36599999999999			
Substances Released: Land:		Lead (and its compounds)			
+					
Units:		tonnes			
Air:		99.752			
Water:		4321.214			
Substances Released: Land:		Ammonia (total)			
+					
Units:		tonnes			
Air:					
Water:		5.6099999999999999			
Substances Released: Land:		Zinc (and its compounds)			
+					
Units:		tonnes			
Air:					
Water:		3.6270000000000002			
Substances Released: Land:		Nitrate ion in solution at pH >= 6.0			
+					
Units:		tonnes			
Air:					
Water:		484.252			
Substances Released: Land:		Phosphorus (total)			

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
+					
Units:		tonnes			
Air:					
Water:		2.905			
Substances Released:		Nonylphenol and its ethoxylates			
Land:					
+					
Units:		tonnes			
Air:		1.718			
Water:					
Substances Released:		PM10 - Particulate Matter <= 10 Microns			
Land:					
+					
Units:		kg			
Air:					
Water:		.143			
Substances Released:		Benzo(a)pyrene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		.687			
Substances Released:		Benzo(a)anthracene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		.275			
Substances Released:		Indeno(1,2,3-c,d)pyrene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		.10200000000000001			
Substances Released:		Dibenzo(a,h)anthracene - PAH			
Land:					
+					
Units:		tonnes			
Air:		253.642			
Water:					
Substances Released:		Carbon monoxide			
Land:					
+					
Units:		kg			
Air:					
Water:		1.911			
Substances Released:		Phenanthrene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		1.252			
Substances Released:		Acenaphthene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		123.18199999999999			
Substances Released:		Arsenic (and its compounds)			
Land:					
+					
Units:		tonnes			

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Air:					
Water:		11.736			
Substances Released:		Manganese (and its compounds)			
Land:					
+					
Units:		kg			
Air:					
Water:		56.513000000000005			
Substances Released:		Cadmium (and its compounds)			
Land:					
+					
Units:		kg			
Air:					
Water:		9.914			
Substances Released:		Mercury (and its compounds)			
Land:					

22	13 of 21	NNW/165.5	8.0	Greater Vancouver Regional District 1299 Derwent Way Delta BC V3M 5V9	NPRI
Longitude:		-122.952			
NPRI #:		0000001338			
Year:		2001			
Latitude:		49.1661			
--- Details ---					
Units:		tonnes			
Air:					
Water:		11.86			
Substances Released:					
Land:					
+					
Units:		tonnes			
Air:					
Water:		4511			
Substances Released:					
Land:					
+					
Units:		tonnes			
Air:					
Water:		0			
Substances Released:					
Land:					

22	14 of 21	NNW/165.5	8.0	Greater Vancouver Regional District 1299 Derwent Way Delta BC V3M 5V9	NPRI
Longitude:		-122.952			
NPRI #:		0000001338			
Year:		1999			
Latitude:		49.1661			
--- Details ---					
Units:		tonnes			
Air:					
Water:					
Substances Released:					
Land:					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
22	15 of 21	NNW/165.5	8.0	Annacis Island Wastewater Treatment Plant 1299 Derwent Way Delta BC V3M 5V9	NPRI
<p>Longitude: -122.952 NPRI #: 0000001338 Year: 1994 Latitude: 49.1661</p> <p>--- Details --- Units: tonnes Air: Water: Substances Released: Land:</p>					
22	16 of 21	NNW/165.5	8.0	The Greater Vancouver Regional District 1299 Derwent Way Delta BC V3M 5V9	NPRI
<p>Longitude: -122.952 NPRI #: 0000001338 Year: 1997 Latitude: 49.1661</p> <p>--- Details --- Units: tonnes Air: Water: Substances Released: Land:</p>					
22	17 of 21	NNW/165.5	8.0	Greater Vancouver Regional District 1299 Derwent Way Delta BC V3M 5V9	NPRI
<p>Longitude: -122.952 NPRI #: 0000001338 Year: 1998 Latitude: 49.1661</p> <p>--- Details --- Units: tonnes Air: Water: Substances Released: Land:</p>					
22	18 of 21	NNW/165.5	8.0	Greater Vancouver Regional District 1299 Derwent Way Delta BC V3M5V9	NPRI
<p>Longitude: -122.952 NPRI #: 0000001338 Year: 2012 Latitude: 49.1661</p> <p>--- Details ---</p>					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Units:		tonnes			
Air:		1.6375			
Water:					
Substances Released:		PM2.5 - Particulate Matter <= 2.5 Microns			
Land:					
+					
Units:		tonnes			
Air:		73.1684			
Water:					
Substances Released:		Nitrogen oxides (expressed as NO2)			
Land:					
+					
Units:		kg			
Air:					
Water:		3.1374			
Substances Released:		Pyrene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		2.0288			
Substances Released:		Fluoranthene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		.23160000000000003			
Substances Released:		Benzo(b)fluoranthene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		.2271			
Substances Released:		Benzo(g,h,i)perylene - PAH			
Land:					
+					
Units:		tonnes			
Air:					
Water:					
Substances Released:		Chlorine			
Land:					
+					
Units:		tonnes			
Air:					
Water:		9.6119			
Substances Released:		Hydrogen sulphide			
Land:					
+					
Units:		kg			
Air:					
Water:		1.0061			
Substances Released:		Fluorene - PAH			
Land:					
+					
Units:		tonnes			
Air:					
Water:		4.9871			
Substances Released:		Copper (and its compounds)			
Land:					
+					
Units:		tonnes			
Air:		99.4805			

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Water:		5352.741			
Substances Released:		Ammonia (total)			
Land:					
+					
Units:		tonnes			
Air:					
Water:		7.5020999999999995			
Substances Released:		Zinc (and its compounds)			
Land:					
+					
Units:		tonnes			
Air:					
Water:		504.0657			
Substances Released:		Phosphorus (total)			
Land:					
+					
Units:		tonnes			
Air:					
Water:		.9479000000000001			
Substances Released:		Nonylphenol and its ethoxylates			
Land:					
+					
Units:		tonnes			
Air:		1.6375			
Water:					
Substances Released:		PM10 - Particulate Matter <= 10 Microns			
Land:					
+					
Units:		tonnes			
Air:					
Water:		11.6333			
Substances Released:		Manganese (and its compounds)			
Land:					
+					
Units:		kg			
Air:					
Water:		.292			
Substances Released:		Benzo(a)anthracene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		.3263			
Substances Released:		Indeno(1,2,3-c,d)pyrene - PAH			
Land:					
+					
Units:		tonnes			
Air:		179.0391			
Water:					
Substances Released:		Carbon monoxide			
Land:					
+					
Units:		kg			
Air:					
Water:		.9359			
Substances Released:		Acenaphthene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		1.0972			
Substances Released:		Phenanthrene - PAH			

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Land:					
+					
Units:		kg			
Air:					
Water:		161.4893			
Substances Released:		Lead (and its compounds)			
Land:					
+					
Units:		kg			
Air:					
Water:		149.1904			
Substances Released:		Arsenic (and its compounds)			
Land:					
+					
Units:		kg			
Air:					
Water:		19.063			
Substances Released:		Cadmium (and its compounds)			
Land:					
+					
Units:		kg			
Air:					
Water:		4.6726			
Substances Released:		Mercury (and its compounds)			
Land:					

[22](#)

19 of 21

NNW/165.5

8.0

Greater Vancouver Regional District
1299 Derwent Way
Delta BC V3M5V9

NPRI

Longitude: -122.952
NPRI #: 0000001338
Year: 2010
Latitude: 49.1661

--- Details ---

Units: tonnes
Air: 1.334
Water:
Substances Released: PM2.5 - Particulate Matter <= 2.5 Microns
Land:
+
Units: tonnes
Air: 60.575
Water:
Substances Released: Nitrogen oxides (expressed as NO2)
Land:
+
Units: kg
Air:
Water: 3.0977
Substances Released: Pyrene - PAH
Land: .0015
+
Units: kg
Air:
Water: 2.0244
Substances Released: Fluoranthene - PAH
Land: .0016
+
Units: kg

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Air:					
Water:		.232700000000000002			
Substances Released:		Benzo(b)fluoranthene - PAH			
Land:		.0003			
+					
Units:		kg			
Air:					
Water:		.2285			
Substances Released:		Benzo(g,h,i)perylene - PAH			
Land:		.0001			
+					
Units:		tonnes			
Air:					
Water:					
Substances Released:		Chlorine			
Land:					
+					
Units:		tonnes			
Air:					
Water:		9.401			
Substances Released:		Hydrogen sulphide			
Land:		.003			
+					
Units:		kg			
Air:					
Water:		.9693999999999999			
Substances Released:		Fluorene - PAH			
Land:		.0016			
+					
Units:		tonnes			
Air:					
Water:		5.027			
Substances Released:		Copper (and its compounds)			
Land:		.001			
+					
Units:		tonnes			
Air:		96.798			
Water:		5228.142			
Substances Released:		Ammonia (total)			
Land:		.232			
+					
Units:		tonnes			
Air:					
Water:		8.414			
Substances Released:		Zinc (and its compounds)			
Land:		.001			
+					
Units:		tonnes			
Air:					
Water:		539.841			
Substances Released:		Phosphorus (total)			
Land:		.05			
+					
Units:		tonnes			
Air:					
Water:		5.922			
Substances Released:		Nonylphenol and its ethoxylates			
Land:		.001			
+					
Units:		kg			
Air:					
Water:		4.567			

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<i>Substances Released:</i>		Mercury (and its compounds)			
<i>Land:</i>		.001			
+					
<i>Units:</i>		tonnes			
<i>Air:</i>		1.334			
<i>Water:</i>					
<i>Substances Released:</i>		PM10 - Particulate Matter <= 10 Microns			
<i>Land:</i>					
+					
<i>Units:</i>		kg			
<i>Air:</i>					
<i>Water:</i>		.2924			
<i>Substances Released:</i>		Benzo(a)anthracene - PAH			
<i>Land:</i>		.0001			
+					
<i>Units:</i>		kg			
<i>Air:</i>					
<i>Water:</i>		.3281			
<i>Substances Released:</i>		Indeno(1,2,3-c,d)pyrene - PAH			
<i>Land:</i>		.0006			
+					
<i>Units:</i>		tonnes			
<i>Air:</i>		148.186			
<i>Water:</i>					
<i>Substances Released:</i>		Carbon monoxide			
<i>Land:</i>					
+					
<i>Units:</i>		kg			
<i>Air:</i>					
<i>Water:</i>		1.1139999999999999			
<i>Substances Released:</i>		Phenanthrene - PAH			
<i>Land:</i>		.0033			
+					
<i>Units:</i>		kg			
<i>Air:</i>					
<i>Water:</i>		.90770000000000001			
<i>Substances Released:</i>		Acenaphthene - PAH			
<i>Land:</i>		.0016			
+					
<i>Units:</i>		kg			
<i>Air:</i>					
<i>Water:</i>		58.476			
<i>Substances Released:</i>		Cadmium (and its compounds)			
<i>Land:</i>		.003			
+					
<i>Units:</i>		kg			
<i>Air:</i>					
<i>Water:</i>		96.979			
<i>Substances Released:</i>		Arsenic (and its compounds)			
<i>Land:</i>		.008			
+					
<i>Units:</i>		kg			
<i>Air:</i>					
<i>Water:</i>		168.88500000000002			
<i>Substances Released:</i>		Lead (and its compounds)			
<i>Land:</i>		.088			
+					
<i>Units:</i>		tonnes			
<i>Air:</i>					
<i>Water:</i>		10.559999999999999			
<i>Substances Released:</i>		Manganese (and its compounds)			
<i>Land:</i>		.001			

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
22	20 of 21	NNW/165.5	8.0	Greater Vancouver Regional District 1299 Derwent Way Delta BC V3M5V9	NPRI

Longitude: -122.952
 NPRI #: 0000001338
 Year: 2011
 Latitude: 49.1661

--- Details ---

Units: tonnes
 Air: 1.7002
 Water:
 Substances Released: PM2.5 - Particulate Matter <= 2.5 Microns
 Land:

+
 Units: tonnes
 Air: 81.0742
 Water:
 Substances Released: Nitrogen oxides (expressed as NO2)
 Land:

+
 Units: kg
 Air:
 Water: 3.0217
 Substances Released: Pyrene - PAH
 Land: .0001

+
 Units: kg
 Air:
 Water: .2188
 Substances Released: Benzo(b)fluoranthene - PAH
 Land: .0001

+
 Units: kg
 Air:
 Water: 1.9474
 Substances Released: Fluoranthene - PAH
 Land: .0001

+
 Units: kg
 Air:
 Water: .2096
 Substances Released: Benzo(g,h,i)perylene - PAH
 Land: .0001

+
 Units: tonnes
 Air:
 Water: 9.3737
 Substances Released: Hydrogen sulphide
 Land: .0002

+
 Units: tonnes
 Air:
 Water:
 Substances Released: Chlorine
 Land:

+
 Units: kg
 Air:

