

From: spomo1701@outlook.com
To: [Environmental Compliance ENV:EX](#); marty@chholdings.ca
Subject: SPO MO1701-Status Update February 15, 2018
Date: Thursday, February 15, 2018 8:18:47 PM
Attachments: [Feb 15, 2018 CHH Progress Report.pdf](#)
[COA_CHH JAN 2018.pdf](#)
[COA_CHH JAN 2018.xlsx](#)
[CHH SUBMITTAL-2018 Ground Water Quality DATA-CLOSURE PLAN.pdf](#)
[CHH SUBMITTAL-2018 Surface Water Quality DATA-CLOSURE PLAN.pdf](#)

- ***Please find information regarding the Leachate reporting requirements for the Feb15, 2018 reporting period as per SPILL PREVENTION ORDER : MO1701 Section 1d***

Total leachate collected: = 10.77 m3

Total leachate stored = 29.47 m3

Total leachate transported = 0 m3

- ***Sampling was conducted on Jan 31, 2018 as per Section 6biii of File 311372 August 11, 2017 letter. Tabulated results and COA's are attached.***

Sampling Summary

- 1. SHA-SW1***
- 2. SHA-SW2***
- 3. MW6***
- 4. MW3***
- 5. MW2***
- 6. SHA-LE-1***
- 7. SHA-LD-1 (Dry Conditions)***
- 8. SB-1***
- 9. SB-2***
- 10. SB-3***

- ***Attached is the QP Progress Report for Feb 15, 2018 as per File 311372 August 11, 2017 letter.***

Thank you



ISLANDER ENGINEERING

FIELD REVIEW REPORT		DATE: February 14 2018	ISLANDER PROJECT No.: 2087
REPORT No: 14	STAGE OF CONSTRUCTION: Landfill Closure	WEATHER: Cloudy 3 deg	PAGE: 1 of 3
PROJECT: Cobble Hill Landfill 2017 Minor Construction Works			
TO: CHH	ATTENTION: Marty Block		
CC:			

The field review included the inspection of the following items included in the detailed summary of works section of the *Cobble Hill Landfill — 2017 Minor Construction Works, Detailed Construction Plan (Sperling Hansen Associates, September 13, 2017)*:

- **PEA**
 - Liner appears to be in good condition, and no noticeable changes since the date of our last inspection
- **Leachate and Leak Detention facility**
 - Total leachate collected: = **10.77 m³**
 - Total leachate stored = **29.47 m³**
 - Total leachate transported = **0 m³**
- **Soil Management Area (SMA)**
 - All works are in good condition and no noticeable changes since the date of our last inspection
- **Contact Water Containment Pond**
 - All works are in good condition and no noticeable changes since the date of our last inspection
- **cut-off ditch upland of PEA**
 - All works are in good condition, ditch still performing well.

ISLANDER ENGINEERING LTD.



Mike Achtem, P.Eng



ISLANDER ENGINEERING

FIELD REVIEW REPORT		DATE: Feb 14 2018	ISLANDER PROJECT No.: 2087
REPORT No: 14	STAGE OF CONSTRUCTION: Landfill Closure	WEATHER: Cloudy 3 deg	PAGE: 2 of 3



SMA - looking south



SMA – looking north



Contact water containment Pond



Pipe trenching and Leachate and Leak Detention facility



ISLANDER ENGINEERING

FIELD REVIEW REPORT		DATE: Feb 14 2018	ISLANDER PROJECT No.: 2087
REPORT No: 14	STAGE OF CONSTRUCTION: Landfill Closure	WEATHER: Cloudy 3 deg	PAGE: 3 of 3



PEA – liner near NE corner



PEA– NW corner



Cut-off ditch upland of PEA



PEA north face

CERTIFICATE OF ANALYSIS

REPORTED TO Allterra Construction
2158 Millstream Road
Victoria, BC V9B 6H4

ATTENTION Rahim Gaidhar

PO NUMBER P15-06 SIRM

PROJECT P17-932

PROJECT INFO

WORK ORDER 8020060

RECEIVED / TEMP 2018-02-01 10:40 / 7°C

REPORTED 2018-02-08 13:09

COC NUMBER Jan 2018

Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients' projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO 17025:2005 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks



You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We've Got Chemistry



It's simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve



Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

If you have any questions or concerns, please contact me at bshaw@caro.ca

Authorized By:

Bryan Shaw, Ph.D., P.Chem.
Client Service Coordinator



1-888-311-8846 | www.caro.ca

#110 4011 Viking Way Richmond, BC V6V 2K9 | #102 3677 Highway 97N Kelowna, BC V1X 5C3 | 17225 109 Avenue Edmonton, AB T5S 1H7

TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8020060
2018-02-08 13:09

Analyte	Result	RL	Units	Analyzed	Qualifier
MW6 (8020060-01) Matrix: Water Sampled: 2018-01-31 11:30					
Anions					
Chloride	39.1	0.10	mg/L	2018-02-02	
Fluoride	0.14	0.10	mg/L	2018-02-02	
Nitrate (as N)	< 0.010	0.010	mg/L	2018-02-02	
Nitrite (as N)	< 0.010	0.010	mg/L	2018-02-02	
Sulfate	101	1.0	mg/L	2018-02-02	
General Parameters					
Alkalinity, Total (as CaCO ₃)	625	1.0	mg/L	2018-02-02	
Alkalinity, Phenolphthalein (as CaCO ₃)	< 1.0	1.0	mg/L	2018-02-02	
Alkalinity, Bicarbonate (as CaCO ₃)	625	1.0	mg/L	2018-02-02	
Alkalinity, Carbonate (as CaCO ₃)	< 1.0	1.0	mg/L	2018-02-02	
Alkalinity, Hydroxide (as CaCO ₃)	< 1.0	1.0	mg/L	2018-02-02	
Colour, True	7.0	5.0	CU	2018-02-01	
Conductivity (EC)	1330	2.0	µS/cm	2018-02-07	
pH	7.64	0.10	pH units	2018-02-07	HT2
Solids, Total Suspended	15.4	2.0	mg/L	2018-02-07	
Turbidity	16.6	0.10	NTU	2018-02-02	
Calculated Parameters					
Hardness, Total (as CaCO ₃)	591	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2018-02-07	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Arsenic, dissolved	0.00405	0.00050	mg/L	2018-02-07	
Barium, dissolved	0.0827	0.0050	mg/L	2018-02-07	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Boron, dissolved	0.0728	0.0050	mg/L	2018-02-07	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2018-02-07	
Calcium, dissolved	178	0.20	mg/L	2018-02-07	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Cobalt, dissolved	0.00227	0.00010	mg/L	2018-02-07	
Copper, dissolved	< 0.00040	0.00040	mg/L	2018-02-07	
Iron, dissolved	1.86	0.010	mg/L	2018-02-07	
Lead, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Lithium, dissolved	0.0119	0.00010	mg/L	2018-02-07	
Magnesium, dissolved	35.5	0.010	mg/L	2018-02-07	
Manganese, dissolved	2.02	0.00020	mg/L	2018-02-07	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2018-02-05	
Molybdenum, dissolved	0.00073	0.00010	mg/L	2018-02-07	
Nickel, dissolved	0.00376	0.00040	mg/L	2018-02-07	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2018-02-07	

TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8020060
2018-02-08 13:09

Analyte	Result	RL	Units	Analyzed	Qualifier
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MW6 (8020060-01) | Matrix: Water | Sampled: 2018-01-31 11:30, Continued

Dissolved Metals, Continued

Potassium, dissolved	3.88	0.10	mg/L	2018-02-07	
Selenium, dissolved	0.00056	0.00050	mg/L	2018-02-07	
Silicon, dissolved	11.5	1.0	mg/L	2018-02-07	
Silver, dissolved	< 0.000050	0.000050	mg/L	2018-02-07	
Sodium, dissolved	70.8	0.10	mg/L	2018-02-07	
Strontium, dissolved	0.549	0.0010	mg/L	2018-02-07	
Sulfur, dissolved	25.4	3.0	mg/L	2018-02-07	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2018-02-07	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Tin, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2018-02-07	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2018-02-07	
Uranium, dissolved	0.00730	0.000020	mg/L	2018-02-07	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2018-02-07	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2018-02-07	
Zirconium, dissolved	0.00021	0.00010	mg/L	2018-02-07	

Total Metals

Aluminum, total	0.375	0.0050	mg/L	2018-02-02	
Antimony, total	0.00021	0.00020	mg/L	2018-02-02	
Arsenic, total	0.00413	0.00050	mg/L	2018-02-02	
Barium, total	0.0901	0.0050	mg/L	2018-02-02	
Beryllium, total	< 0.00010	0.00010	mg/L	2018-02-02	
Bismuth, total	< 0.00010	0.00010	mg/L	2018-02-02	
Boron, total	0.0803	0.0050	mg/L	2018-02-02	
Cadmium, total	0.000176	0.000010	mg/L	2018-02-02	
Calcium, total	173	0.20	mg/L	2018-02-02	
Chromium, total	0.00085	0.00050	mg/L	2018-02-02	
Cobalt, total	0.00260	0.00010	mg/L	2018-02-02	
Copper, total	0.00347	0.00040	mg/L	2018-02-02	
Iron, total	2.33	0.010	mg/L	2018-02-02	
Lead, total	0.00112	0.00020	mg/L	2018-02-02	
Lithium, total	0.0119	0.00010	mg/L	2018-02-02	
Magnesium, total	34.1	0.010	mg/L	2018-02-02	
Manganese, total	2.12	0.00020	mg/L	2018-02-02	
Mercury, total	< 0.000010	0.000010	mg/L	2018-02-06	
Molybdenum, total	0.00109	0.00010	mg/L	2018-02-02	
Nickel, total	0.00530	0.00040	mg/L	2018-02-02	
Phosphorus, total	< 0.050	0.050	mg/L	2018-02-02	
Potassium, total	3.86	0.10	mg/L	2018-02-02	
Selenium, total	< 0.00050	0.00050	mg/L	2018-02-02	
Silicon, total	12.3	1.0	mg/L	2018-02-02	

TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8020060
2018-02-08 13:09

Analyte	Result	RL	Units	Analyzed	Qualifier
MW6 (8020060-01) Matrix: Water Sampled: 2018-01-31 11:30, Continued					
<i>Total Metals, Continued</i>					
Silver, total	< 0.000050	0.000050	mg/L	2018-02-02	
Sodium, total	65.4	0.10	mg/L	2018-02-02	
Strontium, total	0.593	0.0010	mg/L	2018-02-02	
Sulfur, total	24.5	3.0	mg/L	2018-02-02	
Tellurium, total	< 0.00050	0.00050	mg/L	2018-02-02	
Thallium, total	0.000075	0.000020	mg/L	2018-02-02	
Thorium, total	< 0.00010	0.00010	mg/L	2018-02-02	
Tin, total	0.00091	0.00020	mg/L	2018-02-02	
Titanium, total	0.0208	0.0050	mg/L	2018-02-02	
Tungsten, total	< 0.0010	0.0010	mg/L	2018-02-02	
Uranium, total	0.00783	0.000020	mg/L	2018-02-02	
Vanadium, total	< 0.0010	0.0010	mg/L	2018-02-02	
Zinc, total	0.0088	0.0040	mg/L	2018-02-02	
Zirconium, total	0.00024	0.00010	mg/L	2018-02-02	
<i>BCMOE Aggregate Hydrocarbons</i>					
EPHw10-19	< 250	250	µg/L	2018-02-03	
EPHw19-32	254	250	µg/L	2018-02-03	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	253	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	82	60-140	%	2018-02-03	
<i>Polycyclic Aromatic Hydrocarbons (PAH)</i>					
Acenaphthene	< 0.050	0.050	µg/L	2018-02-04	
Acenaphthylene	< 0.200	0.200	µg/L	2018-02-04	
Acridine	< 0.050	0.050	µg/L	2018-02-04	
Anthracene	< 0.010	0.010	µg/L	2018-02-04	
Benz(a)anthracene	0.084	0.010	µg/L	2018-02-04	
Benzo(a)pyrene	0.074	0.010	µg/L	2018-02-04	
Benzo(b+j)fluoranthene	0.307	0.050	µg/L	2018-02-04	
Benzo(g,h,i)perylene	0.178	0.050	µg/L	2018-02-04	
Benzo(k)fluoranthene	0.167	0.050	µg/L	2018-02-04	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2018-02-04	
Chrysene	0.100	0.050	µg/L	2018-02-04	
Dibenz(a,h)anthracene	0.156	0.010	µg/L	2018-02-04	
Fluoranthene	< 0.030	0.030	µg/L	2018-02-04	
Fluorene	< 0.050	0.050	µg/L	2018-02-04	
Indeno(1,2,3-cd)pyrene	0.175	0.050	µg/L	2018-02-04	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2018-02-04	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2018-02-04	
Naphthalene	< 0.200	0.200	µg/L	2018-02-04	
Phenanthrene	< 0.100	0.100	µg/L	2018-02-04	
Pyrene	< 0.020	0.020	µg/L	2018-02-04	

TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8020060
2018-02-08 13:09

Analyte	Result	RL	Units	Analyzed	Qualifier
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MW6 (8020060-01) | Matrix: Water | Sampled: 2018-01-31 11:30, Continued

Polycyclic Aromatic Hydrocarbons (PAH), Continued

Quinoline	< 0.050	0.050	µg/L	2018-02-04	
Surrogate: Acridine-d9	81	50-140	%	2018-02-04	
Surrogate: Naphthalene-d8	91	50-140	%	2018-02-04	
Surrogate: Perylene-d12	109	50-140	%	2018-02-04	

MW3S (8020060-02) | Matrix: Water | Sampled: 2018-01-31 12:30

Anions

Chloride	7.66	0.10	mg/L	2018-02-02	
Fluoride	0.11	0.10	mg/L	2018-02-02	
Nitrate (as N)	0.017	0.010	mg/L	2018-02-02	
Nitrite (as N)	< 0.010	0.010	mg/L	2018-02-02	
Sulfate	43.0	1.0	mg/L	2018-02-02	

General Parameters

Alkalinity, Total (as CaCO3)	126	1.0	mg/L	2018-02-02	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2018-02-02	
Alkalinity, Bicarbonate (as CaCO3)	126	1.0	mg/L	2018-02-02	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2018-02-02	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2018-02-02	
Colour, True	< 5.0	5.0	CU	2018-02-01	
Conductivity (EC)	345	2.0	µS/cm	2018-02-07	
pH	7.99	0.10	pH units	2018-02-07	HT2
Solids, Total Suspended	8.4	2.0	mg/L	2018-02-07	
Turbidity	13.5	0.10	NTU	2018-02-02	

Calculated Parameters

Hardness, Total (as CaCO3)	144	0.500	mg/L	N/A	
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Dissolved Metals

Aluminum, dissolved	< 0.0050	0.0050	mg/L	2018-02-07	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Arsenic, dissolved	0.00097	0.00050	mg/L	2018-02-07	
Barium, dissolved	0.0273	0.0050	mg/L	2018-02-07	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Boron, dissolved	0.0199	0.0050	mg/L	2018-02-07	
Cadmium, dissolved	0.000011	0.000010	mg/L	2018-02-07	
Calcium, dissolved	46.3	0.20	mg/L	2018-02-07	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Cobalt, dissolved	0.00085	0.00010	mg/L	2018-02-07	
Copper, dissolved	< 0.00040	0.00040	mg/L	2018-02-07	
Iron, dissolved	0.039	0.010	mg/L	2018-02-07	

TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8020060
2018-02-08 13:09

Analyte	Result	RL	Units	Analyzed	Qualifier
MW3S (8020060-02) Matrix: Water Sampled: 2018-01-31 12:30, Continued					
<i>Dissolved Metals, Continued</i>					
Lead, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Lithium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Magnesium, dissolved	6.88	0.010	mg/L	2018-02-07	
Manganese, dissolved	0.384	0.00020	mg/L	2018-02-07	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2018-02-05	
Molybdenum, dissolved	0.00606	0.00010	mg/L	2018-02-07	
Nickel, dissolved	0.00140	0.00040	mg/L	2018-02-07	
Phosphorus, dissolved	0.057	0.050	mg/L	2018-02-07	
Potassium, dissolved	0.91	0.10	mg/L	2018-02-07	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Silicon, dissolved	6.0	1.0	mg/L	2018-02-07	
Silver, dissolved	< 0.000050	0.000050	mg/L	2018-02-07	
Sodium, dissolved	13.6	0.10	mg/L	2018-02-07	
Strontium, dissolved	0.211	0.0010	mg/L	2018-02-07	
Sulfur, dissolved	14.0	3.0	mg/L	2018-02-07	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2018-02-07	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Tin, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2018-02-07	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2018-02-07	
Uranium, dissolved	0.000953	0.000020	mg/L	2018-02-07	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2018-02-07	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2018-02-07	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
<i>Total Metals</i>					
Aluminum, total	0.0749	0.0050	mg/L	2018-02-02	
Antimony, total	< 0.00020	0.00020	mg/L	2018-02-02	
Arsenic, total	0.00104	0.00050	mg/L	2018-02-02	
Barium, total	0.0325	0.0050	mg/L	2018-02-02	
Beryllium, total	< 0.00010	0.00010	mg/L	2018-02-02	
Bismuth, total	< 0.00010	0.00010	mg/L	2018-02-02	
Boron, total	0.0274	0.0050	mg/L	2018-02-02	
Cadmium, total	0.000222	0.000010	mg/L	2018-02-02	
Calcium, total	48.2	0.20	mg/L	2018-02-02	
Chromium, total	0.00073	0.00050	mg/L	2018-02-02	
Cobalt, total	0.00096	0.00010	mg/L	2018-02-02	
Copper, total	0.00044	0.00040	mg/L	2018-02-02	
Iron, total	0.119	0.010	mg/L	2018-02-02	
Lead, total	< 0.00020	0.00020	mg/L	2018-02-02	
Lithium, total	< 0.00010	0.00010	mg/L	2018-02-02	
Magnesium, total	7.15	0.010	mg/L	2018-02-02	

TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8020060
2018-02-08 13:09

Analyte	Result	RL	Units	Analyzed	Qualifier
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MW3S (8020060-02) | Matrix: Water | Sampled: 2018-01-31 12:30, Continued

Total Metals, Continued

Manganese, total	0.417	0.00020	mg/L	2018-02-02	
Mercury, total	< 0.000010	0.000010	mg/L	2018-02-06	
Molybdenum, total	0.00639	0.00010	mg/L	2018-02-02	
Nickel, total	0.00169	0.00040	mg/L	2018-02-02	
Phosphorus, total	0.075	0.050	mg/L	2018-02-02	
Potassium, total	0.93	0.10	mg/L	2018-02-02	
Selenium, total	< 0.00050	0.00050	mg/L	2018-02-02	
Silicon, total	6.9	1.0	mg/L	2018-02-02	
Silver, total	< 0.000050	0.000050	mg/L	2018-02-02	
Sodium, total	13.5	0.10	mg/L	2018-02-02	
Strontium, total	0.246	0.0010	mg/L	2018-02-02	
Sulfur, total	14.3	3.0	mg/L	2018-02-02	
Tellurium, total	< 0.00050	0.00050	mg/L	2018-02-02	
Thallium, total	0.000029	0.000020	mg/L	2018-02-02	
Thorium, total	< 0.00010	0.00010	mg/L	2018-02-02	
Tin, total	< 0.00020	0.00020	mg/L	2018-02-02	
Titanium, total	< 0.0050	0.0050	mg/L	2018-02-02	
Tungsten, total	< 0.0010	0.0010	mg/L	2018-02-02	
Uranium, total	0.00112	0.000020	mg/L	2018-02-02	
Vanadium, total	< 0.0010	0.0010	mg/L	2018-02-02	
Zinc, total	< 0.0040	0.0040	mg/L	2018-02-02	
Zirconium, total	0.00013	0.00010	mg/L	2018-02-02	

BCMOE Aggregate Hydrocarbons

EPHw10-19	< 250	250	µg/L	2018-02-03	
EPHw19-32	< 250	250	µg/L	2018-02-03	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	75	60-140	%	2018-02-03	

Polycyclic Aromatic Hydrocarbons (PAH)

Acenaphthene	< 0.050	0.050	µg/L	2018-02-04	
Acenaphthylene	< 0.200	0.200	µg/L	2018-02-04	
Acridine	< 0.050	0.050	µg/L	2018-02-04	
Anthracene	< 0.010	0.010	µg/L	2018-02-04	
Benz(a)anthracene	< 0.010	0.010	µg/L	2018-02-04	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2018-02-04	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2018-02-04	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2018-02-04	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2018-02-04	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2018-02-04	
Chrysene	< 0.050	0.050	µg/L	2018-02-04	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2018-02-04	

TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8020060
2018-02-08 13:09

Analyte	Result	RL	Units	Analyzed	Qualifier
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MW3S (8020060-02) | Matrix: Water | Sampled: 2018-01-31 12:30, Continued

Polycyclic Aromatic Hydrocarbons (PAH), Continued

Fluoranthene	< 0.030	0.030	µg/L	2018-02-04	
Fluorene	< 0.050	0.050	µg/L	2018-02-04	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2018-02-04	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2018-02-04	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2018-02-04	
Naphthalene	< 0.200	0.200	µg/L	2018-02-04	
Phenanthrene	< 0.100	0.100	µg/L	2018-02-04	
Pyrene	< 0.020	0.020	µg/L	2018-02-04	
Quinoline	< 0.050	0.050	µg/L	2018-02-04	
Surrogate: Acridine-d9	77	50-140	%	2018-02-04	
Surrogate: Naphthalene-d8	86	50-140	%	2018-02-04	
Surrogate: Perylene-d12	108	50-140	%	2018-02-04	

MW3D (8020060-03) | Matrix: Water | Sampled: 2018-01-31 12:50

Anions

Chloride	2.52	0.10	mg/L	2018-02-02	
Fluoride	0.18	0.10	mg/L	2018-02-02	
Nitrate (as N)	0.014	0.010	mg/L	2018-02-02	
Nitrite (as N)	< 0.010	0.010	mg/L	2018-02-02	
Sulfate	22.4	1.0	mg/L	2018-02-02	

General Parameters

Alkalinity, Total (as CaCO ₃)	100	1.0	mg/L	2018-02-02	
Alkalinity, Phenolphthalein (as CaCO ₃)	< 1.0	1.0	mg/L	2018-02-02	
Alkalinity, Bicarbonate (as CaCO ₃)	100	1.0	mg/L	2018-02-02	
Alkalinity, Carbonate (as CaCO ₃)	< 1.0	1.0	mg/L	2018-02-02	
Alkalinity, Hydroxide (as CaCO ₃)	< 1.0	1.0	mg/L	2018-02-02	
Colour, True	6.7	5.0	CU	2018-02-01	
Conductivity (EC)	242	2.0	µS/cm	2018-02-07	
pH	7.86	0.10	pH units	2018-02-07	HT2
Solids, Total Suspended	7.7	2.0	mg/L	2018-02-07	
Turbidity	32.3	0.10	NTU	2018-02-02	

Calculated Parameters

Hardness, Total (as CaCO ₃)	100	0.500	mg/L	N/A	
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Dissolved Metals

Aluminum, dissolved	0.0134	0.0050	mg/L	2018-02-07	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Arsenic, dissolved	0.00121	0.00050	mg/L	2018-02-07	
Barium, dissolved	0.0189	0.0050	mg/L	2018-02-07	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	

TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8020060
2018-02-08 13:09

Analyte	Result	RL	Units	Analyzed	Qualifier
MW3D (8020060-03) Matrix: Water Sampled: 2018-01-31 12:50, Continued					
<i>Dissolved Metals, Continued</i>					
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Boron, dissolved	0.0222	0.0050	mg/L	2018-02-07	
Cadmium, dissolved	0.000011	0.000010	mg/L	2018-02-07	
Calcium, dissolved	31.5	0.20	mg/L	2018-02-07	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Cobalt, dissolved	0.00032	0.00010	mg/L	2018-02-07	
Copper, dissolved	< 0.00040	0.00040	mg/L	2018-02-07	
Iron, dissolved	0.078	0.010	mg/L	2018-02-07	
Lead, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Lithium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Magnesium, dissolved	5.19	0.010	mg/L	2018-02-07	
Manganese, dissolved	0.247	0.00020	mg/L	2018-02-07	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2018-02-05	
Molybdenum, dissolved	0.00634	0.00010	mg/L	2018-02-07	
Nickel, dissolved	0.00122	0.00040	mg/L	2018-02-07	
Phosphorus, dissolved	0.099	0.050	mg/L	2018-02-07	
Potassium, dissolved	0.61	0.10	mg/L	2018-02-07	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Silicon, dissolved	5.8	1.0	mg/L	2018-02-07	
Silver, dissolved	< 0.000050	0.000050	mg/L	2018-02-07	
Sodium, dissolved	11.0	0.10	mg/L	2018-02-07	
Strontium, dissolved	0.172	0.0010	mg/L	2018-02-07	
Sulfur, dissolved	6.9	3.0	mg/L	2018-02-07	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2018-02-07	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Tin, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2018-02-07	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2018-02-07	
Uranium, dissolved	0.000568	0.000020	mg/L	2018-02-07	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2018-02-07	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2018-02-07	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
<i>Total Metals</i>					
Aluminum, total	0.0736	0.0050	mg/L	2018-02-02	
Antimony, total	< 0.00020	0.00020	mg/L	2018-02-02	
Arsenic, total	0.00125	0.00050	mg/L	2018-02-02	
Barium, total	0.0214	0.0050	mg/L	2018-02-02	
Beryllium, total	< 0.00010	0.00010	mg/L	2018-02-02	
Bismuth, total	< 0.00010	0.00010	mg/L	2018-02-02	
Boron, total	0.0272	0.0050	mg/L	2018-02-02	
Cadmium, total	0.000097	0.000010	mg/L	2018-02-02	

TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8020060
2018-02-08 13:09

Analyte	Result	RL	Units	Analyzed	Qualifier
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MW3D (8020060-03) | Matrix: Water | Sampled: 2018-01-31 12:50, Continued

Total Metals, Continued

Calcium, total	33.2	0.20	mg/L	2018-02-02	
Chromium, total	< 0.00050	0.00050	mg/L	2018-02-02	
Cobalt, total	0.00039	0.00010	mg/L	2018-02-02	
Copper, total	< 0.00040	0.00040	mg/L	2018-02-02	
Iron, total	0.145	0.010	mg/L	2018-02-02	
Lead, total	< 0.00020	0.00020	mg/L	2018-02-02	
Lithium, total	< 0.00010	0.00010	mg/L	2018-02-02	
Magnesium, total	5.43	0.010	mg/L	2018-02-02	
Manganese, total	0.279	0.00020	mg/L	2018-02-02	
Mercury, total	< 0.000010	0.000010	mg/L	2018-02-06	
Molybdenum, total	0.00670	0.00010	mg/L	2018-02-02	
Nickel, total	0.00155	0.00040	mg/L	2018-02-02	
Phosphorus, total	0.117	0.050	mg/L	2018-02-02	
Potassium, total	0.59	0.10	mg/L	2018-02-02	
Selenium, total	< 0.00050	0.00050	mg/L	2018-02-02	
Silicon, total	6.9	1.0	mg/L	2018-02-02	
Silver, total	< 0.000050	0.000050	mg/L	2018-02-02	
Sodium, total	11.1	0.10	mg/L	2018-02-02	
Strontium, total	0.205	0.0010	mg/L	2018-02-02	
Sulfur, total	7.9	3.0	mg/L	2018-02-02	
Tellurium, total	< 0.00050	0.00050	mg/L	2018-02-02	
Thallium, total	< 0.000020	0.000020	mg/L	2018-02-02	
Thorium, total	0.00017	0.00010	mg/L	2018-02-02	
Tin, total	< 0.00020	0.00020	mg/L	2018-02-02	
Titanium, total	< 0.0050	0.0050	mg/L	2018-02-02	
Tungsten, total	< 0.0010	0.0010	mg/L	2018-02-02	
Uranium, total	0.000706	0.000020	mg/L	2018-02-02	
Vanadium, total	< 0.0010	0.0010	mg/L	2018-02-02	
Zinc, total	< 0.0040	0.0040	mg/L	2018-02-02	
Zirconium, total	0.00026	0.00010	mg/L	2018-02-02	

BCMOE Aggregate Hydrocarbons

EPHw10-19	< 250	250	µg/L	2018-02-03	
EPHw19-32	< 250	250	µg/L	2018-02-03	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	82	60-140	%	2018-02-03	

Polycyclic Aromatic Hydrocarbons (PAH)

Acenaphthene	< 0.050	0.050	µg/L	2018-02-04	
Acenaphthylene	< 0.200	0.200	µg/L	2018-02-04	
Acridine	< 0.050	0.050	µg/L	2018-02-04	
Anthracene	< 0.010	0.010	µg/L	2018-02-04	

TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8020060
2018-02-08 13:09

Analyte	Result	RL	Units	Analyzed	Qualifier
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MW3D (8020060-03) | Matrix: Water | Sampled: 2018-01-31 12:50, Continued

Polycyclic Aromatic Hydrocarbons (PAH), Continued

Benz(a)anthracene	< 0.010	0.010	µg/L	2018-02-04	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2018-02-04	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2018-02-04	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2018-02-04	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2018-02-04	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2018-02-04	
Chrysene	< 0.050	0.050	µg/L	2018-02-04	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2018-02-04	
Fluoranthene	< 0.030	0.030	µg/L	2018-02-04	
Fluorene	< 0.050	0.050	µg/L	2018-02-04	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2018-02-04	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2018-02-04	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2018-02-04	
Naphthalene	< 0.200	0.200	µg/L	2018-02-04	
Phenanthrene	< 0.100	0.100	µg/L	2018-02-04	
Pyrene	< 0.020	0.020	µg/L	2018-02-04	
Quinoline	< 0.050	0.050	µg/L	2018-02-04	
Surrogate: Acridine-d9	76	50-140	%	2018-02-04	
Surrogate: Naphthalene-d8	87	50-140	%	2018-02-04	
Surrogate: Perylene-d12	110	50-140	%	2018-02-04	

MW2 (8020060-04) | Matrix: Water | Sampled: 2018-01-31 13:30

Anions

Chloride	5.34	0.10	mg/L	2018-02-02	
Fluoride	0.18	0.10	mg/L	2018-02-02	
Nitrate (as N)	< 0.010	0.010	mg/L	2018-02-02	
Nitrite (as N)	< 0.010	0.010	mg/L	2018-02-02	
Sulfate	20.2	1.0	mg/L	2018-02-02	

General Parameters

Alkalinity, Total (as CaCO3)	123	1.0	mg/L	2018-02-02	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2018-02-02	
Alkalinity, Bicarbonate (as CaCO3)	123	1.0	mg/L	2018-02-02	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2018-02-02	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2018-02-02	
Colour, True	8.4	5.0	CU	2018-02-01	
Conductivity (EC)	293	2.0	µS/cm	2018-02-07	
pH	7.93	0.10	pH units	2018-02-07	HT2
Solids, Total Suspended	18.3	2.0	mg/L	2018-02-07	
Turbidity	14.0	0.10	NTU	2018-02-02	

Calculated Parameters

TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8020060
2018-02-08 13:09

Analyte	Result	RL	Units	Analyzed	Qualifier
MW2 (8020060-04) Matrix: Water Sampled: 2018-01-31 13:30, Continued					
Calculated Parameters, Continued					
Hardness, Total (as CaCO ₃)	126	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2018-02-07	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Arsenic, dissolved	0.00183	0.00050	mg/L	2018-02-07	
Barium, dissolved	0.0290	0.0050	mg/L	2018-02-07	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Boron, dissolved	0.0224	0.0050	mg/L	2018-02-07	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2018-02-07	
Calcium, dissolved	38.9	0.20	mg/L	2018-02-07	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Cobalt, dissolved	0.00036	0.00010	mg/L	2018-02-07	
Copper, dissolved	< 0.00040	0.00040	mg/L	2018-02-07	
Iron, dissolved	0.231	0.010	mg/L	2018-02-07	
Lead, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Lithium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Magnesium, dissolved	6.95	0.010	mg/L	2018-02-07	
Manganese, dissolved	0.440	0.00020	mg/L	2018-02-07	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2018-02-05	
Molybdenum, dissolved	0.00398	0.00010	mg/L	2018-02-07	
Nickel, dissolved	0.00088	0.00040	mg/L	2018-02-07	
Phosphorus, dissolved	0.145	0.050	mg/L	2018-02-07	
Potassium, dissolved	0.70	0.10	mg/L	2018-02-07	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Silicon, dissolved	6.4	1.0	mg/L	2018-02-07	
Silver, dissolved	< 0.000050	0.000050	mg/L	2018-02-07	
Sodium, dissolved	9.46	0.10	mg/L	2018-02-07	
Strontium, dissolved	0.152	0.0010	mg/L	2018-02-07	
Sulfur, dissolved	6.6	3.0	mg/L	2018-02-07	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2018-02-07	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Tin, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2018-02-07	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2018-02-07	
Uranium, dissolved	0.000773	0.000020	mg/L	2018-02-07	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2018-02-07	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2018-02-07	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	

Total Metals

TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8020060
2018-02-08 13:09

Analyte	Result	RL	Units	Analyzed	Qualifier
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MW2 (8020060-04) | Matrix: Water | Sampled: 2018-01-31 13:30, Continued