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Water:		.9439			
Substances Released:		Fluorene - PAH			
Land:		.0001			
+					
Units:		tonnes			
Air:					
Water:		4.4649			
Substances Released:		Copper (and its compounds)			
Land:		.0001			
+					
Units:		kg			
Air:					
Water:		204.0605			
Substances Released:		Selenium (and its compounds)			
Land:		.0014			
+					
Units:		tonnes			
Air:		97.0121			
Water:		5050.1345			
Substances Released:		Ammonia (total)			
Land:		.0472			
+					
Units:		tonnes			
Air:					
Water:		7.1962			
Substances Released:		Zinc (and its compounds)			
Land:		.0002			
+					
Units:		tonnes			
Air:					
Water:		5.9131			
Substances Released:		Nonylphenol and its ethoxylates			
Land:					
+					
Units:		tonnes			
Air:					
Water:		471.3729			
Substances Released:		Phosphorus (total)			
Land:		.0078			
+					
Units:		tonnes			
Air:		1.7002			
Water:					
Substances Released:		PM10 - Particulate Matter <= 10 Microns			
Land:					
+					
Units:		kg			
Air:					
Water:		.2753			
Substances Released:		Benzo(a)anthracene - PAH			
Land:					
+					
Units:		kg			
Air:					
Water:		.3057			
Substances Released:		Indeno(1,2,3-c,d)pyrene - PAH			
Land:		.0001			
+					
Units:		tonnes			
Air:		201.0763			
Water:					
Substances Released:		Carbon monoxide			

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Land:					
+					
Units:		kg			
Air:					
Water:		.885			
Substances Released:		Acenaphthene - PAH			
Land:		.0001			
+					
Units:		kg			
Air:					
Water:		1.0291			
Substances Released:		Phenanthrene - PAH			
Land:		.0001			
+					
Units:		kg			
Air:					
Water:		200.8983			
Substances Released:		Lead (and its compounds)			
Land:		.0057			
+					
Units:		kg			
Air:					
Water:		23.2861			
Substances Released:		Cadmium (and its compounds)			
Land:		.0003			
+					
Units:		kg			
Air:					
Water:		123.9464			
Substances Released:		Arsenic (and its compounds)			
Land:		.0042			
+					
Units:		kg			
Air:					
Water:		4.5112			
Substances Released:		Mercury (and its compounds)			
Land:		.0001			
+					
Units:		tonnes			
Air:					
Water:		11.0977			
Substances Released:		Manganese (and its compounds)			
Land:		.0002			
<u>22</u>	21 of 21	NNW/165.5	8.0	Annacis Island Wastewater Treatment Plant 1299 Derwent Way Delta BC V3M 5V9	NPRI
Longitude:		-122.952			
NPRI #:		0000001338			
Year:		1995			
Latitude:		49.1661			
--- Details ---					
Units:		tonnes			
Air:					
Water:					
Substances Released:					
Land:					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
23	1 of 1	WSW/175.1	7.0	Data Business Forms Limited 575 Ebury Pl Delta BC V3M 6M8	SCT
Established:		1983			
Plant Size (ft²):		30			
Employment:					
--- Details ---					
Description:		Stationery and Office Supplies Wholesaler-Distributors			
SIC/NAICS Code:		418210			
24	1 of 1	ENE/187.9	7.0	GREATER VANCOUVER SEWERAGE AND DRAINAGE ANNACIS ISLAND FRASER R. DISTRICT BC	DIS
Permit NO:		387		Discharge:	
Issue Date:		03-MAR-71		F1 (Freshwater-Domestic)	
Site Desc:		MUNICIPAL SEWERAGE SYSTEM		Rcv'g Water: Annacis Channel (490100)	
Category:		L (Municipal)		Effluent: SE (Sewage)	
--- Details ---					
Treatment:		Treat. Type 1 : C1 (Preliminary Treatment - Grit and scum removal)			
+ Treatment:		Treat. Type 2 : C3 (Preliminary Treatment - Sedimentation)			
+ Treatment:		Treat. Type 3 : H5 (Sludge Treatment - Sludge thickeners)			
+ Treatment:		Treat. Type 4 : H6 (Sludge Treatment - Sludge digestion)			
+ Treatment:		Treat. Type 5 : H1 (Sludge Treatment - Sludge dewatering)			
+ Treatment:		Treat. Type 6 : G1 (Post Treatment - Chlorination)			
25	1 of 9	W/245.9	7.8	PRAXAIR ANNACIS ISLAND 1470 DERWENT WAY DELTA BC V3M6H9	AMS
File NO:		PE-2111(01)		Date Issued:	
Status:				Dt Ammnded:	
Status As Of:		Dec-98		SIC Code:	
Permit Type:				Location:	
Mailing Address:					
25	2 of 9	W/245.9	7.8	PRAXAIR CANADA INC. 1470 DERWENT WAY DELTA BC V3M 6H9	GEN
Generator NO:		BCG18148		Status Date:	
Status:		ACTIVE		Registration Dt:	
Mailing Addr:		1470 DERWENT WAY, DELTA, BC, CA V3M 6H9			
--- Details ---					
Waste:		Corrosive Liquids 8 III			
+ Waste:		Gasoline, Petrol			
+ Waste:					

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Waste:		leachate toxic waste			
25	3 of 9	W/245.9	7.8	B.C. WELDING SUPPLIES 1470 DERWENT WAY DELTA BC V3M 6H9	GEN
Generator NO:	BCG13117			Status Date:	5/17/1993
Status:	INACTIVE			Registration Dt:	1/13/1995
Mailing Addr:	1470 DERWENT WAY, DELTA, BC, CA V3M 6M9				
--- Details ---					
Waste:	pcbs				
25	4 of 9	W/245.9	7.8	Praxair 1470 Derwent Way, Anancis Island, Delta Annacis Island BC	NEES
Incident Date:	8/3/01 0:00				
Contaminant:	hydrogen chloride				
Amount:	4				
Units:	Pounds				
Quantity:	Estimate				
Cause:	Unknown				
Source:	Other Industrial Plant				
Reason:	Equipment Failure				
Sector:	Other				
25	5 of 9	W/245.9	7.8	Praxair Canada Inc. 1470 Derwent Way Annacis Island Delta BC V3M 6H9	PAP
Division:					
Mailing Address:	1470 Derwent Way, Annacis Island, Delta BC V3M 6H9				
Year:	2009				
Company ID:	286409167				
Mill Notes:					
History:					
Operation:					
Type:					
Status:	Inactive				
25	6 of 9	W/245.9	7.8	PRAXAIR CANADA INC. 1470 DERWENT WAY DELTA BC V3M 6H9	PCB
BCG NO:	BCG24125			Status Date:	22-JAN-99
Status:	ACTIVE			Region:	LOWER MAINLAND
--- Details ---					
Waste Description:	Polychlorinated biphenyls9.1II				
Storage:	0 KG				
Waste in 30 Days:	500 KG				
Generating Description:	GENERATED ONE TIME ONLY				
Handling Description:	THERMAL TREATMENT				

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
25	7 of 9	W/245.9	7.8	B.C. WELDING SUPPLIES 1470 DERWENT WAY DELTA BC V3M 6M9	PCB
BCG NO:	BCG13117			Status Date:	1993/May/17
Status:	INACTIVE			Region:	LOWER MAINLAND
--- Details ---					
Waste Description:	pcbs				
Storage:	455 KG				
Waste in 30 Days:	0 KG				
Generating Description:	GENERATED ONE TIME ONLY				
Handling Description:	STORAGE				
25	8 of 9	W/245.9	7.8	PRAXAIR CANADA INC. 1470 DERWENT WAY DELTA BC V3M 6H9	REC
Company NO:	BCG00161				
Year:	2000				
Region:	LOWER MAINLAND				
--- Details ---					
Type of Waste:	acetylene, dissolved 2.1x				
+					
Type of Waste:	oxygen, compressed				
25	9 of 9	W/245.9	7.8	Praxair Canada Inc. 1470 Derwent Way Delta BC V3M 6H9	SCT
Established:					
Plant Size (ft²):	10000				
Employment:					
--- Details ---					
Description:	Chemical (except Agricultural) and Allied Product Wholesaler-Distributors				
SIC/NAICS Code:	418410				
+					
Description:	Petroleum Product Wholesaler-Distributors				
SIC/NAICS Code:	412110				
+					
Description:	Professional Machinery, Equipment and Supplies Wholesaler-Distributors				
SIC/NAICS Code:	417930				
+					
Description:	Industrial Machinery, Equipment and Supplies Wholesaler-Distributors				
SIC/NAICS Code:	417230				
26	1 of 2	WSW/165.8	5.6	Moventis Wireless Inc. 570 Ebury Pl Delta BC V3M 6M8	SCT
Established:	1/1/1995				
Plant Size (ft²):					
Employment:					
--- Details ---					
Description:	Computer and Peripheral Equipment Manufacturing				
SIC/NAICS Code:	334110				

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
26	2 of 2	WSW/165.8	5.6	International Energy Systems (1983) Ltd. 570 Ebury Pl Delta BC V3M 6M8	SCT
Established:		1983			
Plant Size (ft²):		20000			
Employment:		48			
--- Details ---					
Description:		Turbine and Turbine Generator Set Unit Manufacturing			
SIC/NAICS Code:		333611			
+					
Description:		All Other General-Purpose Machinery Manufacturing			
SIC/NAICS Code:		333990			
+					
Description:		Motor and Generator Manufacturing			
SIC/NAICS Code:		335312			
+					
Description:		Switchgear and Switchboard, and Relay and Industrial Control Apparatus Manufacturing			
SIC/NAICS Code:		335315			
+					
Description:		Industrial Machinery, Equipment and Supplies Wholesaler-Distributors			
SIC/NAICS Code:		417230			
27	1 of 1	W/259.7	7.0	National Signcorp Investments 1471 Derwent Way Delta BC V3M 6N2	SCT
Established:		01-JAN-82			
Plant Size (ft²):		55000			
Employment:					
--- Details ---					
Description:		Sign Manufacturing			
SIC/NAICS Code:		339950			
+					
Description:		Sign Manufacturing			
SIC/NAICS Code:		339950			
28	1 of 2	WSW/270.1	6.7	Vinyltek Windows Corp. 587 Ebury Pl Delta BC V3M 6M8	SCT
Established:		01-JAN-83			
Plant Size (ft²):		52000			
Employment:					
--- Details ---					
Description:		Plastic Window and Door Manufacturing			
SIC/NAICS Code:		326196			
28	2 of 2	WSW/270.1	6.7	VINYLTEK WINDOWS 587 Ebury Pl Delta BC V3M 6M8	SCT
Established:		1983			
Plant Size (ft²):		52000			
Employment:		35			

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
--- Details ---					
Description:		Plastics Products, Not Elsewhere Classified			
SIC/NAICS Code:		3089			
+					
Description:		All Other Plastic Product Manufacturing			
SIC/NAICS Code:		326198			
29	1 of 1	W/326.2	6.0	Great Western Chemical Company, Inc. - A Canadian Company 1599 Derwent Way Annacis Island Delta BC V3M 6K8	NPRI
Longitude:		-122.9589			
NPRI #:		0000005278			
Year:		1999			
Latitude:		49.1622			
--- Details ---					
Units:		tonnes			
Air:					
Water:					
Substances Released:					
Land:					
+					
Units:		tonnes			
Air:		.003			
Water:					
Substances Released:					
Land:					
+					
Units:		tonnes			
Air:		0			
Water:					
Substances Released:					
Land:					
30	1 of 1	WSW/292.5	6.0	Exchange A Blade Ltd. 584 Ebury Pl Delta BC V3M 6M8	SCT
Established:		01-APR-75			
Plant Size (ft²):					
Employment:					
--- Details ---					
Description:		Other Metalworking Machinery Manufacturing			
SIC/NAICS Code:		333519			
+					
Description:		Abrasive Product Manufacturing			
SIC/NAICS Code:		327910			
+					
Description:		All Other General-Purpose Machinery Manufacturing			
SIC/NAICS Code:		333990			
+					
Description:		Cutlery and Hand Tool Manufacturing			
SIC/NAICS Code:		332210			
31	1 of 3	W/360.4	6.0	1488 Derwent Way Delta BC V3M 6H9	EHS

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<i>Addit. Info Ordered:</i> Order No.: 20050926017 Report Date: 9/30/2005 Report Type: Complete Report Search Radius (km): 0.25					
31	2 of 3	W/360.4	6.0	1488 Derwent Way Delta (Annacis Island) BC	EHS
<i>Addit. Info Ordered:</i> Order No.: 20050816011 Report Date: 8/24/2005 Report Type: Complete Report Search Radius (km): 0.25					
31	3 of 3	W/360.4	6.0	Western Waffles Corp. 1488 Derwent Way Delta BC V3M 6H9	SCT
<i>Established:</i> Plant Size (ft²): 36000 Employment: --- Details --- Description: Commercial Bakeries and Frozen Bakery Product Manufacturing SIC/NAICS Code: 311814					
32	1 of 2	NE/377.6	9.0	1188 Derwent Way Delta BC V3M 5R1	EHS
<i>Addit. Info Ordered:</i> Order No.: 20070814041 Report Date: 8/23/2007 Report Type: CAN - Custom Report Search Radius (km): 0.5					
32	2 of 2	NE/377.6	9.0	Unknown contractor 1188 DERWENT WAY, ANNACIS ISLAND Delta BC V3M 5R1	NEES
<i>Incident Date:</i> 8/30/02 3:30 <i>Contaminant:</i> diesel <i>Amount:</i> <i>Units:</i> <i>Quantity:</i> Unknown <i>Cause:</i> Pipe Leak <i>Source:</i> Transport Truck <i>Reason:</i> Equipment Failure <i>Sector:</i> Transportation					
33	1 of 14	WSW/377.3	6.0	ARCA APPLIANCE RECYCLING CENTER (B.C.) LTD. NEW WESTMINSTER, #202 - 590 EBURY	AMS

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
				PLACE BC	
File NO:				Date Issued:	10/30/1995
Status:	Active			Dt Ammnded:	
Status As Of:	Jan 2012			SIC Code:	562920
Permit Type:	Hazardous Waste Regulation			Location:	NEW WESTMINSTER, #202 - 590 EBURY PLACE
Mailing Address:	UNIT 202 - 590 EBURY PLACE NEW WESTMINSTER, BC V3M 6K7				
33	2 of 14	WSW/377.3	6.0	ARCA APPLIANCE RECYCLING CENTER (B.C.) LTD. NEW WESTMINSTER, #202 - 590 EBURY PLACE BC	AMS
File NO:				Date Issued:	10/30/1995
Status:	Active			Dt Ammnded:	
Status As Of:	Aug 2009			SIC Code:	562920
Permit Type:	Hazardous Waste Regulation			Location:	NEW WESTMINSTER, #202 - 590 EBURY PLACE
Mailing Address:	UNIT 202 - 590 EBURY PLACE NEW WESTMINSTER, BC V3M 6K7				
33	3 of 14	WSW/377.3	6.0	BAY METAL INC 590 EBURY PL UNIT 208 ANNACIS ISLAND BC V3M6K7	AUWR
Facility:	SCRAP METALS				
Description:					
33	4 of 14	WSW/377.3	6.0	590 EBURY PLACE NEW WESTMINSTER BC	EHS
Addit. Info Ordered:					
Order No.:	20060901007w				
Report Date:	9/1/2006				
Report Type:	Online Mapless				
Search Radius (km):	0.25				
33	5 of 14	WSW/377.3	6.0	BRITISH COLUMBIA HYDRO AND POWER AUTHORITY 202 - 590 EBURY PL NEW WESTMINSTER BC V6M 6K7	GEN
Generator NO:	BCG12175			Status Date:	12/2/1999
Status:	ACTIVE			Registration Dt:	1/13/1995
Mailing Addr:	BOX 3000, GARIBALDI HIGHLANDS, BC, CA V0N 1T0				
--- Details ---					
Waste:	Sulphur dioxide, liquefied				
33	6 of 14	WSW/377.3	6.0	398177 BC LTD DBA NATIONAL BATTERY CORPORATION 112 - 590 EBURY PLACE	GEN

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
NEW WESTMINSTER BC V3M 6K7					
Generator NO:	BCG10189			Status Date:	5/14/1998
Status:	ACTIVE			Registration Dt:	1/13/1995
Mailing Addr:	112 - 590 EBURY PLACE, NEW WESTMINSTER, BC, CA V3M 6K7				
--- Details ---					
Waste:	Salvage Batteries, wet, filled with acid				
33	7 of 14	WSW/377.3	6.0	ARCA APPLIANCE RECYCLING CENTER 202 590 EBURY PLACE NEW WESTMINSTER BC V3M 6K7	GEN
Generator NO:	BCG19140			Status Date:	7/11/1996
Status:	ACTIVE			Registration Dt:	7/11/1996
Mailing Addr:	202 590 EBURY PLACE, NEW WESTMINSTER, BC, CA V3M 6K7				
--- Details ---					
Waste:	Bisulphites, inorganic, aqueous solutions, n.o.s.				
33	8 of 14	WSW/377.3	6.0	FIRST CHOICE LOGISTICS 300 - 590 EBURY PL DELTA BC V3M 6K7	GEN
Generator NO:	BCG29175			Status Date:	11/28/2002
Status:	ACTIVE			Registration Dt:	11/28/2002
Mailing Addr:	300 - 590 EBURY PL, DELTA, BC, CA V3N 6K7				
--- Details ---					
Waste:	WASTE ENVIRONMENTALLY HAZARDOUS SUBSTANCES, N.O.S.				
33	9 of 14	WSW/377.3	6.0	B.G.E. SERVICE & SUPPLY LTD. 202-590 Ebury PI Delta BC V3M 6K7	SCT
Established:	0000				
Plant Size (ft²):	0				
Employment:	0				
--- Details ---					
Description:	Industrial and Commercial Fan and Blower and Air Purification Equipment Manufacturing				
SIC/NAICS Code:	333413				
+					
Description:	All Other General-Purpose Machinery Manufacturing				
SIC/NAICS Code:	333990				
33	10 of 14	WSW/377.3	6.0	Sialco Materials Ltd. 108-590 Ebury PI Delta BC V3M 6K7	SCT
Established:	1988				
Plant Size (ft²):					
Employment:					
--- Details ---					
Description:	All Other Miscellaneous Chemical Product Manufacturing				
SIC/NAICS Code:	325999				

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
33	11 of 14	WSW/377.3	6.0	THE ORIGINAL PRINT BIND INC. 113-590 Ebury Pl Delta BC V3M 6K7	SCT
<i>Established:</i> <i>Plant Size (ft²):</i> 0 <i>Employment:</i> 4 --- Details --- <i>Description:</i> Bookbinding and Related Work <i>SIC/NAICS Code:</i> 2789 + <i>Description:</i> Support Activities for Printing <i>SIC/NAICS Code:</i> 323120					
33	12 of 14	WSW/377.3	6.0	B.G.E. Service & Supply Ltd 202-590 Ebury Pl Delta BC V3M 6K7	SCT
<i>Established:</i> 01-FEB-68 <i>Plant Size (ft²):</i> <i>Employment:</i> --- Details --- <i>Description:</i> All Other General-Purpose Machinery Manufacturing <i>SIC/NAICS Code:</i> 333990 + <i>Description:</i> Industrial and Commercial Fan and Blower and Air Purification Equipment Manufacturing <i>SIC/NAICS Code:</i> 333413					
33	13 of 14	WSW/377.3	6.0	590 EBURY PLACE DELTA BC	SREG
<i>Site ID NO:</i> 6313 <i>Site Description:</i> Not Applicable <i>Victoria File NO:</i> No File <i>Regional File NO:</i> 26250-20/6313 <i>Region:</i> SURREY, LOWER MAINLAND <i>Location Desc:</i> Site Created By Site Profile, Entered 1999-11-08. Lat/Long Confirmed Using Goat By Ministry Staff <i>Common Name:</i> 590 EBURY PLACE, DELTA <i>Cleanup Status:</i> <i>Registered:</i> <i>Updated:</i> <i>Detail Removed:</i> <i>Latitude:</i> 49.159864 <i>Longitude:</i> 122.957519					
33	14 of 14	WSW/377.3	6.0	ARCA APPLIANCE RECYCLING CENTER (B.C.) LTD. NEW WESTMINSTER, #202 - 590 EBURY PLACE NEW WESTMINSTER BC	WDS
<i>Permit NO:</i> RS-14356(1) <i>Waste Type:</i> SPECIAL WASTE STORAGE <i>Manner of Operation:</i> REGULATED SITE					
34	1 of 8	W/448.4	7.0	CANADA COLORS & CHEMICALS LTD 1511 DERWENT WAY SUITE 106 DELTA BC V3M6N4	CHEM

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
<i>Description:</i>					
<i>Facility:</i>		Chemicals			
34	2 of 8	W/448.4	7.0	CANADA COLORS & CHEMICALS LTD 106-1511 DERWENT WAY DELTA BC V3M6N4	CHEM
<i>Description:</i>					
<i>Facility:</i>		Chemicals			
34	3 of 8	W/448.4	7.0	205-1511 Derwent Way Delta BC V3M 6N4	EHS
<i>Addit. Info Ordered:</i>					
<i>Order No.:</i>		20100225026			
<i>Report Date:</i>		3/1/2010			
<i>Report Type:</i>		BC Standard Report Plus			
<i>Search Radius (km):</i>		0.25			
34	4 of 8	W/448.4	7.0	Q.M. Bearings & Power Trans 205-1511 Derwent Way Delta BC V3M 6N4	SCT
<i>Established:</i>					
<i>Plant Size (ft²):</i>		1/1/1951			
<i>Employment:</i>					
--- Details ---					
<i>Description:</i>		Metal Valve Manufacturing			
<i>SIC/NAICS Code:</i>		332910			
+					
<i>Description:</i>		Ball and Roller Bearing Manufacturing			
<i>SIC/NAICS Code:</i>		332991			
+					
<i>Description:</i>		Other Rubber Product Manufacturing			
<i>SIC/NAICS Code:</i>		326290			
+					
<i>Description:</i>		Metal Valve Manufacturing			
<i>SIC/NAICS Code:</i>		332910			
34	5 of 8	W/448.4	7.0	Soprema Inc. 201-1511 Derwent Way Delta BC V3M 6N4	SCT
<i>Established:</i>					
<i>Plant Size (ft²):</i>		1908			
<i>Employment:</i>		6			
--- Details ---					
<i>Description:</i>		Other Specialty-Line Building Supplies Wholesaler-Distributors			
<i>SIC/NAICS Code:</i>		416390			
34	6 of 8	W/448.4	7.0	Q.M. Bearings & Power Transmission Ltd. 206-1511 Derwent Way Delta BC V3M 6N4	SCT

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
Established:		1951			
Plant Size (ft²):					
Employment:		12			
--- Details ---					
Description:		Other Rubber Product Manufacturing			
SIC/NAICS Code:		326290			
+					
Description:		Metal Valve Manufacturing			
SIC/NAICS Code:		332910			
+					
Description:		Ball and Roller Bearing Manufacturing			
SIC/NAICS Code:		332991			
+					
Description:		Other Engine and Power Transmission Equipment Manufacturing			
SIC/NAICS Code:		333619			
34	7 of 8	W/448.4	7.0	Canada Colors and Chemicals Limited 106-1511 Derwent Way Delta BC V3M 6N4	SCT
Established:		1920			
Plant Size (ft²):					
Employment:		22			
34	8 of 8	W/448.4	7.0	CANADA COLORS & CHEMICALS LTD. 106-1511 Derwent Way Delta BC V3M 6N4	SCT
Established:		1920			
Plant Size (ft²):		0			
Employment:		22			
--- Details ---					
Description:		All Other Miscellaneous Chemical Product Manufacturing			
SIC/NAICS Code:		325999			
+					
Description:		Plastic Materials, Synthetic Resins, and Nonvulcanizable Elastomers			
SIC/NAICS Code:		2821			
+					
Description:		Industrial organic Chemicals, Not Elsewhere Classified			
SIC/NAICS Code:		2869			
+					
Description:		Chemicals and Chemical Preparations, Not Elsewhere Classified			
SIC/NAICS Code:		2899			
+					
Description:		Plastics Materials and Basic Forms and Shapes			
SIC/NAICS Code:		5162			
+					
Description:		Chemicals and Allied Products, Not Elsewhere Classified			
SIC/NAICS Code:		5169			
+					
Description:		Resin and Synthetic Rubber Manufacturing			
SIC/NAICS Code:		325210			
+					
Description:		Other Basic Organic Chemical Manufacturing			
SIC/NAICS Code:		325190			

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
35	1 of 1	W/475.2	6.4	1500 Derwent Way Delta BC V3M6N7	EHS
<i>Addit. Info Ordered:</i> Order No.: 20140117041 Report Date: 23-JAN-14 Report Type: BC Standard Report Plus Search Radius (km): .5					
36	1 of 1	W/486.8	7.0	1510 Derwent Way Delta BC V3M 6N7	EHS
<i>Addit. Info Ordered:</i> Order No.: 20061016008 Report Date: 10/17/2006 Report Type: Complete Report Search Radius (km): 0.25					
37	1 of 2	NW/440.1	7.0	METRO VANCOUVER 1360 LINDSEY PLACE DELTA BC V3M 5V9	GEN
Generator NO: BCG48164 Status: ACTIVE Mailing Addr: 4330 KINGSWAY Status Date: 2010/May/31 Registration Dt: 2010/May/31 --- Details --- Waste: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S.					
37	2 of 2	NW/440.1	7.0	1360 LINDSEY PLACE (WAS) DELTA BC	SREG
Site ID NO: 12222 Site Description: Unranked Victoria File NO: 26250-20/12222 Regional File NO: No File Region: SURREY, LOWER MAINLAND Location Desc: Not Entered Common Name: 1360 LINDSEY PLACE, DELTA Cleanup Status: Registered: Updated: Detail Removed: Latitude: 49.165556 Longitude: 122.957222					
38	1 of 3	NE/494.5	9.0	DOMINION BRIDGE AMCA INTERNATIONAL, VANCOUVER 1170 DERWENT WAY-ANNACIS ISL DELTA BC V3H 5V6	NPCB
Company Code: Q0274 Industry: METAL REFINING Site Status: Transaction Date: 3/5/1991 Inspection Date:					
38	2 of 3	NE/494.5	9.0	DOMINION BRIDGE AMCA INTERNATIONAL, VANCOUVER 1170 DERWENT WAY - ANNACIS ISL	NPCB

Map Key	Number of Records	Direction/ Distance m	Elevation m	Site	DB
				DELTA, B.C. DELTA, B.C. BC V3H5V6	
Company Code:		Q0274			
Industry:		Metal Refining			
Site Status:					
Transaction Date:		5/3/1991			
Inspection Date:					
--- Details ---					
Label:					
Serial No.:					
PCB Type/Code:		Askarel			
Location:					
Item/State:					
No. of Items:					
Manufacturer:					
Status:		In-use			
Contents:		4.75 L			
38	3 of 3	NE/494.5	9.0	DOMINION BRIDGE AMCA INTERNATIONAL VANCOUVER 1170 DERWENT WAY- ANNACIS ISLAND Delta BC V3M 5R1	NPCB
Company Code:		Q0274			
Industry:		Metal Refining			
Site Status:		In- Use			
Transaction Date:		8/31/1989			
Inspection Date:					
--- Details ---					
Label:					
Serial No.:					
PCB Type/Code:		Askarel/Inerteen			
Location:		PHYSICAL			
Item/State:					
No. of Items:					
Manufacturer:					
Status:		In-Use			
Contents:					
39	1 of 1	NNE/479.7	8.0	Saginaw Bakery Ltd. 561 Chester Rd Delta BC V3M 6G7	SCT
Established:		01-FEB-92			
Plant Size (ft²):					
Employment:					
--- Details ---					
Description:		Commercial Bakeries and Frozen Bakery Product Manufacturing			
SIC/NAICS Code:		311814			
+					
Description:		Other Specialty-Line Food Wholesaler-Distributors			
SIC/NAICS Code:		413190			
40	1 of 1	NNE/485.1	7.9	HENKEL CANADA LIMITED 575 CHESTER ST	GEN

<i>Map Key</i>	<i>Number of Records</i>	<i>Direction/ Distance m</i>	<i>Elevation m</i>	<i>Site</i>	<i>DB</i>
----------------	--------------------------	------------------------------	--------------------	-------------	-----------

NEW WESTMINSTER BC V3M 4G7

<i>Generator NO:</i>	BCG23106	<i>Status Date:</i>	2/23/1998
<i>Status:</i>	ACTIVE	<i>Registration Dt:</i>	2/23/1998
<i>Mailing Addr:</i>	165 REXDALE BLVD, ETOBICOKE, ON, CA M9W 1P7		

--- Details ---

<i>Waste:</i>	Corrosive Liquids 8 III
+	
<i>Waste:</i>	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S.
+	
<i>Waste:</i>	FLAMMABLE LIQUIDS, N.O.S.
+	
<i>Waste:</i>	POISONOUS LIQUID, N.O.S.
+	
<i>Waste:</i>	WASTE ENVIRONMENTALLY HAZARDOUS SUBSTANCES, N.O.S.