Total Metals, Continued

Aluminum, total	0.422	0.0050	mg/L	2018-02-02	
Antimony, total	< 0.00020	0.00020	mg/L	2018-02-02	
Arsenic, total	0.00204	0.00050	mg/L	2018-02-02	
Barium, total	0.0330	0.0050	mg/L	2018-02-02	
Beryllium, total	< 0.00010	0.00010	mg/L	2018-02-02	
Bismuth, total	< 0.00010	0.00010	mg/L	2018-02-02	
Boron, total	0.0261	0.0050	mg/L	2018-02-02	
Cadmium, total	0.000023	0.000010	mg/L	2018-02-02	
Calcium, total	40.2	0.20	mg/L	2018-02-02	
Chromium, total	0.00078	0.00050	mg/L	2018-02-02	
Cobalt, total	0.00069	0.00010	mg/L	2018-02-02	
Copper, total	0.00072	0.00040	mg/L	2018-02-02	
Iron, total	0.909	0.010	mg/L	2018-02-02	
Lead, total	0.00027	0.00020	mg/L	2018-02-02	
Lithium, total	< 0.00010	0.00010	mg/L	2018-02-02	
Magnesium, total	7.22	0.010	mg/L	2018-02-02	
Manganese, total	0.491	0.00020	mg/L	2018-02-02	
Mercury, total	< 0.000010	0.000010	mg/L	2018-02-06	
Molybdenum, total	0.00421	0.00010	mg/L	2018-02-02	
Nickel, total	0.00133	0.00040	mg/L	2018-02-02	
Phosphorus, total	0.204	0.050	mg/L	2018-02-02	
Potassium, total	0.68	0.10	mg/L	2018-02-02	
Selenium, total	< 0.00050	0.00050	mg/L	2018-02-02	
Silicon, total	7.8	1.0	mg/L	2018-02-02	
Silver, total	< 0.000050	0.000050	mg/L	2018-02-02	
Sodium, total	9.31	0.10	mg/L	2018-02-02	
Strontium, total	0.176	0.0010	mg/L	2018-02-02	
Sulfur, total	6.3	3.0	mg/L	2018-02-02	
Tellurium, total	< 0.00050	0.00050	mg/L	2018-02-02	
Thallium, total	< 0.000020	0.000020	mg/L	2018-02-02	
Thorium, total	< 0.00010	0.00010	mg/L	2018-02-02	
Tin, total	< 0.00020	0.00020	mg/L	2018-02-02	
Titanium, total	0.0249	0.0050	mg/L	2018-02-02	
Tungsten, total	< 0.0010	0.0010	mg/L	2018-02-02	
Uranium, total	0.000899	0.000020	mg/L	2018-02-02	
Vanadium, total	0.0018	0.0010	mg/L	2018-02-02	
Zinc, total	< 0.0040	0.0040	mg/L	2018-02-02	
Zirconium, total	0.00014	0.00010	mg/L	2018-02-02	

BCMOE Aggregate Hydrocarbons

EPHw10-19	< 250	250	µg/L	2018-02-03	
EPHw19-32	< 250	250	µg/L	2018-02-03	
LEPHw	< 250	250	µg/L	N/A	

TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8020060
2018-02-08 13:09

Analyte	Result	RL	Units	Analyzed	Qualifier
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MW2 (8020060-04) | Matrix: Water | Sampled: 2018-01-31 13:30, Continued

BCMOE Aggregate Hydrocarbons, Continued

HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	83	60-140	%	2018-02-03	

Polycyclic Aromatic Hydrocarbons (PAH)

Acenaphthene	< 0.050	0.050	µg/L	2018-02-04	
Acenaphthylene	< 0.200	0.200	µg/L	2018-02-04	
Acridine	< 0.050	0.050	µg/L	2018-02-04	
Anthracene	< 0.010	0.010	µg/L	2018-02-04	
Benz(a)anthracene	< 0.010	0.010	µg/L	2018-02-04	
Benzo(a)pyrene	0.017	0.010	µg/L	2018-02-04	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2018-02-04	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2018-02-04	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2018-02-04	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2018-02-04	
Chrysene	< 0.050	0.050	µg/L	2018-02-04	
Dibenz(a,h)anthracene	0.037	0.010	µg/L	2018-02-04	
Fluoranthene	< 0.030	0.030	µg/L	2018-02-04	
Fluorene	< 0.050	0.050	µg/L	2018-02-04	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2018-02-04	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2018-02-04	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2018-02-04	
Naphthalene	< 0.200	0.200	µg/L	2018-02-04	
Phenanthrene	< 0.100	0.100	µg/L	2018-02-04	
Pyrene	< 0.020	0.020	µg/L	2018-02-04	
Quinoline	< 0.050	0.050	µg/L	2018-02-04	
Surrogate: Acridine-d9	79	50-140	%	2018-02-04	
Surrogate: Naphthalene-d8	90	50-140	%	2018-02-04	
Surrogate: Perylene-d12	111	50-140	%	2018-02-04	

LE-1 (8020060-05) | Matrix: Water | Sampled: 2018-01-31 16:00

Anions

Chloride	2700	0.10	mg/L	2018-02-02	
Fluoride	< 1.00	0.10	mg/L	2018-02-02	RA1
Nitrate (as N)	1.66	0.010	mg/L	2018-02-02	
Nitrite (as N)	< 0.100	0.010	mg/L	2018-02-02	RA1
Sulfate	1320	1.0	mg/L	2018-02-02	

General Parameters

Alkalinity, Total (as CaCO3)	60.6	1.0	mg/L	2018-02-02	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2018-02-02	
Alkalinity, Bicarbonate (as CaCO3)	60.6	1.0	mg/L	2018-02-02	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2018-02-02	

TEST RESULTS

REPORTED TO PROJECT Allterra Construction
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WORK ORDER REPORTED 8020060
2018-02-08 13:09

Analyte	Result	RL	Units	Analyzed	Qualifier
LE-1 (8020060-05) Matrix: Water Sampled: 2018-01-31 16:00, Continued					
General Parameters, Continued					
Alkalinity, Hydroxide (as CaCO ₃)	< 1.0	1.0	mg/L	2018-02-02	
Colour, True	5.8	5.0	CU	2018-02-01	
Conductivity (EC)	9790	2.0	µS/cm	2018-02-07	
pH	7.29	0.10	pH units	2018-02-05	HT2
Solids, Total Suspended	< 2.2	2.0	mg/L	2018-02-06	RS2
Turbidity	< 0.10	0.10	NTU	2018-02-02	
Calculated Parameters					
Hardness, Total (as CaCO ₃)	2600	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	0.0112	0.0050	mg/L	2018-02-07	
Antimony, dissolved	0.00079	0.00020	mg/L	2018-02-07	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Barium, dissolved	0.0624	0.0050	mg/L	2018-02-07	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Boron, dissolved	0.203	0.0050	mg/L	2018-02-07	
Cadmium, dissolved	0.000336	0.000010	mg/L	2018-02-07	
Calcium, dissolved	715	0.20	mg/L	2018-02-07	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Cobalt, dissolved	0.00356	0.00010	mg/L	2018-02-07	
Copper, dissolved	0.00191	0.00040	mg/L	2018-02-07	
Iron, dissolved	< 0.010	0.010	mg/L	2018-02-07	
Lead, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Lithium, dissolved	0.00015	0.00010	mg/L	2018-02-07	
Magnesium, dissolved	197	0.010	mg/L	2018-02-07	
Manganese, dissolved	17.9	0.00020	mg/L	2018-02-07	
Molybdenum, dissolved	0.00254	0.00010	mg/L	2018-02-07	
Nickel, dissolved	0.00446	0.00040	mg/L	2018-02-07	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2018-02-07	
Potassium, dissolved	17.2	0.10	mg/L	2018-02-07	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Silicon, dissolved	3.6	1.0	mg/L	2018-02-07	
Silver, dissolved	< 0.000050	0.000050	mg/L	2018-02-07	
Sodium, dissolved	1350	0.10	mg/L	2018-02-07	
Strontium, dissolved	3.18	0.0010	mg/L	2018-02-07	
Sulfur, dissolved	508	3.0	mg/L	2018-02-07	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2018-02-07	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Tin, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2018-02-07	

TEST RESULTS

REPORTED TO PROJECT Allterra Construction
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WORK ORDER REPORTED 8020060
2018-02-08 13:09

Analyte	Result	RL	Units	Analyzed	Qualifier
LE-1 (8020060-05) Matrix: Water Sampled: 2018-01-31 16:00, Continued					
<i>Dissolved Metals, Continued</i>					
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2018-02-07	
Uranium, dissolved	0.000220	0.000020	mg/L	2018-02-07	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2018-02-07	
Zinc, dissolved	0.0099	0.0040	mg/L	2018-02-07	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
<i>Total Metals</i>					
Aluminum, total	0.0728	0.0050	mg/L	2018-02-02	
Antimony, total	0.00109	0.00020	mg/L	2018-02-02	
Arsenic, total	< 0.00050	0.00050	mg/L	2018-02-02	
Barium, total	0.0706	0.0050	mg/L	2018-02-02	
Beryllium, total	< 0.00010	0.00010	mg/L	2018-02-02	
Bismuth, total	< 0.00010	0.00010	mg/L	2018-02-02	
Boron, total	0.226	0.0050	mg/L	2018-02-02	
Cadmium, total	0.000390	0.000010	mg/L	2018-02-02	
Calcium, total	728	0.20	mg/L	2018-02-02	
Chromium, total	< 0.00050	0.00050	mg/L	2018-02-02	
Cobalt, total	0.00385	0.00010	mg/L	2018-02-02	
Copper, total	0.00236	0.00040	mg/L	2018-02-02	
Iron, total	0.065	0.010	mg/L	2018-02-02	
Lead, total	< 0.00020	0.00020	mg/L	2018-02-02	
Lithium, total	< 0.00010	0.00010	mg/L	2018-02-02	
Magnesium, total	210	0.010	mg/L	2018-02-02	
Manganese, total	20.6	0.00020	mg/L	2018-02-02	
Mercury, total	< 0.000010	0.000010	mg/L	2018-02-06	
Molybdenum, total	0.00283	0.00010	mg/L	2018-02-02	
Nickel, total	0.00519	0.00040	mg/L	2018-02-02	
Phosphorus, total	< 0.050	0.050	mg/L	2018-02-02	
Potassium, total	18.3	0.10	mg/L	2018-02-02	
Selenium, total	< 0.00050	0.00050	mg/L	2018-02-02	
Silicon, total	4.3	1.0	mg/L	2018-02-02	
Silver, total	0.000248	0.000050	mg/L	2018-02-02	
Sodium, total	1350	0.10	mg/L	2018-02-02	
Strontium, total	3.78	0.0010	mg/L	2018-02-02	
Sulfur, total	523	3.0	mg/L	2018-02-02	
Tellurium, total	< 0.00050	0.00050	mg/L	2018-02-02	
Thallium, total	0.000026	0.000020	mg/L	2018-02-02	
Thorium, total	< 0.00010	0.00010	mg/L	2018-02-02	
Tin, total	< 0.00020	0.00020	mg/L	2018-02-02	
Titanium, total	< 0.0050	0.0050	mg/L	2018-02-02	
Tungsten, total	< 0.0010	0.0010	mg/L	2018-02-02	
Uranium, total	0.000261	0.000020	mg/L	2018-02-02	
Vanadium, total	< 0.0010	0.0010	mg/L	2018-02-02	

TEST RESULTS

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WORK ORDER REPORTED 8020060
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Analyte	Result	RL	Units	Analyzed	Qualifier
LE-1 (8020060-05) Matrix: Water Sampled: 2018-01-31 16:00, Continued					
<i>Total Metals, Continued</i>					
Zinc, total	0.0126	0.0040	mg/L	2018-02-02	
Zirconium, total	< 0.00010	0.00010	mg/L	2018-02-02	
<i>BCMOE Aggregate Hydrocarbons</i>					
EPHw10-19	< 250	250	µg/L	2018-02-03	
EPHw19-32	< 250	250	µg/L	2018-02-03	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	79	60-140	%	2018-02-03	
<i>Polycyclic Aromatic Hydrocarbons (PAH)</i>					
Acenaphthene	< 0.050	0.050	µg/L	2018-02-04	
Acenaphthylene	< 0.200	0.200	µg/L	2018-02-04	
Acridine	< 0.050	0.050	µg/L	2018-02-04	
Anthracene	< 0.010	0.010	µg/L	2018-02-04	
Benz(a)anthracene	< 0.010	0.010	µg/L	2018-02-04	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2018-02-04	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2018-02-04	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2018-02-04	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2018-02-04	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2018-02-04	
Chrysene	< 0.050	0.050	µg/L	2018-02-04	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2018-02-04	
Fluoranthene	< 0.030	0.030	µg/L	2018-02-04	
Fluorene	< 0.050	0.050	µg/L	2018-02-04	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2018-02-04	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2018-02-04	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2018-02-04	
Naphthalene	< 0.200	0.200	µg/L	2018-02-04	
Phenanthrene	< 0.100	0.100	µg/L	2018-02-04	
Pyrene	< 0.020	0.020	µg/L	2018-02-04	
Quinoline	< 0.050	0.050	µg/L	2018-02-04	
Surrogate: Acridine-d9	71	50-140	%	2018-02-04	
Surrogate: Naphthalene-d8	90	50-140	%	2018-02-04	
Surrogate: Perylene-d12	116	50-140	%	2018-02-04	

SW2 (8020060-07) | Matrix: Water | Sampled: 2018-01-31 11:50

Anions

Chloride	1.31	0.10	mg/L	2018-02-02	
Fluoride	< 0.10	0.10	mg/L	2018-02-02	
Nitrate (as N)	< 0.010	0.010	mg/L	2018-02-02	
Nitrite (as N)	< 0.010	0.010	mg/L	2018-02-02	

TEST RESULTS

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WORK ORDER REPORTED 8020060
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Analyte	Result	RL	Units	Analyzed	Qualifier
SW2 (8020060-07) Matrix: Water Sampled: 2018-01-31 11:50, Continued					
Anions, Continued					
Sulfate	1.5	1.0	mg/L	2018-02-02	
General Parameters					
Alkalinity, Total (as CaCO ₃)	3.1	1.0	mg/L	2018-02-02	
Alkalinity, Phenolphthalein (as CaCO ₃)	< 1.0	1.0	mg/L	2018-02-02	
Alkalinity, Bicarbonate (as CaCO ₃)	3.1	1.0	mg/L	2018-02-02	
Alkalinity, Carbonate (as CaCO ₃)	< 1.0	1.0	mg/L	2018-02-02	
Alkalinity, Hydroxide (as CaCO ₃)	< 1.0	1.0	mg/L	2018-02-02	
Colour, True	7.7	5.0	CU	2018-02-01	
Conductivity (EC)	16.1	2.0	µS/cm	2018-02-07	
pH	6.48	0.10	pH units	2018-02-05	HT2
Solids, Total Suspended	< 2.2	2.0	mg/L	2018-02-06	RS2
Turbidity	1.59	0.10	NTU	2018-02-02	
Calculated Parameters					
Hardness, Total (as CaCO ₃)	4.99	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	0.0631	0.0050	mg/L	2018-02-07	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Barium, dissolved	< 0.0050	0.0050	mg/L	2018-02-07	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Boron, dissolved	0.0069	0.0050	mg/L	2018-02-07	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2018-02-07	
Calcium, dissolved	1.46	0.20	mg/L	2018-02-07	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Copper, dissolved	0.00045	0.00040	mg/L	2018-02-07	
Iron, dissolved	0.011	0.010	mg/L	2018-02-07	
Lead, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Lithium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Magnesium, dissolved	0.325	0.010	mg/L	2018-02-07	
Manganese, dissolved	0.00613	0.00020	mg/L	2018-02-07	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2018-02-05	
Molybdenum, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Nickel, dissolved	< 0.00040	0.00040	mg/L	2018-02-07	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2018-02-07	
Potassium, dissolved	0.12	0.10	mg/L	2018-02-07	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Silicon, dissolved	1.7	1.0	mg/L	2018-02-07	
Silver, dissolved	< 0.000050	0.000050	mg/L	2018-02-07	

TEST RESULTS

REPORTED TO PROJECT Allterra Construction
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WORK ORDER REPORTED 8020060
2018-02-08 13:09

Analyte	Result	RL	Units	Analyzed	Qualifier
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SW2 (8020060-07) | Matrix: Water | Sampled: 2018-01-31 11:50, Continued

Dissolved Metals, Continued

Sodium, dissolved	1.17	0.10	mg/L	2018-02-07	
Strontium, dissolved	0.0062	0.0010	mg/L	2018-02-07	
Sulfur, dissolved	< 3.0	3.0	mg/L	2018-02-07	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2018-02-07	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Tin, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2018-02-07	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2018-02-07	
Uranium, dissolved	< 0.000020	0.000020	mg/L	2018-02-07	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2018-02-07	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2018-02-07	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	

Total Metals

Aluminum, total	0.151	0.0050	mg/L	2018-02-02	
Antimony, total	< 0.00020	0.00020	mg/L	2018-02-02	
Arsenic, total	< 0.00050	0.00050	mg/L	2018-02-02	
Barium, total	< 0.0050	0.0050	mg/L	2018-02-02	
Beryllium, total	< 0.00010	0.00010	mg/L	2018-02-02	
Bismuth, total	< 0.00010	0.00010	mg/L	2018-02-02	
Boron, total	0.0182	0.0050	mg/L	2018-02-02	
Cadmium, total	< 0.000010	0.000010	mg/L	2018-02-02	
Calcium, total	1.82	0.20	mg/L	2018-02-02	
Chromium, total	< 0.00050	0.00050	mg/L	2018-02-02	
Cobalt, total	0.00013	0.00010	mg/L	2018-02-02	
Copper, total	0.00102	0.00040	mg/L	2018-02-02	
Iron, total	0.207	0.010	mg/L	2018-02-02	
Lead, total	< 0.00020	0.00020	mg/L	2018-02-02	
Lithium, total	< 0.00010	0.00010	mg/L	2018-02-02	
Magnesium, total	0.360	0.010	mg/L	2018-02-02	
Manganese, total	0.0110	0.00020	mg/L	2018-02-02	
Mercury, total	< 0.000010	0.000010	mg/L	2018-02-06	
Molybdenum, total	< 0.00010	0.00010	mg/L	2018-02-02	
Nickel, total	0.00048	0.00040	mg/L	2018-02-02	
Phosphorus, total	< 0.050	0.050	mg/L	2018-02-02	
Potassium, total	< 0.10	0.10	mg/L	2018-02-02	
Selenium, total	< 0.00050	0.00050	mg/L	2018-02-02	
Silicon, total	2.2	1.0	mg/L	2018-02-02	
Silver, total	< 0.000050	0.000050	mg/L	2018-02-02	
Sodium, total	1.30	0.10	mg/L	2018-02-02	
Strontium, total	0.0073	0.0010	mg/L	2018-02-02	
Sulfur, total	< 3.0	3.0	mg/L	2018-02-02	

TEST RESULTS

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WORK ORDER REPORTED 8020060
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Analyte	Result	RL	Units	Analyzed	Qualifier
SW2 (8020060-07) Matrix: Water Sampled: 2018-01-31 11:50, Continued					
Total Metals, Continued					
Tellurium, total	< 0.00050	0.00050	mg/L	2018-02-02	
Thallium, total	< 0.000020	0.000020	mg/L	2018-02-02	
Thorium, total	< 0.00010	0.00010	mg/L	2018-02-02	
Tin, total	< 0.00020	0.00020	mg/L	2018-02-02	
Titanium, total	< 0.0050	0.0050	mg/L	2018-02-02	
Tungsten, total	< 0.0010	0.0010	mg/L	2018-02-02	
Uranium, total	< 0.000020	0.000020	mg/L	2018-02-02	
Vanadium, total	< 0.0010	0.0010	mg/L	2018-02-02	
Zinc, total	< 0.0040	0.0040	mg/L	2018-02-02	
Zirconium, total	< 0.00010	0.00010	mg/L	2018-02-02	
BCMOE Aggregate Hydrocarbons					
EPHw10-19	< 250	250	µg/L	2018-02-03	
EPHw19-32	< 250	250	µg/L	2018-02-03	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	84	60-140	%	2018-02-03	
Polycyclic Aromatic Hydrocarbons (PAH)					
Acenaphthene	< 0.050	0.050	µg/L	2018-02-04	
Acenaphthylene	< 0.200	0.200	µg/L	2018-02-04	
Acridine	< 0.050	0.050	µg/L	2018-02-04	
Anthracene	< 0.010	0.010	µg/L	2018-02-04	
Benz(a)anthracene	< 0.010	0.010	µg/L	2018-02-04	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2018-02-04	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2018-02-04	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2018-02-04	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2018-02-04	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2018-02-04	
Chrysene	< 0.050	0.050	µg/L	2018-02-04	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2018-02-04	
Fluoranthene	< 0.030	0.030	µg/L	2018-02-04	
Fluorene	< 0.050	0.050	µg/L	2018-02-04	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2018-02-04	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2018-02-04	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2018-02-04	
Naphthalene	< 0.200	0.200	µg/L	2018-02-04	
Phenanthrene	< 0.100	0.100	µg/L	2018-02-04	
Pyrene	< 0.020	0.020	µg/L	2018-02-04	
Quinoline	< 0.050	0.050	µg/L	2018-02-04	
Surrogate: Acridine-d9	63	50-140	%	2018-02-04	
Surrogate: Naphthalene-d8	72	50-140	%	2018-02-04	
Surrogate: Perylene-d12	120	50-140	%	2018-02-04	

TEST RESULTS

REPORTED TO PROJECT Allterra Construction
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WORK ORDER REPORTED 8020060
2018-02-08 13:09

Analyte	Result	RL	Units	Analyzed	Qualifier
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SB1 (8020060-08) | Matrix: Water | Sampled: 2018-01-31 15:40

Anions

Chloride	6.88	0.10	mg/L	2018-02-02	
Fluoride	0.13	0.10	mg/L	2018-02-02	
Nitrate (as N)	0.213	0.010	mg/L	2018-02-02	
Nitrite (as N)	< 0.010	0.010	mg/L	2018-02-02	
Sulfate	28.1	1.0	mg/L	2018-02-02	

General Parameters

Alkalinity, Total (as CaCO ₃)	44.1	1.0	mg/L	2018-02-02	
Alkalinity, Phenolphthalein (as CaCO ₃)	< 1.0	1.0	mg/L	2018-02-02	
Alkalinity, Bicarbonate (as CaCO ₃)	44.1	1.0	mg/L	2018-02-02	
Alkalinity, Carbonate (as CaCO ₃)	< 1.0	1.0	mg/L	2018-02-02	
Alkalinity, Hydroxide (as CaCO ₃)	< 1.0	1.0	mg/L	2018-02-02	
Colour, True	< 5.0	5.0	CU	2018-02-01	
Conductivity (EC)	169	2.0	µS/cm	2018-02-07	
pH	7.17	0.10	pH units	2018-02-05	HT2
Solids, Total Suspended	134	2.0	mg/L	2018-02-06	
Turbidity	108	0.10	NTU	2018-02-02	

Calculated Parameters

Hardness, Total (as CaCO ₃)	69.5	0.500	mg/L	N/A	
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Dissolved Metals

Aluminum, dissolved	0.0075	0.0050	mg/L	2018-02-07	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Barium, dissolved	< 0.0050	0.0050	mg/L	2018-02-07	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Boron, dissolved	0.0061	0.0050	mg/L	2018-02-07	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2018-02-07	
Calcium, dissolved	23.6	0.20	mg/L	2018-02-07	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Copper, dissolved	0.00042	0.00040	mg/L	2018-02-07	
Iron, dissolved	< 0.010	0.010	mg/L	2018-02-07	
Lead, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Lithium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Magnesium, dissolved	2.57	0.010	mg/L	2018-02-07	
Manganese, dissolved	0.00060	0.00020	mg/L	2018-02-07	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2018-02-05	
Molybdenum, dissolved	0.00032	0.00010	mg/L	2018-02-07	
Nickel, dissolved	0.00260	0.00040	mg/L	2018-02-07	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2018-02-07	

TEST RESULTS

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SB1 (8020060-08) | Matrix: Water | Sampled: 2018-01-31 15:40, Continued

Dissolved Metals, Continued

Potassium, dissolved	0.30	0.10	mg/L	2018-02-07	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Silicon, dissolved	2.2	1.0	mg/L	2018-02-07	
Silver, dissolved	< 0.000050	0.000050	mg/L	2018-02-07	
Sodium, dissolved	3.95	0.10	mg/L	2018-02-07	
Strontium, dissolved	0.0559	0.0010	mg/L	2018-02-07	
Sulfur, dissolved	10.5	3.0	mg/L	2018-02-07	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2018-02-07	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Tin, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2018-02-07	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2018-02-07	
Uranium, dissolved	0.000101	0.000020	mg/L	2018-02-07	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2018-02-07	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2018-02-07	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	

Total Metals

Aluminum, total	4.18	0.0050	mg/L	2018-02-02	
Antimony, total	< 0.00020	0.00020	mg/L	2018-02-02	
Arsenic, total	0.00058	0.00050	mg/L	2018-02-02	
Barium, total	0.0246	0.0050	mg/L	2018-02-02	
Beryllium, total	< 0.00010	0.00010	mg/L	2018-02-02	
Bismuth, total	< 0.00010	0.00010	mg/L	2018-02-02	
Boron, total	0.0077	0.0050	mg/L	2018-02-02	
Cadmium, total	0.000028	0.000010	mg/L	2018-02-02	
Calcium, total	25.1	0.20	mg/L	2018-02-02	
Chromium, total	0.00523	0.00050	mg/L	2018-02-02	
Cobalt, total	0.00466	0.00010	mg/L	2018-02-02	
Copper, total	0.0124	0.00040	mg/L	2018-02-02	
Iron, total	5.08	0.010	mg/L	2018-02-02	
Lead, total	0.00482	0.00020	mg/L	2018-02-02	
Lithium, total	0.00117	0.00010	mg/L	2018-02-02	
Magnesium, total	3.82	0.010	mg/L	2018-02-02	
Manganese, total	0.153	0.00020	mg/L	2018-02-02	
Mercury, total	0.000016	0.000010	mg/L	2018-02-06	
Molybdenum, total	0.00040	0.00010	mg/L	2018-02-02	
Nickel, total	0.00689	0.00040	mg/L	2018-02-02	
Phosphorus, total	0.149	0.050	mg/L	2018-02-02	
Potassium, total	0.56	0.10	mg/L	2018-02-02	
Selenium, total	< 0.00050	0.00050	mg/L	2018-02-02	
Silicon, total	8.0	1.0	mg/L	2018-02-02	

TEST RESULTS

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Analyte	Result	RL	Units	Analyzed	Qualifier
SB1 (8020060-08) Matrix: Water Sampled: 2018-01-31 15:40, Continued					
Total Metals, Continued					
Silver, total	< 0.000050	0.000050	mg/L	2018-02-02	
Sodium, total	3.94	0.10	mg/L	2018-02-02	
Strontium, total	0.0719	0.0010	mg/L	2018-02-02	
Sulfur, total	10.8	3.0	mg/L	2018-02-02	
Tellurium, total	< 0.00050	0.00050	mg/L	2018-02-02	
Thallium, total	< 0.000020	0.000020	mg/L	2018-02-02	
Thorium, total	< 0.00010	0.00010	mg/L	2018-02-02	
Tin, total	0.00040	0.00020	mg/L	2018-02-02	
Titanium, total	0.225	0.0050	mg/L	2018-02-02	
Tungsten, total	< 0.0010	0.0010	mg/L	2018-02-02	
Uranium, total	0.000319	0.000020	mg/L	2018-02-02	
Vanadium, total	0.0122	0.0010	mg/L	2018-02-02	
Zinc, total	0.0156	0.0040	mg/L	2018-02-02	
Zirconium, total	< 0.00010	0.00010	mg/L	2018-02-02	
BCMOE Aggregate Hydrocarbons					
EPHw10-19	< 250	250	µg/L	2018-02-03	
EPHw19-32	< 250	250	µg/L	2018-02-03	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	81	60-140	%	2018-02-03	
Polycyclic Aromatic Hydrocarbons (PAH)					
Acenaphthene	< 0.050	0.050	µg/L	2018-02-04	
Acenaphthylene	< 0.200	0.200	µg/L	2018-02-04	
Acridine	< 0.050	0.050	µg/L	2018-02-04	
Anthracene	< 0.010	0.010	µg/L	2018-02-04	
Benz(a)anthracene	< 0.010	0.010	µg/L	2018-02-04	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2018-02-04	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2018-02-04	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2018-02-04	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2018-02-04	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2018-02-04	
Chrysene	< 0.050	0.050	µg/L	2018-02-04	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2018-02-04	
Fluoranthene	< 0.030	0.030	µg/L	2018-02-04	
Fluorene	< 0.050	0.050	µg/L	2018-02-04	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2018-02-04	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2018-02-04	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2018-02-04	
Naphthalene	< 0.200	0.200	µg/L	2018-02-04	
Phenanthrene	< 0.100	0.100	µg/L	2018-02-04	
Pyrene	< 0.020	0.020	µg/L	2018-02-04	

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SB1 (8020060-08) | Matrix: Water | Sampled: 2018-01-31 15:40, Continued

Polycyclic Aromatic Hydrocarbons (PAH), Continued

Quinoline	< 0.050	0.050	µg/L	2018-02-04	
Surrogate: Acridine-d9	64	50-140	%	2018-02-04	
Surrogate: Naphthalene-d8	85	50-140	%	2018-02-04	
Surrogate: Perylene-d12	116	50-140	%	2018-02-04	

SB2 (8020060-09) | Matrix: Water | Sampled: 2018-01-31 15:10

Anions

Chloride	15.7	0.10	mg/L	2018-02-02	
Fluoride	0.28	0.10	mg/L	2018-02-02	
Nitrate (as N)	0.216	0.010	mg/L	2018-02-02	
Nitrite (as N)	< 0.010	0.010	mg/L	2018-02-02	
Sulfate	46.0	1.0	mg/L	2018-02-02	

General Parameters

Alkalinity, Total (as CaCO3)	126	1.0	mg/L	2018-02-02	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2018-02-02	
Alkalinity, Bicarbonate (as CaCO3)	126	1.0	mg/L	2018-02-02	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2018-02-02	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2018-02-02	
Colour, True	< 5.0	5.0	CU	2018-02-01	
Conductivity (EC)	386	2.0	µS/cm	2018-02-07	
pH	7.31	0.10	pH units	2018-02-05	HT2
Solids, Total Suspended	571	2.0	mg/L	2018-02-06	
Turbidity	571	0.10	NTU	2018-02-02	

Calculated Parameters

Hardness, Total (as CaCO3)	167	0.500	mg/L	N/A	
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Dissolved Metals

Aluminum, dissolved	< 0.0050	0.0050	mg/L	2018-02-07	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Barium, dissolved	< 0.0050	0.0050	mg/L	2018-02-07	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Boron, dissolved	0.0169	0.0050	mg/L	2018-02-07	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2018-02-07	
Calcium, dissolved	55.1	0.20	mg/L	2018-02-07	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Copper, dissolved	0.00088	0.00040	mg/L	2018-02-07	
Iron, dissolved	< 0.010	0.010	mg/L	2018-02-07	

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SB2 (8020060-09) | Matrix: Water | Sampled: 2018-01-31 15:10, Continued

Dissolved Metals, Continued

Lead, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Lithium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Magnesium, dissolved	7.06	0.010	mg/L	2018-02-07	
Manganese, dissolved	0.0203	0.00020	mg/L	2018-02-07	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2018-02-05	
Molybdenum, dissolved	0.00066	0.00010	mg/L	2018-02-07	
Nickel, dissolved	0.00064	0.00040	mg/L	2018-02-07	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2018-02-07	
Potassium, dissolved	1.00	0.10	mg/L	2018-02-07	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Silicon, dissolved	4.7	1.0	mg/L	2018-02-07	
Silver, dissolved	< 0.000050	0.000050	mg/L	2018-02-07	
Sodium, dissolved	14.1	0.10	mg/L	2018-02-07	
Strontium, dissolved	0.148	0.0010	mg/L	2018-02-07	
Sulfur, dissolved	17.0	3.0	mg/L	2018-02-07	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2018-02-07	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Tin, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2018-02-07	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2018-02-07	
Uranium, dissolved	0.000755	0.000020	mg/L	2018-02-07	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2018-02-07	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2018-02-07	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	

Total Metals

Aluminum, total	18.3	0.0050	mg/L	2018-02-02	
Antimony, total	< 0.00020	0.00020	mg/L	2018-02-02	
Arsenic, total	0.00165	0.00050	mg/L	2018-02-02	
Barium, total	0.0774	0.0050	mg/L	2018-02-02	
Beryllium, total	0.00049	0.00010	mg/L	2018-02-02	
Bismuth, total	< 0.00010	0.00010	mg/L	2018-02-02	
Boron, total	0.0149	0.0050	mg/L	2018-02-02	
Cadmium, total	0.000062	0.000010	mg/L	2018-02-02	
Calcium, total	62.2	0.20	mg/L	2018-02-02	
Chromium, total	0.0156	0.00050	mg/L	2018-02-02	
Cobalt, total	0.0168	0.00010	mg/L	2018-02-02	
Copper, total	0.0652	0.00040	mg/L	2018-02-02	
Iron, total	24.4	0.010	mg/L	2018-02-02	
Lead, total	0.00608	0.00020	mg/L	2018-02-02	
Lithium, total	0.00531	0.00010	mg/L	2018-02-02	
Magnesium, total	12.7	0.010	mg/L	2018-02-02	