Unplottable Summary

Total: 6 Unplottable sites

DB	Company Name/Site Name	Address	City	Postal
AMS	CIPA Lumber Co. Ltd	Delta, Annacis Island	BC	
AMS	Weyerhaeuser Company Ltd.	New Westminster-Jardine	BC	
LUM	Weyerhaeuser Company Ltd.		New Westminster BC	
LUM	Weyerhaeuser Company Ltd.		Delta BC	
NEES	Unknown	Fraser River - passing Annacis Island, north side near Delta	Delta BC	
NEES		warehouse, Annacis Island	Annacis Island BC	

Unplottable Report

Site: CIPA Lumber Co. Ltd
Delta, Annacis Island BC

Database:
AMS

File NO: PE-0182(03) Date Issued: March 21, 1967
Status: Active Dt Ammnded: 3/30/1994
Status As Of: Jan-05 SIC Code: 2522
Permit Type: Permit For Effluent Location: Delta, Annacis Island
Mailing Address: 797 CARLISLE ROAD, DELTA, BC V3M 5P4 (MBC); 1800 - 400 BURRARD STREET,
VANCOUVER, BC V6C 3A6 (L)

Site: Weyerhaeuser Company Ltd.
New Westminster-Jardine BC

Database:
AMS

File NO: PE-1664(04) Date Issued: December 31, 1974
Status: Active Dt Ammnded: 1/24/2001
Status As Of: Jan-05 SIC Code: 2512
Permit Type: Permit For Effluent Location: New Westminster-Jardine
Mailing Address: 925 WEST GEORGIA STREET, 5TH FLOOR, VANCOUVER, BC V6C 3L2 (MBLC)

Site: Weyerhaeuser Company Ltd.
New Westminster BC

Database:
LUM

Mill Location: New Westminster
Mill NO: 389

--- Details ---

Year:	2003	Forest Region:	Coast
Est Annual Capc.:	146.00	Forest District:	Chilliwack
+			
Year:	2002	Forest Region:	Vancouver
Est Annual Capc.:	157.00	Forest District:	Chilliwack
+			
Year:	2000	Forest Region:	Vancouver
Est Annual Capc.:	105.60	Forest District:	Chilliwack
+			
Year:	2001	Forest Region:	Vancouver
Est Annual Capc.:	93.60	Forest District:	Chilliwack
+			
Year:	2004	Forest Region:	Coast
Est Annual Capc.:	146.00	Forest District:	Chilliwack
+			
Year:	1999	Forest Region:	Vancouver
Est Annual Capc.:	98.40	Forest District:	Chilliwack

Site: Weyerhaeuser Company Ltd.
Delta BC

Database:
LUM

Mill Location: Delta
Mill NO: 298

--- Details ---

Year:	2003	Forest Region:	Coast
Est Annual Capc.:	55.00	Forest District:	Chilliwack
+			
Year:	2002	Forest Region:	Vancouver
Est Annual Capc.:	46.00	Forest District:	Chilliwack
+			
Year:	2000	Forest Region:	Vancouver
Est Annual Capc.:	48.00	Forest District:	Chilliwack
+			
Year:	2001	Forest Region:	Vancouver
Est Annual Capc.:	48.00	Forest District:	Chilliwack
+			
Year:	2004	Forest Region:	Coast
Est Annual Capc.:	55.00	Forest District:	Chilliwack

Site: **Unknown**
Fraser River - passing Annacis Island, north side near Delta Delta BC

Database:
NEES

Incident Date: 3/13/00 15:05
Contaminant: mineral oil and grease (NOS)
Amount:
Units:
Quantity: Unknown
Cause: Unknown
Source: Unknown
Reason: Unknown
Sector: Unknown

Site:
warehouse, Annacis Island Annacis Island BC

Database:
NEES

Incident Date: 7/31/01 0:00
Contaminant: fire water run-off
Amount:
Units:
Quantity: Unknown
Cause: Discharge
Source: Other Industrial Plant
Reason: Fire, Explosion
Sector: Pulp & Paper

Appendix: Database Descriptions

Ecolog Environmental Risk Information Services Ltd can search the following databases. The extent of Historical information varies with each database and current information is determined by what is publicly available to Ecolog ERIS at the time of update. **Note:** Databases denoted with " * " indicates that the database will no longer be updated. See the individual database description for more information.

Authorization Management System (formerly WASTE):

Provincial [AMS](#)

AMS is the Ministry of Environment's waste permit administration system. It maintains data related to the administration of permits issued under the Environmental Management Act and registrations under various regulations where the regulation requires a discharger to register. It will include information such as companies or individuals permitted to discharge waste; type of business and locations at which waste disposal is permitted; the types, amounts and frequency of waste products that are permitted to be discharged at given locations; issue date and more. This was previously referred to as the "WASTE" database.

Government Publication Date: 1957-Jan 2012

Assessment Report Indexing System:

Provincial [ARIS](#)

Within British Columbia, the "Mineral Tenure Act Regulation", requires that all results of mineral exploration and development programs be submitted to the British Columbia Ministry of Employment and Investment, where they are then maintained and housed by the Geological Survey Branch. The assessment reports provided by the Geological Survey Branch contain summary information for reports approved to November 1998; on geology, geophysics, geochemistry, drilling, prospecting and physical work.

Government Publication Date: 1947-Jan 2014

Automobile Wrecking & Supplies:

Private [AUWR](#)

This database provides an inventory of all known locations that are involved in the scrap metal, automobile wrecking/recycling, and automobile parts & supplies industry. Information is provided on the company name, location and business type.

Government Publication Date: 2001-Jul 2014

BC Oil and Gas Wells:

Provincial [BOGW](#)

The BC Oil and Gas Wells database was collected from the BC Oil and Gas Commission and is a comprehensive database that includes information regarding well number, well name, operator name, location, depth, status, as well as drill date and type. Please note that this database will not be updated, information on wells drilled after January 2006 can be found in the Oil and Gas Wells (OGW) database under the 'Private Source Database' section.

*Government Publication Date: 1918-Jan 2006**

Chemical Register:

Private [CHEM](#)

This database includes a listing of locations of facilities within the Province or Territory that either manufacture and/or distributes chemicals.

Government Publication Date: 1999-Jul 2014

Coal Tar Sites:

Provincial [COAL](#)

This one-time study is an inventory of all known and historical coal tar sites, identifying sites that produced coal tar and other related tars during the mid 1800's to the mid 1900's.

*Government Publication Date: 1992**

Compliance and Enforcement Summary:

Provincial CONV

This database summarizes orders, tickets and convictions issued by the Ministry of the Environment under applicable ministry and federal legislation. Orders are issued when action is required to prevent or stop actual or potential impact to the environment. Tickets apply to all tickets paid, deemed guilty by non-payment or expiry, or contested in court and found guilty by a judge. Convictions apply to all court convictions of ministry legislation as well as federal legislation where the ministry has taken action. This reporting summary began in January 2006, replacing Non-Compliance Reports by the former Ministry of Water, Land & Air Protection. See the Non-Compliance Reports (NCPL) database below for more information. This database is part of a larger COORS (Conservation Officer On-Line Reporting System) database controlled by the Ministry of Environment in BC.

Government Publication Date: 1990-Sep 2014

Wastewater Discharge Inventory:

Provincial DIS

This inventory contains information regarding direct dischargers of toxic pollutants for the following operations: Industrial; Commercial; Agricultural; Mining; Municipal; Urban; Aquaculture; and Pulp & Paper, operating under provincial permits. Please note that this program was discontinued and therefore the database will not be updated.

*Government Publication Date: 1957-1995**

Environmental Effects Monitoring:

Federal EEM

The Environmental Effects Monitoring program assesses the effects of effluent from industrial or other sources on fish, fish habitat and human usage of fisheries resources. Since 1992, pulp and paper mills have been required to conduct EEM studies under the Pulp and Paper Effluent Regulations. This database provides information on the mill name, geographical location and sub-lethal toxicity data.

*Government Publication Date: 1992-2007**

ERIS Historical Searches:

Private EHS

ERIS has compiled a database of all environmental risk reports completed since March 1999. Available fields for this database include: site location, date of report, type of report, and search radius. As per all other databases, the ERIS database can be referenced on both the map and "Statistical Profile" page.

Government Publication Date: 1999-Aug 2014

Environmental Issues Inventory System:

Federal EIS

The Environmental Issues Inventory System was developed through the implementation of the Environmental Issues and Remediation Plan. This plan was established to determine the location and severity of contaminated sites on inhabited First Nation reserves, and where necessary, to remediate those that posed a risk to health and safety; and to prevent future environmental problems. The EIS provides information on the reserve under investigation, inventory number, name of site, environmental issue, site action (Remediation, Site Assessment), and date investigation completed.

*Government Publication Date: 1992-2001**

Federal Convictions:

Federal FCON

Environment Canada maintains a database referred to as the "Environmental Registry" that details prosecutions under the Canadian Environmental Protection Act (CEPA) and the Fisheries Act (FA). Information is provided on the company name, location, charge date, offence and penalty.

*Government Publication Date: 1988-Jun 2007**

Contaminated Sites on Federal Land:

Federal FCS

The Federal Contaminated Sites Inventory includes information on all known federal contaminated sites under the custodianship of departments, agencies and consolidated Crown corporations as well as those that are being or have been investigated to determine whether they have contamination arising from past use that could pose a risk to human health or the environment. The inventory also includes non-federal contaminated sites for which the Government of Canada has accepted some or all financial responsibility. It does not include sites where contamination has been caused by, and which are under the control of, enterprise Crown corporations, private individuals, firms or other levels of government.

Government Publication Date: June 2000-Jul 2015

Commercial Fisheries:

Provincial [FISH](#)

The Fisheries, Aquaculture & Commercial Fisheries Branch of the Ministry of Water, Land & Air Protection maintains a database of fish processing plant approvals, licenses and activities. Each year, licenses need to be renewed.

Government Publication Date: 1993-2012

Fisheries & Oceans Fuel Tanks:

Federal [FOFT](#)

Fisheries & Oceans Canada maintains an inventory of all aboveground & underground fuel storage tanks located on Fisheries & Oceans property or controlled by DFO. Our inventory provides information on the site name, location, tank owner, tank operator, facility type, storage tank location, tank contents & capacity, and date of tank installation.

Government Publication Date: 1964-Sept 2003

Waste Generators Summary:

Provincial [GEN](#)

Within British Columbia, the Special Waste Regulation defines a waste generator as any site, equipment and/or operation involved in the production, collection, handling and/or storage of regulated wastes. A generator of regulated waste is required to register the waste generation site and each waste produced, collected, handled, or stored at the site. This database contains the registration number (BCG#), company name and address of registered generators; including the types of hazardous wastes generated and the form of treatment used in the handling of the waste. This information is a summary of all years from June 1993 to March 2006. Please note that a British Columbia Generator number (BCG#) are not unique to a company. This database is part of a larger SWIS (Special Waste Information System) database controlled by the Ministry of Environment in BC.

Government Publication Date: 1993-2010

Indian & Northern Affairs Fuel Tanks:

Federal [IAFT](#)

The Department of Indian & Northern Affairs Canada (INAC) maintains an inventory of all aboveground & underground fuel storage tanks located on both federal and crown land. Our inventory provides information on the reserve name, location, facility type, site/facility name, tank type, material & ID number, tank contents & capacity, and date of tank installation.

*Government Publication Date: 1950-Aug 2003**

Lumber Mills:

Provincial [LUM](#)

This database provides information regarding the general location and estimated annual output capacity of major timber processing facilities within the province of British Columbia.

Government Publication Date: 1997-2011

Canadian Mine Locations:

Private [MINE](#)

This information is collected from the Canadian & American Mines Handbook. The Mines database is a national database that provides over 290 listings on mines (listed as public companies) dealing primarily with precious metals and hard rocks. Listed are mines that are currently in operation, closed, suspended, or are still being developed (advanced projects). Their locations are provided as geographic coordinates (x, y and/or longitude, latitude). As of 2002, data pertaining to Canadian smelters and refineries has been appended to this database.

*Government Publication Date: 1998-2009**

Minerals Deposits Database:

Provincial [MNR](#)

The Ministry of Energy and Mines maintains a database of more than 12,000 metallic mineral, industrial mineral and coal deposits and occurrences within British Columbia. Information within our report pertains to primary name, elevation, mining division, commodities, and status. Please note that as of January 27, 1999, information included within this database was divided into 2 categories: released and unreleased areas. Records for unreleased areas may contain incomplete, unedited, and/or inaccurate data.

Government Publication Date: 1852-May 2014

National Analysis of Trends in Emergencies System (NATES):

Federal [NATE](#)

In 1974 Environment Canada established the National Analysis of Trends in Emergencies System (NATES) database, for the voluntary reporting of significant spill incidents. The data was to be used to assist in directing the work of the emergencies program. NATES ran from 1974 to 1994. Extensive information is available within this database including company names, place where the spill occurred, date of spill, cause, reason and source of spill, damage incurred, and amount, concentration, and volume of materials released.

*Government Publication Date: 1974-1994**

Non-Compliance Reports:

Provincial [NCPL](#)

From 1990 to March 2001 the Ministry of Water, Land & Air Protection maintained a reporting system that identified any reported concern that pertained to compliance with authorized waste management permits or plans, approvals, orders, operational certificates and regulations, or any other activity under the Waste Management Act. This reporting system was discontinued in April of 2001; therefore there will be no updates to this database. However, beginning in January 2006 the Ministry of the Environment began publishing Compliance and Enforcement Summaries. See the Compliance and Enforcement Summary (CPL) database above for more information.

*Government Publication Date: 1990-Mar 2001**

National Defence & Canadian Forces Fuel Tanks:

Federal [NDFT](#)

The Department of National Defence and the Canadian Forces maintains an inventory of all aboveground & underground fuel storage tanks located on DND lands. Our inventory provides information on the base name, location, tank type & capacity, tank contents, tank class, date of tank installation, date tank last used, and status of tank as of May 2001. This database will no longer be updated due to the new National Security protocols which have prohibited any release of this database.

*Government Publication Date: Up to May 2001**

National Defence & Canadian Forces Spills:

Federal [NDSP](#)

The Department of National Defence and the Canadian Forces maintains an inventory of spills to land and water. All spill sites have been classified under the "Transportation of Dangerous Goods Act - 1992". Our inventory provides information on the facility name, location, spill ID #, spill date, type of spill, as well as the quantity of substance spilled & recovered.

Government Publication Date: Mar 1999-Aug 2010

National Defence & Canadian Forces Waste Disposal Sites:

Federal [NDWD](#)

The Department of National Defence and the Canadian Forces maintains an inventory of waste disposal sites located on DND lands. Where available, our inventory provides information on the base name, location, type of waste received, area of site, depth of site, year site opened/closed and status.

*Government Publication Date: 2001-Apr 2007**

National Energy Board Wells:

Federal [NEBW](#)

The NEBW database contains information on onshore & offshore oil and gas wells that are outside provincial jurisdiction(s) and are thereby regulated by the National Energy Board. Data is provided regarding the operator, well name, well ID No./UWI, status, classification, well depth, spud and release date.

*Government Publication Date: 1920-Feb 2003**

National Environmental Emergencies System (NEES):

Federal [NEES](#)

In 2000, the Emergencies program implemented NEES, a reporting system for spills of hazardous substances. For the most part, this system only captured data from the Atlantic Provinces, some from Quebec and Ontario and a portion from British Columbia. Data for Alberta, Saskatchewan, Manitoba and the Territories was not captured. However, NEES is also a repository for all previous Environment Canada spill datasets. NEES is composed of the historic datasets 'or Trends ' which dates from approximately 1974 to present. NEES Trends is a compilation of historic databases, which were merged and includes data from NATES (National Analysis of Trends in Emergencies System), ARTS (Atlantic Regional Trends System), and NEES. In 2001, the Emergencies Program determined that variations in reporting regimes and requirements between federal and provincial agencies made national spill reporting and trend analysis difficult to achieve. As a consequence, the department has focused efforts on capturing data on spills of substances which fall under its legislative authority only (CEPA and FA). As such, the NEES database will be decommissioned in December 2004.

National PCB Inventory:

Federal [NPCB](#)

Environment Canada's National PCB inventory includes information on in-use PCB containing equipment in Canada including federal, provincial and private facilities. All federal out-of-service PCB containing equipment and all PCB waste owned by the federal government or by federally regulated industries such as airlines, railway companies, broadcasting companies, telephone and telecommunications companies, pipeline companies, etc. are also listed. Although it is not Environment Canada's mandate to collect data on non-federal PCB waste, the National PCB inventory includes some information on provincial and private PCB waste and storage sites. Some addresses provided may be Head Office addresses and are not necessarily the location of where the waste is being used or stored.

Government Publication Date: 1988-2008*

National Pollutant Release Inventory:

Federal [NPRI](#)

Environment Canada has defined the National Pollutant Release Inventory ("NPRI") as a federal government initiative designed to collect comprehensive national data regarding releases to air, water, or land, and waste transfers for recycling for more than 300 listed substances.

Government Publication Date: 1993-2013

Oil and Gas Wells:

Private [OGW](#)

The Nickle's Energy Group (publisher of the Daily Oil Bulletin) collects information on drilling activity including operator and well statistics. The well information database includes name, location, class, status and depth. The main Nickle's database is updated on a daily basis, however, this database is updated on a monthly basis. More information is available at www.nickles.com.

Government Publication Date: 1988-Jun 2015

Canadian Pulp and Paper:

Private [PAP](#)

This information is part of the Pulp and Paper Canada Directory. The Directory provides a comprehensive listing of the locations of pulp and paper mills and the products that they produce.

Government Publication Date: 1999, 2002, 2004, 2005, 2009

Inventory of PCB Storage Sites:

Provincial [PCB](#)

The Ministry of Water, Land & Air Protection maintains a database of all active Polychlorinated Biphenyls (PCB) waste storage sites within the Special Waste Information System. Please note that there is no requirement to maintain an accurate listing of all inactive PCB waste storage equipment and/or disposal sites. The records within this database provide information regarding site name, location, an inventory of stored wastes and quantities, and status date (when site first active/inactive). Previous to May 1993, data was collected from a different source and is only available for 1989.

Government Publication Date: 1989, May 1993-2010

Parks Canada Fuel Storage Tanks:

Federal [PCFT](#)

Canadian Heritage maintains an inventory of all known fuel storage tanks operated by Parks Canada, in both National Parks and at National Historic Sites. The database details information on site name, location, tank install/removal date, capacity, fuel type, facility type, tank design and owner/operator.

Government Publication Date: 1920-Jan 2005*

Pesticide Register:

Provincial [PES](#)

This is a database of individuals who apply for a service or vendor license for the use of registered pesticides. A service license is denoted by an "S" in the license number, likewise, a vendor license by a "V" in the license number.

Government Publication Date: 1989-Jun 2013

Private Aggregate Inventory:

Provincial PRAI

Within British Columbia, aggregate pits are designated as mines; and as such, the Ministry of Energy and Mines is responsible for their planning, management and regulation, including permitting, health, safety and reclamation. Owners or operators of all private aggregate pits must file Notices of Work as part of the permitting and reclamation process. In 1994, the Geological Survey Branch initiated the Aggregate Program, in order to establish an inventory of natural and crushed aggregate pits. Information about each pit in the database file includes its location, NTS map sheet number, Notice of Work file number and status (active/inactive) and the type of landform hosting the pit. This database was a one-time inventory and will not be updated.

*Government Publication Date: 1975-1996**

Public Aggregate Inventory:

Provincial PUIA

Information about public aggregate pits in British Columbia is collected and managed by the Ministry of Transportation and Highways. Data has been gathered on more than 2000 pits, in respect to pit name, type and geographical location.

*Government Publication Date: 1960-2001**

Waste Receivers Summary:

Provincial REC

The Special Waste Regulation defines the disposal of regulated waste through an operating waste management system or a waste disposal site operated or used pursuant to the terms and conditions of a Certificate of Approval or a Provisional Certificate of Approval. A waste receiving location is any site or facility to which waste is transferred through a waste carrier. A receiver of regulated waste is required to register the waste receiving facility. This database represents registered receivers of regulated wastes, identified by registration number, company name and address. This database is part of a larger SWIS (Special Waste Information System) database controlled by the Ministry of Environment in BC.

Government Publication Date: 1992-2010

Retail Fuel Storage Tanks:

Private RST

This database includes an inventory of retail fuel outlet locations (including marinas) that have on their property gasoline, oil, waste oil, natural gas and / or propane storage tanks.

Government Publication Date: 1999-Jul 2014

Scott's Manufacturing Directory:

Private SCT

Scott's Directories is a data bank containing information on over 200,000 manufacturers across Canada. Even though Scott's listings are voluntary, it is the most comprehensive database of Canadian manufacturers available. Information concerning a company's address, plant size, and main products are included in this database.

Government Publication Date: 1992-Mar 2011

Site Registry:

Provincial SREG

This information is collected from the Ministry of Environment's Site Registry. It is not a registry of contaminated sites, although some sites on the registry are contaminated. Most sites have already been investigated and require minor remediation, or have already been cleaned up to government requirements. The Registry also stores environmentally relevant historic information about sites including: names of participants, legal and administrative notations, references to pertinent documents submitted to the ministry, associations with other sites, and much more.

1. Please note the information provided in the Detail Reports have been updated to the best of our ability as provided by the source, BC Government. For more information, please contact your ERIS sales representative.

Government Publication Date: 1985-Jun 2015, Detail Rpt Up to Oct 2012

Transport Canada Fuel Storage Tanks:

Federal TCFT

List of fuel storage tanks currently or previously owned or operated by Transport Canada. This inventory also includes tanks on The Pickering Lands, which refers to 7,530 hectares (18,600 acres) of land in Pickering, Markham, and Uxbridge owned by the Government of Canada since 1972; properties on this land has been leased by the government since 1975, and falls under the Site Management Policy of Transport Canada, but is administered by Public Works and Government Services Canada. This inventory provides information on the site name, location, tank age, capacity and fuel type.

Government Publication Date: 1970-Mar 2007

Waste Disposal Site Inventory:

Provincial [WDS](#)

This inventory pertains to active, regulated waste disposal sites within the province of British Columbia. Registered companies may hold a permit or certificate for release of the following waste types: Effluent, Refuse, Air and Special Waste Storage. Information on Waste Disposal Sites after 1998 is contained within the Authorizations (AUTH) database.

*Government Publication Date: 1980-1998**

Water Well Information System:

Provincial [WWIS](#)

This database was collected from the Groundwater Information Center of the Ministry of Water, Land & Air Protection and contains over 90,000 records. Comprehensive information is available for each well including: well location (address/site area), latitude/longitude, legal description (section, lot, plan, district lot, range, township), BCGS Mapsheet No., depth of well, construction dates, well status and lithology. The accuracy of well locations is also provided, as well as the reference source for obtaining geographic coordinates.

Government Publication Date: 1880-Jan 2015

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries". All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and were included as reference.



**Information provided is current up to Oct 2012.*

Site ID 320

Section 1: Notations

Notation Type: REMEDIATION COMPLETION REPORT SUBMITTED

Notation Class: ADMINISTRATIVE

Registered: 1990-SEP-24 **Updated:** 1990-SEP-24

Ministry Contact OUELLET, LOUISE (MINISTRY)

Notation Participants:

MAGNACHARGE BATTERY CORPORATION (NEW WESTMINSTER)

Roles:

SUBMITTED BY

Note:

Required Action:

Notation Type: REMEDIATED TO COMMERCIAL/INDUSTRIAL LEVELS (DRAFT CMCS 21/11/89)

Notation Class: ADMINISTRATIVE

Registered: 1990-OCT-01 **Updated:** 1990-OCT-01

Ministry Contact OUELLET, LOUISE (MINISTRY)

Note:

Required Action:

Notation Type: CONCENTRATION CRITERIA APPROACH USED

Notation Class: ADMINISTRATIVE

Registered: 1990-OCT-01 **Updated:** 1990-OCT-01

Ministry Contact OUELLET, LOUISE (MINISTRY)

Note:

Required Action:

Notation Type: LETTER OF COMFORT ISSUED

Notation Class: ADMINISTRATIVE

Registered: 1990-OCT-01 **Updated:** 1990-OCT-01

Ministry Contact OUELLET, LOUISE (MINISTRY)

Notation Participants:

CORPORATION OF DELTA (DELTA, B.C.)

MAGNACHARGE BATTERY CORPORATION (NEW WESTMINSTER)

Roles:

RECEIVED BY

RECEIVED BY

Note:

Required Action:

Notation Type: SITE INVESTIGATION REQUESTED

Notation Class: ADMINISTRATIVE

Registered: 1990-MAR-28 **Updated:** 1990-MAR-28

Ministry Contact OUELLET, LOUISE (MINISTRY)

Notation Participants:

MAGNACHARGE BATTERY CORPORATION (NEW WESTMINSTER)

Roles:

RECEIVED BY

Note:

Required Action:

Section 2: Site Participants

Participant: BC RESEARCH INCORPORATED (VANCOUVER)

Role (s): ENVIRONMENTAL CONSULTANT/CONTRACTOR

Start Date: 1990-MAR-22 **End Date:**

Participant: CORPORATION OF DELTA (DELTA, B.C.)

Role (s): MUNICIPAL/REGIONAL CONTACT

Start Date: 1989-DEC-22 **End Date:**

Participant: ECONOTECH SERVICES LTD. (NEW WESTMINSTER, BRITISH COLUMBIA.)