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SB2 (8020060-09) | Matrix: Water | Sampled: 2018-01-31 15:10, Continued

Total Metals, Continued

Manganese, total	1.11	0.00020	mg/L	2018-02-02	
Mercury, total	0.000015	0.000010	mg/L	2018-02-06	
Molybdenum, total	0.00103	0.00010	mg/L	2018-02-02	
Nickel, total	0.0154	0.00040	mg/L	2018-02-02	
Phosphorus, total	0.845	0.050	mg/L	2018-02-02	
Potassium, total	3.34	0.10	mg/L	2018-02-02	
Selenium, total	< 0.00050	0.00050	mg/L	2018-02-02	
Silicon, total	31.5	1.0	mg/L	2018-02-02	
Silver, total	0.000054	0.000050	mg/L	2018-02-02	
Sodium, total	13.3	0.10	mg/L	2018-02-02	
Strontium, total	0.209	0.0010	mg/L	2018-02-02	
Sulfur, total	15.7	3.0	mg/L	2018-02-02	
Tellurium, total	< 0.00050	0.00050	mg/L	2018-02-02	
Thallium, total	0.000058	0.000020	mg/L	2018-02-02	
Thorium, total	0.00070	0.00010	mg/L	2018-02-02	
Tin, total	0.00039	0.00020	mg/L	2018-02-02	
Titanium, total	0.753	0.0050	mg/L	2018-02-02	
Tungsten, total	< 0.0010	0.0010	mg/L	2018-02-02	
Uranium, total	0.00153	0.000020	mg/L	2018-02-02	
Vanadium, total	0.0421	0.0010	mg/L	2018-02-02	
Zinc, total	0.0564	0.0040	mg/L	2018-02-02	
Zirconium, total	0.00024	0.00010	mg/L	2018-02-02	

BCMOE Aggregate Hydrocarbons

EPHw10-19	< 250	250	µg/L	2018-02-03	
EPHw19-32	< 250	250	µg/L	2018-02-03	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	85	60-140	%	2018-02-03	

Polycyclic Aromatic Hydrocarbons (PAH)

Acenaphthene	< 0.050	0.050	µg/L	2018-02-04	
Acenaphthylene	< 0.200	0.200	µg/L	2018-02-04	
Acridine	< 0.050	0.050	µg/L	2018-02-04	
Anthracene	< 0.010	0.010	µg/L	2018-02-04	
Benz(a)anthracene	< 0.010	0.010	µg/L	2018-02-04	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2018-02-04	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2018-02-04	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2018-02-04	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2018-02-04	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2018-02-04	
Chrysene	< 0.050	0.050	µg/L	2018-02-04	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2018-02-04	

TEST RESULTS

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SB2 (8020060-09) | Matrix: Water | Sampled: 2018-01-31 15:10, Continued

Polycyclic Aromatic Hydrocarbons (PAH), Continued

Fluoranthene	< 0.030	0.030	µg/L	2018-02-04	
Fluorene	< 0.050	0.050	µg/L	2018-02-04	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2018-02-04	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2018-02-04	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2018-02-04	
Naphthalene	< 0.200	0.200	µg/L	2018-02-04	
Phenanthrene	< 0.100	0.100	µg/L	2018-02-04	
Pyrene	< 0.020	0.020	µg/L	2018-02-04	
Quinoline	< 0.050	0.050	µg/L	2018-02-04	
Surrogate: Acridine-d9	59	50-140	%	2018-02-04	
Surrogate: Naphthalene-d8	93	50-140	%	2018-02-04	
Surrogate: Perylene-d12	126	50-140	%	2018-02-04	

SB3 (8020060-10) | Matrix: Water | Sampled: 2018-01-31 14:40

Anions

Chloride	2.79	0.10	mg/L	2018-02-02	
Fluoride	0.20	0.10	mg/L	2018-02-02	
Nitrate (as N)	0.050	0.010	mg/L	2018-02-02	
Nitrite (as N)	< 0.010	0.010	mg/L	2018-02-02	
Sulfate	8.6	1.0	mg/L	2018-02-02	

General Parameters

Alkalinity, Total (as CaCO3)	10.4	1.0	mg/L	2018-02-02	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2018-02-02	
Alkalinity, Bicarbonate (as CaCO3)	10.4	1.0	mg/L	2018-02-02	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2018-02-02	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2018-02-02	
Colour, True	7.3	5.0	CU	2018-02-01	
Conductivity (EC)	49.1	2.0	µS/cm	2018-02-07	
pH	6.86	0.10	pH units	2018-02-05	HT2
Solids, Total Suspended	556	2.0	mg/L	2018-02-06	
Turbidity	755	0.10	NTU	2018-02-02	

Calculated Parameters

Hardness, Total (as CaCO3)	17.7	0.500	mg/L	N/A	
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Dissolved Metals

Aluminum, dissolved	0.0157	0.0050	mg/L	2018-02-07	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Barium, dissolved	< 0.0050	0.0050	mg/L	2018-02-07	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	

TEST RESULTS

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SB3 (8020060-10) | Matrix: Water | Sampled: 2018-01-31 14:40, Continued

Dissolved Metals, Continued

Bismuth, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Boron, dissolved	0.0053	0.0050	mg/L	2018-02-07	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2018-02-07	
Calcium, dissolved	5.63	0.20	mg/L	2018-02-07	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Copper, dissolved	0.00046	0.00040	mg/L	2018-02-07	
Iron, dissolved	0.015	0.010	mg/L	2018-02-07	
Lead, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Lithium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Magnesium, dissolved	0.888	0.010	mg/L	2018-02-07	
Manganese, dissolved	0.00094	0.00020	mg/L	2018-02-07	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2018-02-05	
Molybdenum, dissolved	0.00026	0.00010	mg/L	2018-02-07	
Nickel, dissolved	< 0.00040	0.00040	mg/L	2018-02-07	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2018-02-07	
Potassium, dissolved	0.15	0.10	mg/L	2018-02-07	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Silicon, dissolved	< 1.0	1.0	mg/L	2018-02-07	
Silver, dissolved	< 0.000050	0.000050	mg/L	2018-02-07	
Sodium, dissolved	1.56	0.10	mg/L	2018-02-07	
Strontium, dissolved	0.0120	0.0010	mg/L	2018-02-07	
Sulfur, dissolved	3.8	3.0	mg/L	2018-02-07	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2018-02-07	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Tin, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2018-02-07	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2018-02-07	
Uranium, dissolved	< 0.000020	0.000020	mg/L	2018-02-07	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2018-02-07	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2018-02-07	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	

Total Metals

Aluminum, total	18.8	0.0050	mg/L	2018-02-02	
Antimony, total	0.00025	0.00020	mg/L	2018-02-02	
Arsenic, total	0.00275	0.00050	mg/L	2018-02-02	
Barium, total	0.0771	0.0050	mg/L	2018-02-02	
Beryllium, total	0.00031	0.00010	mg/L	2018-02-02	
Bismuth, total	< 0.00010	0.00010	mg/L	2018-02-02	
Boron, total	< 0.0050	0.0050	mg/L	2018-02-02	
Cadmium, total	0.000066	0.000010	mg/L	2018-02-02	

TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8020060
2018-02-08 13:09

Analyte	Result	RL	Units	Analyzed	Qualifier
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SB3 (8020060-10) | Matrix: Water | Sampled: 2018-01-31 14:40, Continued

Total Metals, Continued

Calcium, total	12.7	0.20	mg/L	2018-02-02	
Chromium, total	0.0410	0.00050	mg/L	2018-02-02	
Cobalt, total	0.0220	0.00010	mg/L	2018-02-02	
Copper, total	0.0671	0.00040	mg/L	2018-02-02	
Iron, total	26.3	0.010	mg/L	2018-02-02	
Lead, total	0.0104	0.00020	mg/L	2018-02-02	
Lithium, total	0.00843	0.00010	mg/L	2018-02-02	
Magnesium, total	9.12	0.010	mg/L	2018-02-02	
Manganese, total	0.499	0.00020	mg/L	2018-02-02	
Mercury, total	0.000018	0.000010	mg/L	2018-02-06	
Molybdenum, total	0.00042	0.00010	mg/L	2018-02-02	
Nickel, total	0.0349	0.00040	mg/L	2018-02-02	
Phosphorus, total	0.524	0.050	mg/L	2018-02-02	
Potassium, total	1.45	0.10	mg/L	2018-02-02	
Selenium, total	< 0.00050	0.00050	mg/L	2018-02-02	
Silicon, total	27.7	1.0	mg/L	2018-02-02	
Silver, total	0.000074	0.000050	mg/L	2018-02-02	
Sodium, total	2.36	0.10	mg/L	2018-02-02	
Strontium, total	0.0587	0.0010	mg/L	2018-02-02	
Sulfur, total	< 3.0	3.0	mg/L	2018-02-02	
Tellurium, total	< 0.00050	0.00050	mg/L	2018-02-02	
Thallium, total	0.000056	0.000020	mg/L	2018-02-02	
Thorium, total	0.00058	0.00010	mg/L	2018-02-02	
Tin, total	0.00059	0.00020	mg/L	2018-02-02	
Titanium, total	0.821	0.0050	mg/L	2018-02-02	
Tungsten, total	< 0.0010	0.0010	mg/L	2018-02-02	
Uranium, total	0.000707	0.000020	mg/L	2018-02-02	
Vanadium, total	0.0559	0.0010	mg/L	2018-02-02	
Zinc, total	0.0701	0.0040	mg/L	2018-02-02	
Zirconium, total	0.00048	0.00010	mg/L	2018-02-02	

BCMOE Aggregate Hydrocarbons

EPHw10-19	< 250	250	µg/L	2018-02-03	
EPHw19-32	< 250	250	µg/L	2018-02-03	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	79	60-140	%	2018-02-03	

Polycyclic Aromatic Hydrocarbons (PAH)

Acenaphthene	< 0.050	0.050	µg/L	2018-02-04	
Acenaphthylene	< 0.200	0.200	µg/L	2018-02-04	
Acridine	< 0.050	0.050	µg/L	2018-02-04	
Anthracene	< 0.010	0.010	µg/L	2018-02-04	

TEST RESULTS

REPORTED TO PROJECT Allterra Construction
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Analyte	Result	RL	Units	Analyzed	Qualifier
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SB3 (8020060-10) | Matrix: Water | Sampled: 2018-01-31 14:40, Continued

Polycyclic Aromatic Hydrocarbons (PAH), Continued

Benz(a)anthracene	0.024	0.010	µg/L	2018-02-04	
Benzo(a)pyrene	0.038	0.010	µg/L	2018-02-04	
Benzo(b+j)fluoranthene	0.085	0.050	µg/L	2018-02-04	
Benzo(g,h,i)perylene	0.084	0.050	µg/L	2018-02-04	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2018-02-04	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2018-02-04	
Chrysene	< 0.050	0.050	µg/L	2018-02-04	
Dibenz(a,h)anthracene	0.058	0.010	µg/L	2018-02-04	
Fluoranthene	< 0.030	0.030	µg/L	2018-02-04	
Fluorene	< 0.050	0.050	µg/L	2018-02-04	
Indeno(1,2,3-cd)pyrene	0.073	0.050	µg/L	2018-02-04	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2018-02-04	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2018-02-04	
Naphthalene	< 0.200	0.200	µg/L	2018-02-04	
Phenanthrene	< 0.100	0.100	µg/L	2018-02-04	
Pyrene	0.026	0.020	µg/L	2018-02-04	
Quinoline	< 0.050	0.050	µg/L	2018-02-04	
Surrogate: Acridine-d9	74	50-140	%	2018-02-04	
Surrogate: Naphthalene-d8	91	50-140	%	2018-02-04	
Surrogate: Perylene-d12	120	50-140	%	2018-02-04	

SW1 (8020060-11) | Matrix: Water | Sampled: 2018-01-31 13:10

Anions

Chloride	6.01	0.10	mg/L	2018-02-02	
Fluoride	< 0.10	0.10	mg/L	2018-02-02	
Nitrate (as N)	0.247	0.010	mg/L	2018-02-02	
Nitrite (as N)	< 0.010	0.010	mg/L	2018-02-02	
Sulfate	36.3	1.0	mg/L	2018-02-02	

General Parameters

Alkalinity, Total (as CaCO3)	51.4	1.0	mg/L	2018-02-02	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2018-02-02	
Alkalinity, Bicarbonate (as CaCO3)	51.4	1.0	mg/L	2018-02-02	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2018-02-02	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2018-02-02	
Chromium, Hexavalent	< 0.0010	0.0010	mg/L	2018-02-07	
Colour, True	5.2	5.0	CU	2018-02-01	
Conductivity (EC)	202	2.0	µS/cm	2018-02-07	
pH	7.44	0.10	pH units	2018-02-05	HT2
Solids, Total Suspended	< 2.0	2.0	mg/L	2018-02-06	
Turbidity	4.75	0.10	NTU	2018-02-02	

TEST RESULTS

REPORTED TO PROJECT Allterra Construction
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WORK ORDER REPORTED 8020060
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Analyte	Result	RL	Units	Analyzed	Qualifier
SW1 (8020060-11) Matrix: Water Sampled: 2018-01-31 13:10, Continued					
Calculated Parameters					
Chromium, Trivalent	< 0.00100	0.00100	mg/L	N/A	
Hardness, Total (as CaCO3)	85.5	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2018-02-07	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Barium, dissolved	< 0.0050	0.0050	mg/L	2018-02-07	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Boron, dissolved	0.0119	0.0050	mg/L	2018-02-07	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2018-02-07	
Calcium, dissolved	27.6	0.20	mg/L	2018-02-07	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Copper, dissolved	0.00085	0.00040	mg/L	2018-02-07	
Iron, dissolved	< 0.010	0.010	mg/L	2018-02-07	
Lead, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Lithium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Magnesium, dissolved	4.02	0.010	mg/L	2018-02-07	
Manganese, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Mercury, dissolved	< 0.000010	0.000010	mg/L	2018-02-05	
Molybdenum, dissolved	0.00060	0.00010	mg/L	2018-02-07	
Nickel, dissolved	< 0.00040	0.00040	mg/L	2018-02-07	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2018-02-07	
Potassium, dissolved	0.48	0.10	mg/L	2018-02-07	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Silicon, dissolved	3.0	1.0	mg/L	2018-02-07	
Silver, dissolved	< 0.000050	0.000050	mg/L	2018-02-07	
Sodium, dissolved	5.30	0.10	mg/L	2018-02-07	
Strontium, dissolved	0.0686	0.0010	mg/L	2018-02-07	
Sulfur, dissolved	11.9	3.0	mg/L	2018-02-07	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2018-02-07	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Tin, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2018-02-07	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2018-02-07	
Uranium, dissolved	0.000206	0.000020	mg/L	2018-02-07	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2018-02-07	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2018-02-07	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	

TEST RESULTS

REPORTED TO PROJECT Allterra Construction
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WORK ORDER REPORTED 8020060
2018-02-08 13:09

Analyte	Result	RL	Units	Analyzed	Qualifier
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SW1 (8020060-11) | Matrix: Water | Sampled: 2018-01-31 13:10, Continued

Total Metals

Aluminum, total	0.147	0.0050	mg/L	2018-02-02	
Antimony, total	< 0.00020	0.00020	mg/L	2018-02-02	
Arsenic, total	< 0.00050	0.00050	mg/L	2018-02-02	
Barium, total	0.0053	0.0050	mg/L	2018-02-02	
Beryllium, total	< 0.00010	0.00010	mg/L	2018-02-02	
Bismuth, total	< 0.00010	0.00010	mg/L	2018-02-02	
Boron, total	0.0121	0.0050	mg/L	2018-02-02	
Cadmium, total	< 0.000010	0.000010	mg/L	2018-02-02	
Calcium, total	29.2	0.20	mg/L	2018-02-02	
Chromium, total	< 0.00050	0.00050	mg/L	2018-02-02	
Cobalt, total	< 0.00010	0.00010	mg/L	2018-02-02	
Copper, total	0.00138	0.00040	mg/L	2018-02-02	
Iron, total	0.165	0.010	mg/L	2018-02-02	
Lead, total	< 0.00020	0.00020	mg/L	2018-02-02	
Lithium, total	< 0.00010	0.00010	mg/L	2018-02-02	
Magnesium, total	4.02	0.010	mg/L	2018-02-02	
Manganese, total	0.00286	0.00020	mg/L	2018-02-02	
Mercury, total	< 0.000010	0.000010	mg/L	2018-02-06	
Molybdenum, total	0.00066	0.00010	mg/L	2018-02-02	
Nickel, total	0.00066	0.00040	mg/L	2018-02-02	
Phosphorus, total	< 0.050	0.050	mg/L	2018-02-02	
Potassium, total	0.47	0.10	mg/L	2018-02-02	
Selenium, total	< 0.00050	0.00050	mg/L	2018-02-02	
Silicon, total	3.9	1.0	mg/L	2018-02-02	
Silver, total	< 0.000050	0.000050	mg/L	2018-02-02	
Sodium, total	5.27	0.10	mg/L	2018-02-02	
Strontium, total	0.0810	0.0010	mg/L	2018-02-02	
Sulfur, total	13.0	3.0	mg/L	2018-02-02	
Tellurium, total	< 0.00050	0.00050	mg/L	2018-02-02	
Thallium, total	< 0.000020	0.000020	mg/L	2018-02-02	
Thorium, total	< 0.00010	0.00010	mg/L	2018-02-02	
Tin, total	< 0.00020	0.00020	mg/L	2018-02-02	
Titanium, total	0.0067	0.0050	mg/L	2018-02-02	
Tungsten, total	< 0.0010	0.0010	mg/L	2018-02-02	
Uranium, total	0.000246	0.000020	mg/L	2018-02-02	
Vanadium, total	< 0.0010	0.0010	mg/L	2018-02-02	
Zinc, total	< 0.0040	0.0040	mg/L	2018-02-02	
Zirconium, total	< 0.00010	0.00010	mg/L	2018-02-02	

BCMOE Aggregate Hydrocarbons

EPHw10-19	< 250	250	µg/L	2018-02-03	
EPHw19-32	< 250	250	µg/L	2018-02-03	
LEPHw	< 250	250	µg/L	N/A	

TEST RESULTS

REPORTED TO PROJECT Allterra Construction
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WORK ORDER REPORTED 8020060
2018-02-08 13:09

Analyte	Result	RL	Units	Analyzed	Qualifier
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SW1 (8020060-11) | Matrix: Water | Sampled: 2018-01-31 13:10, Continued

BCMOE Aggregate Hydrocarbons, Continued

HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	75	60-140	%	2018-02-03	

Polycyclic Aromatic Hydrocarbons (PAH)

Acenaphthene	< 0.050	0.050	µg/L	2018-02-04	
Acenaphthylene	< 0.200	0.200	µg/L	2018-02-04	
Acridine	< 0.050	0.050	µg/L	2018-02-04	
Anthracene	< 0.010	0.010	µg/L	2018-02-04	
Benz(a)anthracene	< 0.010	0.010	µg/L	2018-02-04	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2018-02-04	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2018-02-04	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2018-02-04	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2018-02-04	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2018-02-04	
Chrysene	< 0.050	0.050	µg/L	2018-02-04	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2018-02-04	
Fluoranthene	< 0.030	0.030	µg/L	2018-02-04	
Fluorene	< 0.050	0.050	µg/L	2018-02-04	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2018-02-04	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2018-02-04	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2018-02-04	
Naphthalene	< 0.200	0.200	µg/L	2018-02-04	
Phenanthrene	< 0.100	0.100	µg/L	2018-02-04	
Pyrene	< 0.020	0.020	µg/L	2018-02-04	
Quinoline	< 0.050	0.050	µg/L	2018-02-04	
Surrogate: Acridine-d9	70	50-140	%	2018-02-04	
Surrogate: Naphthalene-d8	89	50-140	%	2018-02-04	
Surrogate: Perylene-d12	119	50-140	%	2018-02-04	

FB (8020060-12) | Matrix: Water | Sampled: 2018-01-31 16:30

Anions

Chloride	< 0.10	0.10	mg/L	2018-02-02	
Fluoride	< 0.10	0.10	mg/L	2018-02-02	
Nitrate (as N)	< 0.010	0.010	mg/L	2018-02-02	
Nitrite (as N)	< 0.010	0.010	mg/L	2018-02-02	
Sulfate	< 1.0	1.0	mg/L	2018-02-02	

General Parameters

Alkalinity, Total (as CaCO3)	< 1.0	1.0	mg/L	2018-02-02	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2018-02-02	
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0	mg/L	2018-02-02	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2018-02-02	

TEST RESULTS

REPORTED TO PROJECT Allterra Construction
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WORK ORDER REPORTED 8020060
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Analyte	Result	RL	Units	Analyzed	Qualifier
FB (8020060-12) Matrix: Water Sampled: 2018-01-31 16:30, Continued					
General Parameters, Continued					
Alkalinity, Hydroxide (as CaCO ₃)	< 1.0	1.0	mg/L	2018-02-02	
Colour, True	< 5.0	5.0	CU	2018-02-01	
Conductivity (EC)	< 2.0	2.0	µS/cm	2018-02-07	
pH	5.39	0.10	pH units	2018-02-05	HT2
Solids, Total Suspended	< 2.0	2.0	mg/L	2018-02-06	
Turbidity	< 0.10	0.10	NTU	2018-02-02	
Calculated Parameters					
Hardness, Total (as CaCO ₃)	< 0.500	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2018-02-07	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Barium, dissolved	< 0.0050	0.0050	mg/L	2018-02-07	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Boron, dissolved	< 0.0050	0.0050	mg/L	2018-02-07	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2018-02-07	
Calcium, dissolved	< 0.20	0.20	mg/L	2018-02-07	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Copper, dissolved	< 0.00040	0.00040	mg/L	2018-02-07	
Iron, dissolved	< 0.010	0.010	mg/L	2018-02-07	
Lead, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Lithium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Magnesium, dissolved	< 0.010	0.010	mg/L	2018-02-07	
Manganese, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Molybdenum, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Nickel, dissolved	< 0.00040	0.00040	mg/L	2018-02-07	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2018-02-07	
Potassium, dissolved	< 0.10	0.10	mg/L	2018-02-07	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Silicon, dissolved	< 1.0	1.0	mg/L	2018-02-07	
Silver, dissolved	< 0.000050	0.000050	mg/L	2018-02-07	
Sodium, dissolved	< 0.10	0.10	mg/L	2018-02-07	
Strontium, dissolved	< 0.0010	0.0010	mg/L	2018-02-07	
Sulfur, dissolved	< 3.0	3.0	mg/L	2018-02-07	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2018-02-07	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2018-02-07	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
Tin, dissolved	< 0.00020	0.00020	mg/L	2018-02-07	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2018-02-07	

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Analyte	Result	RL	Units	Analyzed	Qualifier
FB (8020060-12) Matrix: Water Sampled: 2018-01-31 16:30, Continued					
<i>Dissolved Metals, Continued</i>					
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2018-02-07	
Uranium, dissolved	< 0.000020	0.000020	mg/L	2018-02-07	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2018-02-07	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2018-02-07	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2018-02-07	
<i>Total Metals</i>					
Aluminum, total	< 0.0050	0.0050	mg/L	2018-02-02	
Antimony, total	< 0.00020	0.00020	mg/L	2018-02-02	
Arsenic, total	< 0.00050	0.00050	mg/L	2018-02-02	
Barium, total	< 0.0050	0.0050	mg/L	2018-02-02	
Beryllium, total	< 0.00010	0.00010	mg/L	2018-02-02	
Bismuth, total	< 0.00010	0.00010	mg/L	2018-02-02	
Boron, total	< 0.0050	0.0050	mg/L	2018-02-02	
Cadmium, total	< 0.000010	0.000010	mg/L	2018-02-02	
Calcium, total	< 0.20	0.20	mg/L	2018-02-02	
Chromium, total	< 0.00050	0.00050	mg/L	2018-02-02	
Cobalt, total	< 0.00010	0.00010	mg/L	2018-02-02	
Copper, total	< 0.00040	0.00040	mg/L	2018-02-02	
Iron, total	< 0.010	0.010	mg/L	2018-02-02	
Lead, total	< 0.00020	0.00020	mg/L	2018-02-02	
Lithium, total	< 0.00010	0.00010	mg/L	2018-02-02	
Magnesium, total	< 0.010	0.010	mg/L	2018-02-02	
Manganese, total	< 0.00020	0.00020	mg/L	2018-02-02	
Molybdenum, total	< 0.00010	0.00010	mg/L	2018-02-02	
Nickel, total	< 0.00040	0.00040	mg/L	2018-02-02	
Phosphorus, total	< 0.050	0.050	mg/L	2018-02-02	
Potassium, total	< 0.10	0.10	mg/L	2018-02-02	
Selenium, total	< 0.00050	0.00050	mg/L	2018-02-02	
Silicon, total	< 1.0	1.0	mg/L	2018-02-02	
Silver, total	< 0.000050	0.000050	mg/L	2018-02-02	
Sodium, total	< 0.10	0.10	mg/L	2018-02-02	
Strontium, total	< 0.0010	0.0010	mg/L	2018-02-02	
Sulfur, total	< 3.0	3.0	mg/L	2018-02-02	
Tellurium, total	< 0.00050	0.00050	mg/L	2018-02-02	
Thallium, total	< 0.000020	0.000020	mg/L	2018-02-02	
Thorium, total	< 0.00010	0.00010	mg/L	2018-02-02	
Tin, total	< 0.00020	0.00020	mg/L	2018-02-02	
Titanium, total	< 0.0050	0.0050	mg/L	2018-02-02	
Tungsten, total	< 0.0010	0.0010	mg/L	2018-02-02	
Uranium, total	< 0.000020	0.000020	mg/L	2018-02-02	
Vanadium, total	< 0.0010	0.0010	mg/L	2018-02-02	
Zinc, total	< 0.0040	0.0040	mg/L	2018-02-02	

TEST RESULTS

REPORTED TO PROJECT Allterra Construction
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Analyte	Result	RL	Units	Analyzed	Qualifier
FB (8020060-12) Matrix: Water Sampled: 2018-01-31 16:30, Continued					
<i>Total Metals, Continued</i>					
Zirconium, total	< 0.00010	0.00010	mg/L	2018-02-02	
<i>BCMOE Aggregate Hydrocarbons</i>					
EPHw10-19	< 250	250	µg/L	2018-02-03	
EPHw19-32	< 250	250	µg/L	2018-02-03	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	69	60-140	%	2018-02-03	
<i>Polycyclic Aromatic Hydrocarbons (PAH)</i>					
Acenaphthene	< 0.050	0.050	µg/L	2018-02-04	
Acenaphthylene	< 0.200	0.200	µg/L	2018-02-04	
Acridine	< 0.050	0.050	µg/L	2018-02-04	
Anthracene	< 0.010	0.010	µg/L	2018-02-04	
Benz(a)anthracene	< 0.010	0.010	µg/L	2018-02-04	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2018-02-04	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2018-02-04	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2018-02-04	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2018-02-04	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2018-02-04	
Chrysene	< 0.050	0.050	µg/L	2018-02-04	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2018-02-04	
Fluoranthene	< 0.030	0.030	µg/L	2018-02-04	
Fluorene	< 0.050	0.050	µg/L	2018-02-04	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2018-02-04	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2018-02-04	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2018-02-04	
Naphthalene	< 0.200	0.200	µg/L	2018-02-04	
Phenanthrene	< 0.100	0.100	µg/L	2018-02-04	
Pyrene	< 0.020	0.020	µg/L	2018-02-04	
Quinoline	< 0.050	0.050	µg/L	2018-02-04	
Surrogate: Acridine-d9	71	50-140	%	2018-02-04	
Surrogate: Naphthalene-d8	89	50-140	%	2018-02-04	
Surrogate: Perylene-d12	114	50-140	%	2018-02-04	

Sample Qualifiers:

HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.

RA1 The Reporting Limit has been raised due to matrix interference.

RS2 The Reporting Limits for this sample have been raised due to limited sample volume.

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Allterra Construction
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Analysis Description	Method Ref.	Technique	Location
Alkalinity in Water	SM 2320 B* (2011)	Titration with H ₂ SO ₄	Kelowna
Anions in Water	SM 4110 B (2011)	Ion Chromatography	Kelowna
Chromium, Hexavalent in Water	SM 3500-Cr B (2011)	Spectrophotometry	Richmond
Colour, True in Water	SM 2120 C (2011)	Spectrophotometry (456 nm)	Kelowna
Conductivity in Water	SM 2510 B (2011)	Conductivity Meter	Richmond
Dissolved Metals in Water	EPA 200.8 / EPA 6020B	0.45 µm Filtration / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	Richmond
EPH in Water	EPA 3511* / BCMOE EPHw	Hexane MicroExtraction (Base/Neutral) / Gas Chromatography (GC-FID)	Richmond
Hardness in Water	SM 2340 B* (2011)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	N/A
HEPHw in Water	BCMOE LEPH/HEPH	Calculation	N/A
LEPHw in Water	BCMOE LEPH/HEPH	Calculation	N/A
Mercury, dissolved in Water	EPA 245.7*	BrCl ₂ Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	Richmond
Mercury, total in Water	EPA 245.7*	BrCl ₂ Oxidation / Cold Vapor Atomic Fluorescence Spectrometry (CVAFS)	Richmond
pH in Water	SM 4500-H+ B (2011)	Electrometry	Richmond
Polycyclic Aromatic Hydrocarbons in Water	EPA 3511* / EPA 8270D	Hexane MicroExtraction (Base/Neutral) / GC-MSD (SIM)	Richmond
Solids, Total Suspended in Water	SM 2540 D* (2011)	Gravimetry (Dried at 103-105C)	Richmond
Total Metals in Water	EPA 200.2* / EPA 6020B	HNO ₃ +HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	Richmond
Turbidity in Water	SM 2130 B (2011)	Nephelometry	Richmond

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Glossary of Terms:

RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
CU	Colour Units (referenced against a platinum cobalt standard)
mg/L	Milligrams per litre
NTU	Nephelometric Turbidity Units
pH units	pH < 7 = acidic, pH > 7 = basic
µg/L	Micrograms per litre
µS/cm	Microsiemens per centimetre
BCMOE	British Columbia Environmental Laboratory Manual, British Columbia Ministry of Environment
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association

General Comments:

The results in this report apply to the samples analyzed in accordance with the Chain of Custody document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.

APPENDIX 2: QUALITY CONTROL RESULTS

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The following section displays the quality control (QC) data that is associated with your sample data. Groups of samples are prepared in "batches" and analyzed in conjunction with QC samples that ensure your data is of the highest quality. Common QC types include:

- **Method Blank (BLK):** A blank sample that undergoes sample processing identical to that carried out for the test samples. Method blank results are used to assess contamination from the laboratory environment and reagents.
- **Duplicate (Dup):** An additional or second portion of a randomly selected sample in the analytical run carried through the entire analytical process. Duplicates provide a measure of the analytical method's precision (reproducibility).
- **Blank Spike (BS):** A sample of known concentration which undergoes processing identical to that carried out for test samples, also referred to as a laboratory control sample (LCS). Blank spikes provide a measure of the analytical method's accuracy.
- **Matrix Spike (MS):** A second aliquot of sample is fortified with with a known concentration of target analytes and carried through the entire analytical process. Matrix spikes evaluate potential matrix effects that may affect the analyte recovery.
- **Reference Material (SRM):** A homogenous material of similar matrix to the samples, certified for the parameter(s) listed. Reference Materials ensure that the analytical process is adequate to achieve acceptable recoveries of the parameter(s) tested.

Each QC type is analyzed at a 5-10% frequency, i.e. one blank/duplicate/spike for every 10-20 samples. For all types of QC, the specified recovery (% Rec) and relative percent difference (RPD) limits are derived from long-term method performance averages and/or prescribed by the reference method.