Role (s): ENVIRONMENTAL CONSULTANT/CONTRACTOR

Start Date: 1989-DEC-20 **End Date:**

Participant: GROSVENOR INTERNATIONAL CANADA LTD. (VANCOUVER)

Role (s): FORMER PROPERTY OWNER

Start Date: 1995-MAR-21 **End Date:** 1997-MAY-30

Participant: LOON PROPERTIES INC. (BURNABY)

Role (s): PROPERTY OWNER

Start Date: 1997-MAY-30 **End Date:**

Participant: MAGNACHARGE BATTERY CORPORATION (NEW WESTMINSTER)

Role (s): OPERATOR

Start Date: 1989-DEC-20 **End Date:**

Participant: METALEX PRODUCTS INC.

Role (s): ENVIRONMENTAL CONSULTANT/CONTRACTOR

Role (s): FILL RECIPIENT

Start Date: 1990-MAR-28 **End Date:**

Participant: OUELLET, LOUISE (MINISTRY)

Role (s): MAIN MINISTRY CONTACT

Start Date: 1990-MAR-27 **End Date:** 1993-SEP-30

Participant: POPE, DOUGLAS

Role (s): MAIN MINISTRY CONTACT

Start Date: 1993-SEP-30 **End Date:** 2002-MAY-21

Participant: QUANTA TRACE LABORATORIES INC. (BURNABY, B.C.)

Role (s): ANALYTICAL LAB

Start Date: 1989-DEC-22 **End Date:**

Section 3: Documents

Title: ASSESSMENT OF LEAD CONTAMINATION OF SPILLS AT MAGNACHARGE BATTERY

Document Date: 1990-SEP-06 **Submission Date:** 1990-SEP-24

Participants

BC RESEARCH INCORPORATED (VANCOUVER)

AUTHOR

MAGNACHARGE BATTERY CORPORATION (NEW WESTMINSTER)

COMMISSIONER

OUELLET, LOUISE (MINISTRY)

REVIEWER

Notes:

Section 4: Associated Sites

Section 5: Suspected Land Use

Description: BATTERY (LEAD ACID/OTHER) MANUFACTURING/WHOLSALE BULK STORAG

Notes:

Section 6: Parcel Descriptions

Date added 1995-APR-25

Crown Land Pin:

Crown Land File#:

LTO PID# 006127975

Legal Desc: LOT 159 DISTRICT LOT 351 GROUP 1 NEW WESTMINSTER DISTRICT PLAN 59686

Section 7: Current Site Profile Information

Site ID 340

Section 1: Notations

Notation Type: SITE INVESTIGATION REPORT SUBMITTED

Notation Class: ADMINISTRATIVE

Registered: 1994-NOV-10 **Updated:** 1994-NOV-10

Ministry Contact HACKINEN, COLEEN (SURREY)

Notation Participants:

GREATER VANCOUVER REGIONAL DISTRICT (BURNABY)

Roles:

SUBMITTED BY

Note:

Required Action:

Notation Type: LETTER OF COMFORT ISSUED

Notation Class: ADMINISTRATIVE

Registered: 1993-FEB-25 **Updated:** 1993-FEB-25

Ministry Contact HACKINEN, COLEEN (SURREY)

Notation Participants:

BC HYDRO (VANCOUVER (REAL ESTATE AND PROJECTS))

ENVIROCHEM SERVICES (NORTH VANCOUVER)

Roles:

RECEIVED BY

RECEIVED BY

Note: FOR METALS CONTAMINATED AREA, ROCK PIT, AND WASTE OIL TANKS ONLY.

Required Action:

Notation Type: REMEDIATED TO COMMERCIAL/INDUSTRIAL LEVELS (DRAFT CMCS 21/11/89)

Notation Class: ADMINISTRATIVE

Registered: 1993-FEB-25 **Updated:** 1993-FEB-25

Ministry Contact HACKINEN, COLEEN (SURREY)

Note: FOR METALS CONTAMINATED AREA, ROCK PIT, AND WASTE OIL TANKS ONLY

Required Action:

Notation Type: CONCENTRATION CRITERIA APPROACH USED

Notation Class: ADMINISTRATIVE

Registered: 1993-FEB-25 **Updated:** 1993-FEB-25

Ministry Contact HACKINEN, COLEEN (SURREY)

Note:

Required Action:

Notation Type: REMEDIATION COMPLETION REPORT SUBMITTED

Notation Class: ADMINISTRATIVE

Registered: 1993-FEB-18 **Updated:** 1993-FEB-18

Ministry Contact HACKINEN, COLEEN (SURREY)

Notation Participants:

ENVIROCHEM SERVICES (NORTH VANCOUVER)

BC HYDRO (VANCOUVER (REAL ESTATE AND PROJECTS))

Roles:

SUBMITTED BY

REQUESTED BY

Note: SHADOWLINES/MCELROY'S STORAGE YARD

Required Action:

Notation Type: LETTER OF COMFORT ISSUED

Notation Class: ADMINISTRATIVE

Registered: 1992-MAY-14 **Updated:** 1992-MAY-14

Ministry Contact OUELLET, LOUISE (MINISTRY)

Notation Participants:

BC HYDRO (VANCOUVER (REAL ESTATE AND PROJECTS))

ENVIROCHEM SERVICES (NORTH VANCOUVER)

Roles:

RECEIVED BY

RECEIVED BY

Note: FOR POLE STORAGE AREA OF THE SITE ONLY

Required Action:

Notation Type: CONCENTRATION CRITERIA APPROACH USED

Notation Class: ADMINISTRATIVE

Registered: 1992-MAY-14 **Updated:** 1992-MAY-14

Ministry Contact OUELLET, LOUISE (MINISTRY)

Note:

Required Action:

Notation Type: REMEDIATED TO COMMERCIAL/INDUSTRIAL LEVELS (DRAFT CMCS 21/11/89)

Notation Class: ADMINISTRATIVE

Registered: 1992-MAY-14 **Updated:** 1992-MAY-14

Ministry Contact OUELLET, LOUISE (MINISTRY)

Note: FOR POLE STORAGE AREA ONLY

Required Action:

Notation Type: REMEDIATION COMPLETION REPORT SUBMITTED

Notation Class: ADMINISTRATIVE

Registered: 1992-MAY-12 **Updated:** 1992-MAY-12

Ministry Contact OUELLET, LOUISE (MINISTRY)

Notation Participants:

ENVIROCHEM SERVICES (NORTH VANCOUVER)

BC HYDRO (VANCOUVER (REAL ESTATE AND PROJECTS))

Roles:

SUBMITTED BY

REQUESTED BY

Note:

Required Action:

Notation Type: CONCENTRATION CRITERIA APPROACH USED

Notation Class: ADMINISTRATIVE

Registered: 1991-MAY-30 **Updated:** 1991-MAY-30

Ministry Contact OUELLET, LOUISE (MINISTRY)

Note:

Required Action:

Notation Type: REMEDIATION PLAN REPORT SUBMITTED

Notation Class: ADMINISTRATIVE

Registered: 1991-MAY-30 **Updated:** 1991-MAY-30

Ministry Contact OUELLET, LOUISE (MINISTRY)

Notation Participants:

ENVIROCHEM SERVICES (NORTH VANCOUVER)

BC HYDRO (VANCOUVER (REAL ESTATE AND PROJECTS))

Roles:

SUBMITTED BY

REQUESTED BY

Note:

Required Action:

Notation Type: REMEDIATION PLAN REPORT ACCEPTED

Notation Class: ADMINISTRATIVE

Registered: 1991-JUL-04 **Updated:** 1991-JUL-04

Ministry Contact OUELLET, LOUISE (MINISTRY)

Notation Participants:

BC HYDRO (VANCOUVER (REAL ESTATE AND PROJECTS))

Roles:

RECEIVED BY

Note:

Required Action:

Notation Type: SITE INVESTIGATION REPORT SUBMITTED

Notation Class: ADMINISTRATIVE

Registered: 1990-JUN-15 **Updated:** 1990-JUN-15

Ministry Contact OUELLET, LOUISE (MINISTRY)

Notation Participants:

ENVIROCHEM SERVICES (NORTH VANCOUVER)

BC HYDRO (VANCOUVER (REAL ESTATE AND PROJECTS))

Roles:

SUBMITTED BY

REQUESTED BY

Note:

Required Action:

Notation Type: RISK ASSESSMENT SUBMITTED

Notation Class: ADMINISTRATIVE

Registered: 1990-JUN-15 **Updated:** 1990-JUN-15

Ministry Contact OUELLET, LOUISE (MINISTRY)

Notation Participants:

ENVIROCHEM SERVICES (NORTH VANCOUVER)

BC HYDRO (VANCOUVER (REAL ESTATE AND PROJECTS))

Roles:

SUBMITTED BY

REQUESTED BY

Note:

Required Action:

Notation Type: SITE INVESTIGATION REPORT SUBMITTED

Notation Class: ADMINISTRATIVE

Registered: 1990-DEC-10 **Updated:** 1990-DEC-10

Ministry Contact OUELLET, LOUISE (MINISTRY)

Notation Participants:

BC HYDRO (VANCOUVER (REAL ESTATE AND PROJECTS))

Roles:

SUBMITTED BY

Note: PRELIMINARY

Required Action:

Section 2: Site Participants

Participant: ANALYTICAL SERVICE LABORATORIES LTD (VANCOUVER)

Role (s): ANALYTICAL LAB

Start Date: 1990-MAY-01 **End Date:**

Participant: ANNACIS AUTO TERMINALS LTD. (NEW WESTMINSTER)

Role (s): FORMER PROPERTY OWNER

Role (s): FORMER OPERATOR

Start Date: 1990-APR-01 **End Date:**

Participant: ARGUS DELIVERY LTD.
Role (s): FORMER OPERATOR
Start Date: 1990-APR-01 **End Date:**

Participant: BBG LEASING LTD.
Role (s): FORMER OPERATOR
Start Date: 1992-OCT-15 **End Date:**

Participant: BC HYDRO (VANCOUVER (REAL ESTATE AND PROJECTS))
Role (s): FORMER OPERATOR
Role (s): FILL RECIPIENT
Start Date: 1978-JAN-01 **End Date:**

Participant: BC RESEARCH INCORPORATED (VANCOUVER)
Role (s): ENVIRONMENTAL CONSULTANT/CONTRACTOR
Start Date: 1990-APR-01 **End Date:**

Participant: CORPORATION OF DELTA (DELTA, B.C.)
Role (s): PROPERTY OWNER
Start Date: 1987-JUN-18 **End Date:**

Participant: DISTRICT OF SURREY (SURREY)
Role (s): MUNICIPAL/REGIONAL CONTACT
Start Date: 1992-NOV-12 **End Date:**

Participant: ELEMENTAL RESEARCH INC. (NORTH VANCOUVER, B.C.)
Role (s): ANALYTICAL LAB
Start Date: 1990-APR-01 **End Date:**

Participant: ENVIROCHEM SERVICES (NORTH VANCOUVER)
Role (s): ENVIRONMENTAL CONSULTANT/CONTRACTOR
Start Date: 1990-MAY-01 **End Date:**

Participant: GREATER VANCOUVER REGIONAL DISTRICT (BURNABY)
Role (s): FORMER PROPERTY OWNER
Role (s): MUNICIPAL/REGIONAL CONTACT
Role (s): OPERATOR
Start Date: 1994-AUG-24 **End Date:**

Participant: GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT (BURNABY)
Role (s): PROPERTY OWNER
Start Date: 1995-OCT-30 **End Date:**

Participant: HACKINEN, COLEEN (SURREY)
Role (s): ALTERNATE MINISTRY CONTACT
Start Date: 1992-NOV-12 **End Date:**

Participant: J. MEEK ENTERPRISES
Role (s): ENVIRONMENTAL CONSULTANT/CONTRACTOR
Start Date: 1992-JAN-01 **End Date:**

Participant: JUNGEN, JOHN R
Role (s): ALTERNATE MINISTRY CONTACT
Start Date: 1992-NOV-17 **End Date:** 2001-APR-12

Participant: KELLY AUTOBODY
Role (s): FORMER OPERATOR
Start Date: 1992-OCT-15 **End Date:**

Participant: LAIDLAW ENVIRONMENTAL SERVICES LTD
Role (s): ENVIRONMENTAL CONSULTANT/CONTRACTOR
Start Date: 1994-AUG-24 **End Date:**

Participant: LANDMARK TRUCKING
Role (s): FORMER OPERATOR
Start Date: 1992-OCT-15 **End Date:**

Participant: MCELROY
Role (s): FORMER OPERATOR
Start Date: 1985-JAN-01 **End Date:**

Participant: MCRAES TANKER SERVICES
Role (s): ENVIRONMENTAL CONSULTANT/CONTRACTOR
Start Date: 1994-AUG-24 **End Date:**

Participant: MUD BAY DRILLING CO. LTD. (SURREY, B.C.)
Role (s): ENVIRONMENTAL CONSULTANT/CONTRACTOR
Start Date: 1990-MAY-26 **End Date:**

Participant: OUELLET, LOUISE (MINISTRY)
Role (s): MAIN MINISTRY CONTACT
Start Date: 1990-JUN-15 **End Date:** 1993-SEP-30

Participant: POPE, DOUGLAS
Role (s): MAIN MINISTRY CONTACT
Start Date: 1993-SEP-30 **End Date:** 2002-MAY-21

Participant: QUANTA TRACE LABORATORIES INC. (BURNABY, B.C.)
Role (s): ANALYTICAL LAB
Start Date: 1990-APR-01 **End Date:**

Participant: SHADOW LINES (LANGLEY)
Role (s): FORMER OPERATOR
Start Date: 1988-JAN-01 **End Date:**

Participant: SIALCO MATERIALS LTD. (ANNACIS ISLAND)

Role (s): FORMER OPERATOR

Start Date: 1990-APR-01 **End Date:**

Participant: STINSON TRANSPORTATION SYSTEMS LTD.