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Anions, Batch B8B0117

Blank (B8B0117-BLK1)			Prepared: 2018-02-02, Analyzed: 2018-02-02						
Chloride	< 0.10	0.10 mg/L							
Fluoride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
Sulfate	< 1.0	1.0 mg/L							

LCS (B8B0117-BS1)			Prepared: 2018-02-02, Analyzed: 2018-02-02						
Chloride	16.0	0.10 mg/L	16.0		100	90-110			
Fluoride	3.90	0.10 mg/L	4.00		97	88-108			
Nitrate (as N)	4.17	0.010 mg/L	4.00		104	93-108			
Nitrite (as N)	2.12	0.010 mg/L	2.00		106	85-114			
Sulfate	16.2	1.0 mg/L	16.0		101	91-109			

Duplicate (B8B0117-DUP1)			Source: 8020060-01		Prepared: 2018-02-02, Analyzed: 2018-02-02				
Chloride	40.6	0.10 mg/L		39.1			4	10	
Fluoride	0.12	0.10 mg/L		0.14				10	
Nitrate (as N)	< 0.010	0.010 mg/L		< 0.010				10	
Nitrite (as N)	< 0.010	0.010 mg/L		< 0.010				6	
Sulfate	97.7	1.0 mg/L		101			3	6	

Matrix Spike (B8B0117-MS1)			Source: 8020060-01		Prepared: 2018-02-02, Analyzed: 2018-02-02				
Chloride	57.5	0.10 mg/L	16.0	39.1	115	75-125			
Fluoride	3.85	0.10 mg/L	4.00	0.14	93	75-125			
Nitrate (as N)	3.88	0.010 mg/L	4.00	< 0.010	97	75-125			
Nitrite (as N)	1.99	0.010 mg/L	2.00	< 0.010	99	80-120			
Sulfate	113	1.0 mg/L	16.0	101	75	75-125			

BCMOE Aggregate Hydrocarbons, Batch B8B0142

Blank (B8B0142-BLK1)			Prepared: 2018-02-03, Analyzed: 2018-02-03						
EPHw10-19	< 250	250 µg/L							
EPHw19-32	< 250	250 µg/L							
Surrogate: 2-Methylnonane (EPH/F2-4)	348	µg/L	442		79	60-140			

APPENDIX 2: QUALITY CONTROL RESULTS

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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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BCMOE Aggregate Hydrocarbons, Batch B8B0142, Continued

LCS (B8B0142-BS2)			Prepared: 2018-02-03, Analyzed: 2018-02-03						
EPHw10-19	14500	250 µg/L	15400		94	70-130			
EPHw19-32	19600	250 µg/L	22200		88	70-130			
Surrogate: 2-Methylnonane (EPH/F2-4)	370	µg/L	442		84	60-140			

BCMOE Aggregate Hydrocarbons, Batch B8B0184

Blank (B8B0184-BLK1)			Prepared: 2018-02-03, Analyzed: 2018-02-03						
EPHw10-19	< 250	250 µg/L							
EPHw19-32	< 250	250 µg/L							
Surrogate: 2-Methylnonane (EPH/F2-4)	313	µg/L	442		71	60-140			
LCS (B8B0184-BS2)			Prepared: 2018-02-03, Analyzed: 2018-02-03						
EPHw10-19	12500	250 µg/L	15400		81	70-130			
EPHw19-32	16900	250 µg/L	22200		76	70-130			
Surrogate: 2-Methylnonane (EPH/F2-4)	308	µg/L	442		70	60-140			

Dissolved Metals, Batch B8B0245

Blank (B8B0245-BLK1)			Prepared: 2018-02-05, Analyzed: 2018-02-05						
Mercury, dissolved	< 0.000010	0.000010 mg/L							
Reference (B8B0245-SRM1)			Prepared: 2018-02-05, Analyzed: 2018-02-05						
Mercury, dissolved	0.00460	0.000010 mg/L	0.00489		94	80-120			

Dissolved Metals, Batch B8B0292

Blank (B8B0292-BLK1)			Prepared: 2018-02-07, Analyzed: 2018-02-07						
Aluminum, dissolved	< 0.0050	0.0050 mg/L							
Antimony, dissolved	< 0.00020	0.00020 mg/L							
Arsenic, dissolved	< 0.00050	0.00050 mg/L							
Barium, dissolved	< 0.0050	0.0050 mg/L							
Beryllium, dissolved	< 0.00010	0.00010 mg/L							
Bismuth, dissolved	< 0.00010	0.00010 mg/L							
Boron, dissolved	< 0.0050	0.0050 mg/L							
Cadmium, dissolved	< 0.000010	0.000010 mg/L							
Calcium, dissolved	< 0.20	0.20 mg/L							
Chromium, dissolved	< 0.00050	0.00050 mg/L							
Cobalt, dissolved	< 0.00010	0.00010 mg/L							
Copper, dissolved	< 0.00040	0.00040 mg/L							
Iron, dissolved	< 0.010	0.010 mg/L							
Lead, dissolved	< 0.00020	0.00020 mg/L							
Lithium, dissolved	< 0.00010	0.00010 mg/L							
Magnesium, dissolved	< 0.010	0.010 mg/L							
Manganese, dissolved	< 0.00020	0.00020 mg/L							
Molybdenum, dissolved	< 0.00010	0.00010 mg/L							
Nickel, dissolved	< 0.00040	0.00040 mg/L							
Phosphorus, dissolved	< 0.050	0.050 mg/L							
Potassium, dissolved	< 0.10	0.10 mg/L							
Selenium, dissolved	< 0.00050	0.00050 mg/L							
Silicon, dissolved	< 1.0	1.0 mg/L							
Silver, dissolved	< 0.000050	0.000050 mg/L							
Sodium, dissolved	< 0.10	0.10 mg/L							
Strontium, dissolved	< 0.0010	0.0010 mg/L							
Sulfur, dissolved	< 3.0	3.0 mg/L							

APPENDIX 2: QUALITY CONTROL RESULTS

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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Dissolved Metals, Batch B8B0292, Continued

Blank (B8B0292-BLK1), Continued

Prepared: 2018-02-07, Analyzed: 2018-02-07

Tellurium, dissolved	< 0.00050	0.00050 mg/L							
Thallium, dissolved	< 0.000020	0.000020 mg/L							
Thorium, dissolved	< 0.00010	0.00010 mg/L							
Tin, dissolved	< 0.00020	0.00020 mg/L							
Titanium, dissolved	< 0.0050	0.0050 mg/L							
Tungsten, dissolved	< 0.0010	0.0010 mg/L							
Uranium, dissolved	< 0.000020	0.000020 mg/L							
Vanadium, dissolved	< 0.0010	0.0010 mg/L							
Zinc, dissolved	< 0.0040	0.0040 mg/L							
Zirconium, dissolved	< 0.00010	0.00010 mg/L							

LCS (B8B0292-BS1)

Prepared: 2018-02-07, Analyzed: 2018-02-07

Aluminum, dissolved	0.0197	0.0050 mg/L	0.0200		98	80-120			
Antimony, dissolved	0.0164	0.00020 mg/L	0.0200		82	80-120			
Arsenic, dissolved	0.0185	0.00050 mg/L	0.0200		92	80-120			
Barium, dissolved	0.0174	0.0050 mg/L	0.0200		87	80-120			
Beryllium, dissolved	0.0178	0.00010 mg/L	0.0200		89	80-120			
Bismuth, dissolved	0.0187	0.00010 mg/L	0.0200		93	80-120			
Boron, dissolved	0.0203	0.0050 mg/L	0.0200		101	80-120			
Cadmium, dissolved	0.0172	0.000010 mg/L	0.0200		86	80-120			
Calcium, dissolved	1.91	0.20 mg/L	2.00		96	80-120			
Chromium, dissolved	0.0188	0.00050 mg/L	0.0200		94	80-120			
Cobalt, dissolved	0.0193	0.00010 mg/L	0.0200		97	80-120			
Copper, dissolved	0.0200	0.00040 mg/L	0.0200		100	80-120			
Iron, dissolved	1.91	0.010 mg/L	2.00		95	80-120			
Lead, dissolved	0.0187	0.00020 mg/L	0.0200		94	80-120			
Lithium, dissolved	0.0188	0.00010 mg/L	0.0200		94	80-120			
Magnesium, dissolved	1.96	0.010 mg/L	2.00		98	80-120			
Manganese, dissolved	0.0185	0.00020 mg/L	0.0200		92	80-120			
Molybdenum, dissolved	0.0180	0.00010 mg/L	0.0200		90	80-120			
Nickel, dissolved	0.0192	0.00040 mg/L	0.0200		96	80-120			
Phosphorus, dissolved	1.84	0.050 mg/L	2.00		92	80-120			
Potassium, dissolved	2.00	0.10 mg/L	2.00		100	80-120			
Selenium, dissolved	0.0208	0.00050 mg/L	0.0200		104	80-120			
Silicon, dissolved	1.9	1.0 mg/L	2.00		96	80-120			
Silver, dissolved	0.0183	0.000050 mg/L	0.0200		91	80-120			
Sodium, dissolved	2.02	0.10 mg/L	2.00		101	80-120			
Strontium, dissolved	0.0171	0.0010 mg/L	0.0200		85	80-120			
Sulfur, dissolved	4.6	3.0 mg/L	5.00		91	80-120			
Tellurium, dissolved	0.0166	0.00050 mg/L	0.0200		83	80-120			
Thallium, dissolved	0.0184	0.000020 mg/L	0.0200		92	80-120			
Thorium, dissolved	0.0176	0.00010 mg/L	0.0200		88	80-120			
Tin, dissolved	0.0182	0.00020 mg/L	0.0200		91	80-120			
Titanium, dissolved	0.0195	0.0050 mg/L	0.0200		98	80-120			
Tungsten, dissolved	0.0204	0.0010 mg/L	0.0200		102	80-120			
Uranium, dissolved	0.0193	0.000020 mg/L	0.0200		96	80-120			
Vanadium, dissolved	0.0184	0.0010 mg/L	0.0200		92	80-120			
Zinc, dissolved	0.0219	0.0040 mg/L	0.0200		110	80-120			
Zirconium, dissolved	0.0188	0.00010 mg/L	0.0200		94	80-120			

Reference (B8B0292-SRM1)

Prepared: 2018-02-07, Analyzed: 2018-02-07

Aluminum, dissolved	0.222	0.0050 mg/L	0.233		95	79-114			
Antimony, dissolved	0.0411	0.00020 mg/L	0.0430		96	89-123			
Arsenic, dissolved	0.439	0.00050 mg/L	0.438		100	87-113			
Barium, dissolved	3.19	0.0050 mg/L	3.35		95	85-114			
Beryllium, dissolved	0.203	0.00010 mg/L	0.213		95	79-122			

APPENDIX 2: QUALITY CONTROL RESULTS

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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B8B0292, Continued									
Reference (B8B0292-SRM1), Continued				Prepared: 2018-02-07, Analyzed: 2018-02-07					
Boron, dissolved	1.76	0.0050 mg/L	1.74		101	79-117			
Cadmium, dissolved	0.205	0.000010 mg/L	0.224		92	89-112			
Calcium, dissolved	7.96	0.20 mg/L	7.69		103	85-120			
Chromium, dissolved	0.449	0.00050 mg/L	0.437		103	87-113			
Cobalt, dissolved	0.134	0.00010 mg/L	0.128		105	90-117			
Copper, dissolved	0.874	0.00040 mg/L	0.844		104	90-115			
Iron, dissolved	1.29	0.010 mg/L	1.29		100	86-112			
Lead, dissolved	0.109	0.00020 mg/L	0.112		97	90-113			
Lithium, dissolved	0.104	0.00010 mg/L	0.104		100	77-127			
Magnesium, dissolved	6.90	0.010 mg/L	6.92		100	84-116			
Manganese, dissolved	0.339	0.00020 mg/L	0.345		98	85-113			
Molybdenum, dissolved	0.419	0.00010 mg/L	0.426		98	87-112			
Nickel, dissolved	0.872	0.00040 mg/L	0.840		104	90-114			
Phosphorus, dissolved	0.491	0.050 mg/L	0.495		99	74-119			
Potassium, dissolved	3.22	0.10 mg/L	3.19		101	78-119			
Selenium, dissolved	0.0356	0.00050 mg/L	0.0331		107	89-123			
Sodium, dissolved	19.9	0.10 mg/L	19.1		104	81-117			
Strontium, dissolved	0.837	0.0010 mg/L	0.916		91	82-111			
Thallium, dissolved	0.0378	0.000020 mg/L	0.0393		96	90-113			
Uranium, dissolved	0.244	0.000020 mg/L	0.266		92	87-113			
Vanadium, dissolved	0.867	0.0010 mg/L	0.869		100	85-110			
Zinc, dissolved	0.884	0.0040 mg/L	0.881		100	88-114			

General Parameters, Batch B8B0087

Blank (B8B0087-BLK1)				Prepared: 2018-02-01, Analyzed: 2018-02-01					
Colour, True	< 5.0	5.0 CU							
LCS (B8B0087-BS1)				Prepared: 2018-02-01, Analyzed: 2018-02-01					
Colour, True	9.6	5.0 CU	10.0		96	85-115			
Duplicate (B8B0087-DUP1)				Source: 8020060-05		Prepared: 2018-02-01, Analyzed: 2018-02-01			
Colour, True	5.8	5.0 CU		5.8			15		

General Parameters, Batch B8B0120

Blank (B8B0120-BLK1)				Prepared: 2018-02-02, Analyzed: 2018-02-02					
Alkalinity, Total (as CaCO ₃)	< 1.0	1.0 mg/L							
Alkalinity, Phenolphthalein (as CaCO ₃)	< 1.0	1.0 mg/L							
Alkalinity, Bicarbonate (as CaCO ₃)	< 1.0	1.0 mg/L							
Alkalinity, Carbonate (as CaCO ₃)	< 1.0	1.0 mg/L							
Alkalinity, Hydroxide (as CaCO ₃)	< 1.0	1.0 mg/L							
LCS (B8B0120-BS1)				Prepared: 2018-02-02, Analyzed: 2018-02-02					
Alkalinity, Total (as CaCO ₃)	99.9	1.0 mg/L	100		100	92-106			

General Parameters, Batch B8B0122

Blank (B8B0122-BLK1)				Prepared: 2018-02-02, Analyzed: 2018-02-02					
Turbidity	< 0.10	0.10 NTU							
Duplicate (B8B0122-DUP1)				Source: 8020060-05		Prepared: 2018-02-02, Analyzed: 2018-02-02			
Turbidity	< 0.10	0.10 NTU		< 0.10			18		

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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B8B0237									
Blank (B8B0237-BLK1)				Prepared: 2018-02-06, Analyzed: 2018-02-06					
Solids, Total Suspended	< 2.0	2.0 mg/L							
Blank (B8B0237-BLK2)				Prepared: 2018-02-06, Analyzed: 2018-02-06					
Solids, Total Suspended	< 2.0	2.0 mg/L							
LCS (B8B0237-BS1)				Prepared: 2018-02-06, Analyzed: 2018-02-06					
Solids, Total Suspended	87.0	10.0 mg/L	100		87	83-107			
LCS (B8B0237-BS2)				Prepared: 2018-02-06, Analyzed: 2018-02-06					
Solids, Total Suspended	90.0	10.0 mg/L	100		90	83-107			
Duplicate (B8B0237-DUP2)				Source: 8020060-09		Prepared: 2018-02-06, Analyzed: 2018-02-06			
Solids, Total Suspended	605	2.0 mg/L		571			6	20	
General Parameters, Batch B8B0287									
Duplicate (B8B0287-DUP1)				Source: 8020060-10		Prepared: 2018-02-05, Analyzed: 2018-02-05			
pH	6.84	0.10 pH units		6.86			< 1	4	
Reference (B8B0287-SRM1)				Prepared: 2018-02-05, Analyzed: 2018-02-05					
pH	7.92	0.10 pH units	8.00		99	97.5-102.5			
General Parameters, Batch B8B0312									
Blank (B8B0312-BLK1)				Prepared: 2018-02-07, Analyzed: 2018-02-07					
Solids, Total Suspended	< 2.0	2.0 mg/L							
Blank (B8B0312-BLK2)				Prepared: 2018-02-07, Analyzed: 2018-02-07					
Solids, Total Suspended	< 2.0	2.0 mg/L							
LCS (B8B0312-BS1)				Prepared: 2018-02-07, Analyzed: 2018-02-07					
Solids, Total Suspended	94.0	10.0 mg/L	100		94	83-107			
LCS (B8B0312-BS2)				Prepared: 2018-02-07, Analyzed: 2018-02-07					
Solids, Total Suspended	91.0	10.0 mg/L	100		91	83-107			
General Parameters, Batch B8B0394									
Blank (B8B0394-BLK1)				Prepared: 2018-02-07, Analyzed: 2018-02-07					
Chromium, Hexavalent	< 0.0010	0.0010 mg/L							
LCS (B8B0394-BS1)				Prepared: 2018-02-07, Analyzed: 2018-02-07					
Chromium, Hexavalent	0.0981	0.0010 mg/L	0.100		98	90-111			
Matrix Spike (B8B0394-MS1)				Source: 8020060-11		Prepared: 2018-02-07, Analyzed: 2018-02-07			
Chromium, Hexavalent	0.0899	0.0010 mg/L	0.100	< 0.0010	89	70-116			
General Parameters, Batch B8B0401									
Blank (B8B0401-BLK1)				Prepared: 2018-02-07, Analyzed: 2018-02-07					
Conductivity (EC)	< 2.0	2.0 µS/cm							
LCS (B8B0401-BS1)				Prepared: 2018-02-07, Analyzed: 2018-02-07					
Conductivity (EC)	147	2.0 µS/cm	147		100	90-110			