Role (s): FORMER OPERATOR

Start Date: 1987-JAN-01 **End Date:**

Participant: UNIVERSAL DETAILERS (ANNACIS ISLAND)

Role (s): FORMER OPERATOR

Start Date: 1992-OCT-15 **End Date:**

Participant: WIENS, JOHN H (MELP)

Role (s): ALTERNATE MINISTRY CONTACT

Start Date: 1990-JUL-17 **End Date:** 1994-JUL-05

Section 3: Documents

Title: SITE AUDITS OF LOT 151, 225, AND 291 OF DISTRICT LOT 351 ANNACIS ISLAND, DELTA, B.C.

Document Date: 1992-OCT-15 **Submission Date:** 1994-NOV-10

Participants

ENVIROCHEM SERVICES (NORTH VANCOUVER) AUTHOR

GREATER VANCOUVER REGIONAL DISTRICT (BURNABY) COMMISSIONER

HACKINEN, COLEEN (SURREY) REVIEWER

Notes:

Title: VERIFICATION OF CLEANUP BC HYDRO POLE STORAGE YARD 1385 DERWENT WAY ANNACIS ISLAND, B.C.

Document Date: 1992-FEB-01 **Submission Date:** 1992-MAY-12

Participants

BC HYDRO (VANCOUVER (REAL ESTATE AND PROJECTS)) COMMISSIONER

ENVIROCHEM SERVICES (NORTH VANCOUVER) AUTHOR

OUELLET, LOUISE (MINISTRY) REVIEWER

Notes:

Title: VERIFICATION OF CLEAN UP FORMER SHADOWLINES/MCELROYS STORAGE YARD 1385 DERWENT WAY ANNACIS ISLAND, B.C.

Document Date: 1992-JAN-01 **Submission Date:** 1993-FEB-18

Participants

BC HYDRO (VANCOUVER (REAL ESTATE AND PROJECTS)) COMMISSIONER

ENVIROCHEM SERVICES (NORTH VANCOUVER) AUTHOR

HACKINEN, COLEEN (SURREY) REVIEWER

Notes:

Title: PROPOSED SAMPLING PROGRAM FOR VERIFICATION OF CLEANUP BC HYDRO POLE STORAGE YARD 1385 DERWENT WAY ANNACIS ISLAND, B.C.

Document Date: 1991-MAY-30 **Submission Date:** 1991-MAY-30

Participants

BC HYDRO (VANCOUVER (REAL ESTATE AND PROJECTS))	COMMISSIONER
ENVIROCHEM SERVICES (NORTH VANCOUVER)	AUTHOR
OUELLET, LOUISE (MINISTRY)	REVIEWER

Notes:

Title: ASSESSMENT OF PENTACHLOROPHENOL AND ARSENIC CONTAMINATION OF SOIL AT THE BC HYDRO POLE STORAGE YARD 1385 DERWENT WAY ANNACIS ISLAND, B.C.

Document Date: 1990-JUN-08 **Submission Date:** 1990-JUN-15

Participants

BC HYDRO (VANCOUVER (REAL ESTATE AND PROJECTS))	COMMISSIONER
ENVIROCHEM SERVICES (NORTH VANCOUVER)	AUTHOR
OUELLET, LOUISE (MINISTRY)	REVIEWER

Notes:

Title: ASSESSMENT OF SOILS AT 1385 DERWENT WAY, ANNACIS ISLAND, B.C.

Document Date: 1990-APR-01 **Submission Date:** 1990-DEC-10

Participants

ANNACIS AUTO TERMINALS LTD. (NEW WESTMINSTER)	COMMISSIONER
BC HYDRO (VANCOUVER (REAL ESTATE AND PROJECTS))	RECIPIENT
BC RESEARCH INCORPORATED (VANCOUVER)	AUTHOR

Notes:

Section 4: Associated Sites

Section 5: Suspected Land Use

Description: WOOD, PULP AND PAPER PRODUCTS AND RELATED INDUSTRY/ACTIVITY

Notes:

Description: WASTE OIL, REPROCESSING, RECYCLING OR BULK STORAGE

Notes:

Description: PETRO. PROD., /PRODUCE WATER STRG ABOVEGRND/UNDERGRND TANK

Notes:

Section 6: Parcel Descriptions

Date added 1997-MAR-16

Crown Land Pin:

Crown Land File#:

LTO PID# 023319178

Legal Desc: LOT 2 DISTRICT LOT 351 GROUP 1 NEW WESTMINSTER DISTRICT PLAN LMP25806

Date added 1997-MAR-16

Crown Land Pin:

Crown Land File#:

LTO PID# 023319160

Legal Desc: LOT 1 DISTRICT LOT 351 GROUP 1 NEW WESTMINSTER DISTRICT PLAN LMP25806

Date added 1995-JUL-12

Crown Land Pin:

Crown Land File#:

LTO PID# 005419832

Legal Desc: LOT 151 DISTRICT LOT 351 GROUP 1 NEW WESTMINSTER DISTRICT PLAN 55944

Section 7: Current Site Profile Information

Site ID 6313

Section 1: Notations

Notation Type: SITE PROFILE RECEIVED

Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL

Registered: 1999-NOV-05 **Updated:**

Ministry Contact POPE, DOUGLAS

Notation Participants:

WSA REAL ESTATE SERVICES (1994) LTD.

WSA REAL ESTATE SERVICES (1994) LTD.

WSA REAL ESTATE SERVICES (1994) LTD.

WSA REAL ESTATE SERVICES (1994) LTD.

Roles:

SITE PROFILE SUBMITTED BY

SITE PROFILE SUBMITTED BY

SITE PROFILE SUBMITTED BY

SITE PROFILE SUBMITTED BY

Note:

Required Action:

Notation Type: SITE PROFILE RECEIVED

Notation Class: WASTE MANAGEMENT ACT: CONTAMINATED SITES NOTATIONS

Registered: 1999-NOV-05 **Updated:**

Ministry Contact POPE, DOUGLAS

Notation Participants:

WSA REAL ESTATE SERVICES (1994) LTD.

WSA REAL ESTATE SERVICES (1994) LTD.

WSA REAL ESTATE SERVICES (1994) LTD.

WSA REAL ESTATE SERVICES (1994) LTD.

Roles:

SITE PROFILE SUBMITTED BY

SITE PROFILE SUBMITTED BY

SITE PROFILE SUBMITTED BY

SITE PROFILE SUBMITTED BY

Note:

Required Action:

Notation Type: SITE PROFILE - NO FURTHER INVESTIGATION REQUIRED BY THE MINISTRY

Notation Class: WASTE MANAGEMENT ACT: CONTAMINATED SITES NOTATIONS

Registered: 1999-DEC-02 **Updated:**

Ministry Contact POPE, DOUGLAS

Note:

Required Action:

Notation Type: SITE PROFILE REVIEWED - NO FURTHER INVESTIGATION REQUIRED BY THE MINISTRY

Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL

Registered: 1999-DEC-02 **Updated:**

Ministry Contact POPE, DOUGLAS

Note:

Required Action:

Section 2: Site Participants

Participant: HALLMARK HOLDINGS LTD.

Role (s): PROPERTY OWNER

Start Date: 1999-NOV-05 **End Date:**

Participant: HUBER, DONNA E

Role (s): MAIN MINISTRY CONTACT

Start Date: 1999-NOV-05 **End Date:**

Participant: POPE, DOUGLAS

Role (s): MAIN MINISTRY CONTACT

Start Date: 1999-NOV-05 **End Date:** 2002-MAY-21

Participant: WSA REAL ESTATE SERVICES (1994) LTD.

Role (s): SITE PROFILE COMPLETOR

Role (s): SITE PROFILE CONTACT

Start Date: 1999-NOV-05 **End Date:**

Section 3: Documents

Section 4: Associated Sites

Section 5: Suspected Land Use

Description: CHEMICAL MANUFACTURING OR WHOLESALE BULK STORAGE

Notes: INSERTED FOR SITE PROFILE DATED 1999-10-27(described on Site Profile dated 99-10-27)

Section 6: Parcel Descriptions

Date added 2004-FEB-21

Crown Land Pin: Crown Land File#: LTO PID# 025617311

Legal Desc: LOT 2 DISTRICT LOT 351 GROUP 1 NEW WESTMINSTER DISTRICT PLAN BCP4480

Date added 2004-FEB-21

Crown Land Pin: Crown Land File#: LTO PID# 025617303

Legal Desc: LOT 1 DISTRICT LOT 351 GROUP 1 NEW WESTMINSTER DISTRICT PLAN BCP4480

Date added 2004-FEB-17

Crown Land Pin: Crown Land File#: LTO PID# 012614904

Legal Desc: LOT 287 DISTRICT LOT 351 GROUP 1 NEW WESTMINSTER DISTRICT PLAN 79661

Section 7: Current Site Profile Information

Site Profile Completion Date: 1999-NOV-05

Local Authority Received: 1999-NOV-05

Site Registrar Received: 1999-NOV-05

Decision Date: 1999-DEC-02 Decision: INVESTIGATION NOT REQUIRED Entry Date: 1999-NOV-08

Additional Comments:

Commercial and Industrial Purposes or Activities on Site:

Reference	Description
-----------	-------------

A2	CHEMICAL MANUFACTURING OR WHOLESALE BULK STORAGE
----	--

AREAS OF POTENTIAL CONCERN

Petroleum, solvent or other polluting substance spills to the environment greater than 100 litres?	NO
--	----

AREAS OF POTENTIAL CONCERN

Residue left after removal of piled materials such as chemicals, coal, ore, smelter slag, air quality control system baghouse dust?	NO
---	----

AREAS OF POTENTIAL CONCERN

Discarded barrels, drums or tanks?	NO
------------------------------------	----

FILL MATERIALS

Fill dirt, soil, gravel, sand or like materials from a contaminated site or from a source used for any of the activities listed under Schedule 2?	NO
---	----

FILL MATERIALS

Discarded or waste granular materials such as sand blasting grit, asphalt paving or roofing material, spent foundry casting sands, mine ore, waste rock or float?	NO
---	----

FILL MATERIALS

Dredged sediments, or sediments and debris materials originating from locations adjacent to foreshore industrial activities, or municipal sanitary or stormwater discharges?	NO
--	----

WASTE DISPOSAL	
Materials such as household garbage, mixed municipal refuse, or demolition debris?	NO
WASTE DISPOSAL	
Waste or byproducts such as tank bottoms, residues, sludge, or flocculation precipitates from industrial processes or wastewater treatment?	NO
WASTE DISPOSAL	
Waste products from smelting or mining activities, such as smelter slag, mine tailings, or cull materials from coal processing?	NO
WASTE DISPOSAL	
Waste products from natural gas and oil well drilling activities, such as drilling fluids and muds?	NO
WASTE DISPOSAL	
Waste products from photographic developing or finishing laboratories; asphalt tar manufacturing; boilers, incinerators or other thermal facilities (eg. ash); appliance, small equipment or engine repair or salvage; dry cleaning operations (eg. solvents); or automobile and truck parts cleaning or repair?	NO
TANKS OR CONTAINERS USED OR STORED	
Underground fuel or chemical storage tanks?	NO
TANKS OR CONTAINERS USED OR STORED	
Above ground fuel or chemical storage tanks?	YES
SPECIAL (HAZARDOUS) WASTES OR SUBSTANCES	
PCB-containing electrical transformers or capacitors either at grade, attached above ground to poles, located within buildings, or stored?	NO
SPECIAL (HAZARDOUS) WASTES OR SUBSTANCES	
Waste asbestos or asbestos containing materials such as pipe wrapping, blown-in insulation or panelling buried?	NO
SPECIAL (HAZARDOUS) WASTES OR SUBSTANCES	
Paints, solvents, mineral spirits or waste pest control products or pest control product containers stored in volumes greater than 20 litres?	NO
LEGAL OR REGULATORY ACTIONS OR CONSTRAINTS	
Government orders or other notifications pertaining to environmental conditions or quality of soil, water, groundwater or other environmental media?	NO
LEGAL OR REGULATORY ACTIONS OR CONSTRAINTS	
Liens to recover costs, restrictive covenants on land use, or other charges or encumbrances, stemming from contaminants or waste remaining onsite or from other environmental conditions?	NO
LEGAL OR REGULATORY ACTIONS OR CONSTRAINTS	
Government notifications relating to past or recurring environmental violations at the site or any facility located on the site?	NO

Site ID 12222

Section 1: Notations

Notation Type: REQUIREMENT(S) IMPOSED UNDER EMA SECTION 54(3)(D)

Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL

Registered: 2011-SEP-15 **Updated:** 2011-SEP-15

Ministry Contact HANEMAYER, VINCENT (SURREY) C

Note:

Required Action: A STATEMENT BY AN APPROVED PROFESSIONAL SHALL BE SUBMITTED TO THE DIRECTOR ANNUALLY WITHIN 90 DAYS OF THE ANNIVERSARY OF 2010-07-15 LETTER.

Notation Type: NOTICE OF INDEPENDENT REMEDIATION COMPLETION SUBMITTED

Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL

Registered: 2011-OCT-13 **Updated:** 2011-OCT-13

Ministry Contact SAMWAYS, JENNIFER

Notation Participants:
GOLDER ASSOCIATES LTD.

Roles:
SUBMITTED BY

Note: COMPLETED: 2011-08-31

Required Action:

Notation Type: CASE MANAGEMENT ITEM

Notation Class: ADMINISTRATIVE

Registered: 2011-JUN-08 **Updated:** 2011-JUN-08

Ministry Contact LARSEN, KELLI

Notation Participants:
LARSEN, KELLI

Roles:
ISSUED BY

Note: RELEASE OF A SOIL REMOVAL PERMIT FOR THE MITRE YARD GRANTED UNDER SCENARIO 2. FUTURE PERMITS WILL BE REQUIRED TO REDEVELOP THE SITE.

Required Action:

Notation Type: NOTICE OF INDEPENDENT REMEDIATION INITIATION SUBMITTED

Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL

Registered: 2010-JUN-08 **Updated:** 2010-JUN-08

Ministry Contact SAMWAYS, JENNIFER

Notation Participants:
GOLDER ASSOCIATES LTD.

Roles:
SUBMITTED BY

Note: START: 2010-05-31

Required Action:

Notation Type: SITE RISK CLASSIFIED - SITE IS NON-HIGH RISK
Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL
Registered: 2010-JUN-03 **Updated:** 2010-JUN-03
Ministry Contact O'GRADY, TYLER

Notation Participants:
GOLDER ASSOCIATES LTD.

Roles:
SUBMITTED BY

Note:

Required Action:

Notation Type: RELEASE OF APPROVING AUTHORITY UNDER ACCEPTANCE OF INDEPENDENT REMEDIATION ISSUED
Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL
Registered: 2010-JUL-15 **Updated:** 2010-JUL-15
Ministry Contact LARSEN, KELLI

Notation Participants:
LARSEN, KELLI

Roles:
ISSUED BY

Note: RELEASE OF SOIL REMOVAL PERMIT UNDER SCENARIO 4 (SITE UPGRADE)

Required Action:

Notation Type: REQUIREMENT(S) IMPOSED UNDER EMA SECTION 54(3)(D)
Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL
Registered: 2010-JUL-15 **Updated:** 2010-JUL-15
Ministry Contact LARSEN, KELLI

Note: DETAILED SITE INVESTIGATION AND INITIAL REMEDIATION REPORT

Required Action: A STATEMENT BY AN APPROVED PROFESSIONAL SHALL BE SUBMITTED TO THE DIRECTOR ANNUALLY WITHIN 90 DAYS OF THE ANNIVERSARY OF 2010-07-15 LETTER.

Notation Type: SITE PROFILE REVIEWED - FURTHER INVESTIGATION REQUIRED BY THE MINISTRY
Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL
Registered: 2010-JUL-15 **Updated:**
Ministry Contact LARSEN, KELLI

Note:

Required Action: DETAILED SITE INVESTIGATION REQUIRED

Notation Type: SITE PROFILE - FURTHER INVESTIGATION REQUIRED BY THE MINISTRY

Notation Class: WASTE MANAGEMENT ACT: CONTAMINATED SITES NOTATIONS

Registered: 2010-JUL-15 **Updated:**

Ministry Contact LARSEN, KELLI

Note:

Required Action: DETAILED SITE INVESTIGATION REQUIRED

Notation Type: SITE PROFILE RECEIVED

Notation Class: WASTE MANAGEMENT ACT: CONTAMINATED SITES NOTATIONS

Registered: 2010-JUL-07 **Updated:**

Ministry Contact LARSEN, KELLI

Notation Participants:

GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT
(BURNABY)

GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT
(BURNABY)

GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT
(BURNABY)

GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT
(BURNABY)

Roles:

SITE PROFILE SUBMITTED BY

SITE PROFILE SUBMITTED BY

SITE PROFILE SUBMITTED BY

SITE PROFILE SUBMITTED BY

Note:

Required Action:

Notation Type: SITE PROFILE RECEIVED

Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL

Registered: 2010-JUL-07 **Updated:**

Ministry Contact LARSEN, KELLI

Notation Participants:

GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT
(BURNABY)

GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT
(BURNABY)

GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT
(BURNABY)

GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT
(BURNABY)

Roles:

SITE PROFILE SUBMITTED BY

SITE PROFILE SUBMITTED BY

SITE PROFILE SUBMITTED BY

SITE PROFILE SUBMITTED BY

Note:

Required Action:

Notation Type: NOTICE OF INDEPENDENT REMEDIATION INITIATION SUBMITTED

Notation Class: ENVIRONMENTAL MANAGEMENT ACT: GENERAL

Registered: 2010-APR-16 **Updated:** 2010-APR-16

Ministry Contact SAMWAYS, JENNIFER

Notation Participants:
GOLDER ASSOCIATES LTD.

Roles:
SUBMITTED BY

Note: START: 2010-04-19

Required Action:

Section 2: Site Participants

Participant: GOLDER ASSOCIATES LTD.

Role (s): ENVIRONMENTAL CONSULTANT/CONTRACTOR

Start Date: 2010-APR-16 **End Date:**

Participant: GREATER VANCOUVER SEWERAGE AND DRAINAGE DISTRICT (BURNABY)

Role (s): SITE PROFILE COMPLETOR

Role (s): SITE PROFILE CONTACT

Role (s): PROPERTY OWNER

Start Date: 2010-JUL-07 **End Date:**

Participant: LARSEN, KELLI

Role (s): MAIN MINISTRY CONTACT

Start Date: 2010-JUL-07 **End Date:**

Participant: METRO VANCOUVER (GREATER VANCOUVER)

Role (s): PROPERTY OWNER

Start Date: 2010-APR-16 **End Date:**

Participant: O'GRADY, TYLER

Role (s): MINISTRY CONTACT

Start Date: 2010-JUN-03 **End Date:**

Participant: SAMWAYS, JENNIFER

Role (s): ALTERNATE MINISTRY CONTACT

Start Date: 2010-APR-16 **End Date:**

Section 3: Documents

Title: DETAILED SITE INVESTIGATION ADN INITIAL REMEDIATION , ANNACIS WASTEWATER CENTRE DEVELOPMENT
AT 1400 LINDSEY PLACE, DELTA, BC

Document Date: 2011-SEP-07 **Submission Date:** 2011-SEP-15

Participants

GOLDER ASSOCIATES LTD.

AUTHOR

METRO VANCOUVER (GREATER VANCOUVER)

COMMISSIONER

Notes:

Section 4: Associated Sites

Site Id: 340 **Date:** 2010-APR-19

Notes:

Section 5: Suspected Land Use

Description: PETRO. PROD., /PRODUCE WATER STRG ABVEGRND/UNDERGRND TANK

Notes: INSERTED FOR SITE PROFILE DATED 2010-06-25(described on Site Profile dated 10-06-25)

Description: WASTE OIL, REPROCESSING, RECYCLING OR BULK STORAGE

Notes: INSERTED FOR SITE PROFILE DATED 2010-06-25(described on Site Profile dated 10-06-25)

Section 6: Parcel Descriptions

Date added 1997-MAR-16

Crown Land Pin: **Crown Land File#:** **LTO PID#** 023319160

Legal Desc: LOT 1 DISTRICT LOT 351 GROUP 1 NEW WESTMINSTER DISTRICT PLAN LMP25806

Section 7: Current Site Profile Information

Site Profile Completion Date: 2010-JUL-07

Local Authority Received: 2010-JUL-07

Site Registrar Received:

Decision Date: 2010-JUL-15 **Decision:** INVESTIGATION REQUIRED **Entry Date:**

Additional Comments:

Commercial and Industrial Purposes or Activities on Site:

Reference	Description
-----------	-------------

F7	PETRO. PROD., /PRODUCE WATER STRG ABVEGRND/UNDERGRND TANK
----	---

H23	WASTE OIL, REPROCESSING, RECYCLING OR BULK STORAGE
-----	--

AREAS OF POTENTIAL CONCERN

Petroleum, solvent or other polluting substance spills to the environment greater than 100 litres? NO

AREAS OF POTENTIAL CONCERN

Residue left after removal of piled materials such as chemicals, coal, ore, smelter slag, air quality control system baghouse dust? NO

AREAS OF POTENTIAL CONCERN

Discarded barrels, drums or tanks? YES

FILL MATERIALS	
Fill dirt, soil, gravel, sand or like materials from a contaminated site or from a source used for any of the activities listed under Schedule 2?	NO
FILL MATERIALS	
Discarded or waste granular materials such as sand blasting grit, asphalt paving or roofing material, spent foundry casting sands, mine ore, waste rock or float?	NO
FILL MATERIALS	
Dredged sediments, or sediments and debris materials originating from locations adjacent to foreshore industrial activities, or municipal sanitary or stormwater discharges?	NO
WASTE DISPOSAL	
Materials such as household garbage, mixed municipal refuse, or demolition debris?	NO
WASTE DISPOSAL	
Waste or byproducts such as tank bottoms, residues, sludge, or flocculation precipitates from industrial processes or wastewater treatment?	NO
WASTE DISPOSAL	
Waste products from smelting or mining activities, such as smelter slag, mine tailings, or cull materials from coal processing?	NO
WASTE DISPOSAL	
Waste products from natural gas and oil well drilling activities, such as drilling fluids and muds?	NO
WASTE DISPOSAL	
Waste products from photographic developing or finishing laboratories; asphalt tar manufacturing; boilers, incinerators or other thermal facilities (eg. ash); appliance, small equipment or engine repair or salvage; dry cleaning operations (eg. solvents); or automobile and truck parts cleaning or repair?	NO
TANKS OR CONTAINERS USED OR STORED	
Underground fuel or chemical storage tanks?	NO
TANKS OR CONTAINERS USED OR STORED	
Above ground fuel or chemical storage tanks?	NO
SPECIAL (HAZARDOUS) WASTES OR SUBSTANCES	
PCB-containing electrical transformers or capacitors either at grade, attached above ground to poles, located within buildings, or stored?	NO
SPECIAL (HAZARDOUS) WASTES OR SUBSTANCES	
Waste asbestos or asbestos containing materials such as pipe wrapping, blown-in insulation or panelling buried?	NO
SPECIAL (HAZARDOUS) WASTES OR SUBSTANCES	
Paints, solvents, mineral spirits or waste pest control products or pest control product containers stored in volumes greater than 20 litres?	NO
LEGAL OR REGULATORY ACTIONS OR CONSTRAINTS	
Government orders or other notifications pertaining to environmental conditions or quality of soil, water, groundwater or other environmental media?	NO
LEGAL OR REGULATORY ACTIONS OR CONSTRAINTS	
Liens to recover costs, restrictive covenants on land use, or other charges or encumbrances, stemming from contaminants or waste remaining onsite or from other environmental conditions?	NO

LEGAL OR REGULATORY ACTIONS OR CONSTRAINTS

Government notifications relating to past or recurring environmental violations at the site or any facility located on the site? NO

AREAS OF POTENTIAL CONCERN

Contamination resulting from migration of substances from other properties? NO

WASTE DISPOSAL (QUESTIONS AS OF JANUARY 1 2009)

Materials such as household garbage, mixed municipal refuse, or demolition debris? NO

WASTE DISPOSAL (QUESTIONS AS OF JANUARY 1 2009)

Waste or byproducts such as tank bottoms, residues, sludge, or flocculation precipitates from industrial processes or wastewater treatment? YES

WASTE DISPOSAL (QUESTIONS AS OF JANUARY 1 2009)

Waste products from smelting or mining activities, such as smelter slag, mine tailings, or cull materials from coal processing? NO

WASTE DISPOSAL (QUESTIONS AS OF JANUARY 1 2009)

Waste products from natural gas and oil well drilling activities, such as drilling fluids and muds? NO

WASTE DISPOSAL (QUESTIONS AS OF JANUARY 1 2009)

Waste products from photographic developing or finishing laboratories; asphalt tar manufacturing; boilers, incinerators or other thermal facilities (eg. ash); appliance, small equipment or engine repair or salvage; dry cleaning operations (eg. solvents); for from the cleaning or repair of parts of boats, ships, barges, automobiles or trucks, including sandblasting grit or paint scrapings? NO

TANKS OR CONTAINERS USED OR STORED, OTHER THAN TANKS USED FOR RESIDENTIAL HEATING FUEL

Underground fuel or chemical storage tanks other than storage tanks for compressed gases? NO

TANKS OR CONTAINERS USED OR STORED, OTHER THAN TANKS USED FOR RESIDENTIAL HEATING FUEL

Above ground fuel or chemical storage tanks other than storage tanks for compressed gases? NO

HAZARDOUS WASTES OR HAZARDOUS SUBSTANCES

PCB-containing electrical transformers or capacitors either at grade, attached above ground to poles, located within buildings, or stored? NO

HAZARDOUS WASTES OR HAZARDOUS SUBSTANCES

Waste asbestos or asbestos containing materials such as pipe wrapping, blown-in insulation or panelling buried? NO

HAZARDOUS WASTES OR HAZARDOUS SUBSTANCES

Paints, solvents, mineral spirits or waste pest control products or pest control product containers stored in volumes greater than 20 litres? NO

As a global, employee-owned organisation with over 50 years of experience, Golder Associates is driven by our purpose to engineer earth's development while preserving earth's integrity. We deliver solutions that help our clients achieve their sustainable development goals by providing a wide range of independent consulting, design and construction services in our specialist areas of earth, environment and energy.

For more information, visit golder.com

Africa	+ 27 11 254 4800
Asia	+ 86 21 6258 5522
Australasia	+ 61 3 8862 3500
Europe	+ 44 1628 851851
North America	+ 1 800 275 3281
South America	+ 56 2 2616 2000

solutions@golder.com
www.golder.com

Golder Associates Ltd.
Suite 200 - 2920 Virtual Way
Vancouver, BC, V5M 0C4
Canada
T: +1 (604) 296 4200



This page intentionally left blank