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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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General Parameters, Batch B8B0401, Continued

Reference (B8B0401-SRM1)			Prepared: 2018-02-07, Analyzed: 2018-02-07						
Conductivity (EC)	1020	2.0 µS/cm	1000		102	95-105			

General Parameters, Batch B8B0427

Reference (B8B0427-SRM1)			Prepared: 2018-02-07, Analyzed: 2018-02-07						
pH	8.03	0.10 pH units	8.00		100	97.5-102.5			
Reference (B8B0427-SRM2)			Prepared: 2018-02-07, Analyzed: 2018-02-07						
pH	8.01	0.10 pH units	8.00		100	97.5-102.5			

Polycyclic Aromatic Hydrocarbons (PAH), Batch B8B0142

Blank (B8B0142-BLK1)			Prepared: 2018-02-03, Analyzed: 2018-02-04						
Acenaphthene	< 0.050	0.050 µg/L							
Acenaphthylene	< 0.200	0.200 µg/L							
Acridine	< 0.050	0.050 µg/L							
Anthracene	< 0.010	0.010 µg/L							
Benzo(a)anthracene	< 0.010	0.010 µg/L							
Benzo(a)pyrene	< 0.010	0.010 µg/L							
Benzo(b+j)fluoranthene	< 0.050	0.050 µg/L							
Benzo(g,h,i)perylene	< 0.050	0.050 µg/L							
Benzo(k)fluoranthene	< 0.050	0.050 µg/L							
2-Chloronaphthalene	< 0.100	0.100 µg/L							
Chrysene	< 0.050	0.050 µg/L							
Dibenz(a,h)anthracene	< 0.010	0.010 µg/L							
Fluoranthene	< 0.030	0.030 µg/L							
Fluorene	< 0.050	0.050 µg/L							
Indeno(1,2,3-cd)pyrene	< 0.050	0.050 µg/L							
1-Methylnaphthalene	< 0.100	0.100 µg/L							
2-Methylnaphthalene	< 0.100	0.100 µg/L							
Naphthalene	< 0.200	0.200 µg/L							
Phenanthrene	< 0.100	0.100 µg/L							
Pyrene	< 0.020	0.020 µg/L							
Quinoline	< 0.050	0.050 µg/L							
Surrogate: Acridine-d9	2.77	µg/L	4.44		62	50-140			
Surrogate: Naphthalene-d8	3.54	µg/L	4.44		80	50-140			
Surrogate: Perylene-d12	4.87	µg/L	4.44		110	50-140			

LCS (B8B0142-BS1)			Prepared: 2018-02-03, Analyzed: 2018-02-04						
Acenaphthene	3.92	0.050 µg/L	4.40		89	58-125			
Acenaphthylene	4.02	0.200 µg/L	4.40		91	54-128			
Acridine	3.27	0.050 µg/L	4.44		74	50-112			
Anthracene	4.07	0.010 µg/L	4.44		92	66-125			
Benzo(a)anthracene	4.79	0.010 µg/L	4.44		108	59-123			
Benzo(a)pyrene	3.48	0.010 µg/L	4.40		79	62-116			
Benzo(b+j)fluoranthene	7.98	0.050 µg/L	8.89		90	69-121			
Benzo(g,h,i)perylene	4.73	0.050 µg/L	4.40		108	58-129			
Benzo(k)fluoranthene	4.77	0.050 µg/L	4.44		107	67-128			
2-Chloronaphthalene	3.90	0.100 µg/L	4.44		88	50-140			
Chrysene	4.53	0.050 µg/L	4.42		102	58-125			
Dibenz(a,h)anthracene	4.94	0.010 µg/L	4.42		112	58-126			
Fluoranthene	4.70	0.030 µg/L	4.36		108	67-133			
Fluorene	4.04	0.050 µg/L	4.40		92	55-122			
Indeno(1,2,3-cd)pyrene	3.93	0.050 µg/L	4.44		88	62-126			
1-Methylnaphthalene	3.77	0.100 µg/L	4.38		86	53-125			

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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Polycyclic Aromatic Hydrocarbons (PAH), Batch B8B0142, Continued

LCS (B8B0142-BS1), Continued

Prepared: 2018-02-03, Analyzed: 2018-02-04

2-Methylnaphthalene	3.86	0.100 µg/L	4.36		89	52-122			
Naphthalene	3.55	0.200 µg/L	4.44		80	50-130			
Phenanthrene	4.28	0.100 µg/L	4.40		97	67-127			
Pyrene	4.52	0.020 µg/L	4.44		102	68-133			
Quinoline	4.37	0.050 µg/L	4.44		98	51-140			
Surrogate: Acridine-d9	3.28	µg/L	4.44		74	50-140			
Surrogate: Naphthalene-d8	3.82	µg/L	4.44		86	50-140			
Surrogate: Perylene-d12	5.01	µg/L	4.44		113	50-140			

LCS Dup (B8B0142-BSD1)

Prepared: 2018-02-03, Analyzed: 2018-02-04

Acenaphthene	3.65	0.050 µg/L	4.40		83	58-125	7	16	
Acenaphthylene	3.71	0.200 µg/L	4.40		84	54-128	8	16	
Acridine	2.75	0.050 µg/L	4.44		62	50-112	17	26	
Anthracene	3.71	0.010 µg/L	4.44		83	66-125	9	14	
Benz(a)anthracene	4.05	0.010 µg/L	4.44		91	59-123	17	23	
Benzo(a)pyrene	3.44	0.010 µg/L	4.40		78	62-116	1	16	
Benzo(b+j)fluoranthene	7.30	0.050 µg/L	8.89		82	69-121	9	14	
Benzo(g,h,i)perylene	4.02	0.050 µg/L	4.40		91	58-129	16	25	
Benzo(k)fluoranthene	4.17	0.050 µg/L	4.44		94	67-128	13	18	
2-Chloronaphthalene	3.58	0.100 µg/L	4.44		81	50-140	8	30	
Chrysene	3.83	0.050 µg/L	4.42		87	58-125	17	24	
Dibenz(a,h)anthracene	4.18	0.010 µg/L	4.42		94	58-126	17	23	
Fluoranthene	4.10	0.030 µg/L	4.36		94	67-133	14	18	
Fluorene	3.78	0.050 µg/L	4.40		86	55-122	7	16	
Indeno(1,2,3-cd)pyrene	3.92	0.050 µg/L	4.44		88	62-126	< 1	22	
1-Methylnaphthalene	3.47	0.100 µg/L	4.38		79	53-125	8	16	
2-Methylnaphthalene	3.55	0.100 µg/L	4.36		81	52-122	8	17	
Naphthalene	3.28	0.200 µg/L	4.44		74	50-130	8	18	
Phenanthrene	3.91	0.100 µg/L	4.40		89	67-127	9	14	
Pyrene	3.92	0.020 µg/L	4.44		88	68-133	14	18	
Quinoline	4.52	0.050 µg/L	4.44		102	51-140	3	12	
Surrogate: Acridine-d9	2.56	µg/L	4.44		58	50-140			
Surrogate: Naphthalene-d8	3.45	µg/L	4.44		78	50-140			
Surrogate: Perylene-d12	4.18	µg/L	4.44		94	50-140			

Polycyclic Aromatic Hydrocarbons (PAH), Batch B8B0184

Blank (B8B0184-BLK1)

Prepared: 2018-02-03, Analyzed: 2018-02-04

Acenaphthene	< 0.050	0.050 µg/L							
Acenaphthylene	< 0.200	0.200 µg/L							
Acridine	< 0.050	0.050 µg/L							
Anthracene	< 0.010	0.010 µg/L							
Benz(a)anthracene	< 0.010	0.010 µg/L							
Benzo(a)pyrene	< 0.010	0.010 µg/L							
Benzo(b+j)fluoranthene	< 0.050	0.050 µg/L							
Benzo(g,h,i)perylene	< 0.050	0.050 µg/L							
Benzo(k)fluoranthene	< 0.050	0.050 µg/L							
2-Chloronaphthalene	< 0.100	0.100 µg/L							
Chrysene	< 0.050	0.050 µg/L							
Dibenz(a,h)anthracene	< 0.010	0.010 µg/L							
Fluoranthene	< 0.030	0.030 µg/L							
Fluorene	< 0.050	0.050 µg/L							
Indeno(1,2,3-cd)pyrene	< 0.050	0.050 µg/L							
1-Methylnaphthalene	< 0.100	0.100 µg/L							
2-Methylnaphthalene	< 0.100	0.100 µg/L							

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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Polycyclic Aromatic Hydrocarbons (PAH), Batch B8B0184, Continued									
Blank (B8B0184-BLK1), Continued					Prepared: 2018-02-03, Analyzed: 2018-02-04				
Naphthalene	< 0.200	0.200 µg/L							
Phenanthrene	< 0.100	0.100 µg/L							
Pyrene	< 0.020	0.020 µg/L							
Quinoline	< 0.050	0.050 µg/L							
Surrogate: Acridine-d9	3.28	µg/L	4.44		74	50-140			
Surrogate: Naphthalene-d8	3.76	µg/L	4.44		85	50-140			
Surrogate: Perylene-d12	5.37	µg/L	4.44		121	50-140			
LCS (B8B0184-BS1)					Prepared: 2018-02-03, Analyzed: 2018-02-04				
Acenaphthene	4.03	0.050 µg/L	4.40		92	58-125			
Acenaphthylene	4.11	0.200 µg/L	4.40		93	54-128			
Acridine	3.69	0.050 µg/L	4.44		83	50-112			
Anthracene	4.31	0.010 µg/L	4.44		97	66-125			
Benz(a)anthracene	5.31	0.010 µg/L	4.44		120	59-123			
Benzo(a)pyrene	4.37	0.010 µg/L	4.40		99	62-116			
Benzo(b+j)fluoranthene	9.87	0.050 µg/L	8.89		111	69-121			
Benzo(g,h,i)perylene	4.98	0.050 µg/L	4.40		113	58-129			
Benzo(k)fluoranthene	3.83	0.050 µg/L	4.44		86	67-128			
2-Chloronaphthalene	3.86	0.100 µg/L	4.44		87	50-140			
Chrysene	4.98	0.050 µg/L	4.42		113	58-125			
Dibenz(a,h)anthracene	5.21	0.010 µg/L	4.42		118	58-126			
Fluoranthene	5.07	0.030 µg/L	4.36		116	67-133			
Fluorene	4.19	0.050 µg/L	4.40		95	55-122			
Indeno(1,2,3-cd)pyrene	4.87	0.050 µg/L	4.44		110	62-126			
1-Methylnaphthalene	3.71	0.100 µg/L	4.38		85	53-125			
2-Methylnaphthalene	3.81	0.100 µg/L	4.36		87	52-122			
Naphthalene	3.54	0.200 µg/L	4.44		80	50-130			
Phenanthrene	4.55	0.100 µg/L	4.40		103	67-127			
Pyrene	4.89	0.020 µg/L	4.44		110	68-133			
Quinoline	4.41	0.050 µg/L	4.44		99	51-140			
Surrogate: Acridine-d9	3.41	µg/L	4.44		77	50-140			
Surrogate: Naphthalene-d8	3.71	µg/L	4.44		84	50-140			
Surrogate: Perylene-d12	5.19	µg/L	4.44		117	50-140			
LCS Dup (B8B0184-BSD1)					Prepared: 2018-02-03, Analyzed: 2018-02-04				
Acenaphthene	4.09	0.050 µg/L	4.40		93	58-125	1	16	
Acenaphthylene	4.19	0.200 µg/L	4.40		95	54-128	2	16	
Acridine	3.74	0.050 µg/L	4.44		84	50-112	1	26	
Anthracene	4.39	0.010 µg/L	4.44		99	66-125	2	14	
Benz(a)anthracene	5.49	0.010 µg/L	4.44		123	59-123	3	23	
Benzo(a)pyrene	4.45	0.010 µg/L	4.40		101	62-116	2	16	
Benzo(b+j)fluoranthene	9.74	0.050 µg/L	8.89		110	69-121	1	14	
Benzo(g,h,i)perylene	5.12	0.050 µg/L	4.40		116	58-129	3	25	
Benzo(k)fluoranthene	4.06	0.050 µg/L	4.44		91	67-128	6	18	
2-Chloronaphthalene	3.96	0.100 µg/L	4.44		89	50-140	3	30	
Chrysene	5.13	0.050 µg/L	4.42		116	58-125	3	24	
Dibenz(a,h)anthracene	5.35	0.010 µg/L	4.42		121	58-126	3	23	
Fluoranthene	5.14	0.030 µg/L	4.36		118	67-133	1	18	
Fluorene	4.32	0.050 µg/L	4.40		98	55-122	3	16	
Indeno(1,2,3-cd)pyrene	5.08	0.050 µg/L	4.44		114	62-126	4	22	
1-Methylnaphthalene	3.79	0.100 µg/L	4.38		87	53-125	2	16	
2-Methylnaphthalene	3.87	0.100 µg/L	4.36		89	52-122	2	17	
Naphthalene	3.63	0.200 µg/L	4.44		82	50-130	2	18	
Phenanthrene	4.64	0.100 µg/L	4.40		105	67-127	2	14	
Pyrene	4.95	0.020 µg/L	4.44		111	68-133	1	18	
Quinoline	4.42	0.050 µg/L	4.44		99	51-140	< 1	12	

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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Polycyclic Aromatic Hydrocarbons (PAH), Batch B8B0184, Continued

LCS Dup (B8B0184-BSD1), Continued

Prepared: 2018-02-03, Analyzed: 2018-02-04

Surrogate: Acridine-d9	3.46	µg/L	4.44		78	50-140			
Surrogate: Naphthalene-d8	3.78	µg/L	4.44		85	50-140			
Surrogate: Perylene-d12	5.38	µg/L	4.44		121	50-140			

Total Metals, Batch B8B0086

Blank (B8B0086-BLK1)

Prepared: 2018-02-01, Analyzed: 2018-02-02

Aluminum, total	< 0.0050	0.0050 mg/L							
Antimony, total	< 0.00020	0.00020 mg/L							
Arsenic, total	< 0.00050	0.00050 mg/L							
Barium, total	< 0.0050	0.0050 mg/L							
Beryllium, total	< 0.00010	0.00010 mg/L							
Bismuth, total	< 0.00010	0.00010 mg/L							
Boron, total	< 0.0050	0.0050 mg/L							
Cadmium, total	< 0.000010	0.000010 mg/L							
Calcium, total	< 0.20	0.20 mg/L							
Chromium, total	< 0.00050	0.00050 mg/L							
Cobalt, total	< 0.00010	0.00010 mg/L							
Copper, total	< 0.00040	0.00040 mg/L							
Iron, total	< 0.010	0.010 mg/L							
Lead, total	< 0.00020	0.00020 mg/L							
Lithium, total	< 0.00010	0.00010 mg/L							
Magnesium, total	< 0.010	0.010 mg/L							
Manganese, total	< 0.00020	0.00020 mg/L							
Molybdenum, total	< 0.00010	0.00010 mg/L							
Nickel, total	< 0.00040	0.00040 mg/L							
Phosphorus, total	< 0.050	0.050 mg/L							
Potassium, total	< 0.10	0.10 mg/L							
Selenium, total	< 0.00050	0.00050 mg/L							
Silicon, total	< 1.0	1.0 mg/L							
Silver, total	< 0.000050	0.000050 mg/L							
Sodium, total	< 0.10	0.10 mg/L							
Strontium, total	< 0.0010	0.0010 mg/L							
Sulfur, total	< 3.0	3.0 mg/L							
Tellurium, total	< 0.00050	0.00050 mg/L							
Thallium, total	< 0.000020	0.000020 mg/L							
Thorium, total	< 0.00010	0.00010 mg/L							
Tin, total	< 0.00020	0.00020 mg/L							
Titanium, total	< 0.0050	0.0050 mg/L							
Tungsten, total	< 0.0010	0.0010 mg/L							
Uranium, total	< 0.000020	0.000020 mg/L							
Vanadium, total	< 0.0010	0.0010 mg/L							
Zinc, total	< 0.0040	0.0040 mg/L							
Zirconium, total	< 0.00010	0.00010 mg/L							

LCS (B8B0086-BS1)

Prepared: 2018-02-01, Analyzed: 2018-02-02

Aluminum, total	0.0217	0.0050 mg/L	0.0200		108	80-120			
Antimony, total	0.0209	0.00020 mg/L	0.0200		104	80-120			
Arsenic, total	0.0207	0.00050 mg/L	0.0200		103	80-120			
Barium, total	0.0198	0.0050 mg/L	0.0200		99	80-120			
Beryllium, total	0.0190	0.00010 mg/L	0.0200		95	80-120			
Bismuth, total	0.0203	0.00010 mg/L	0.0200		101	80-120			
Boron, total	0.0164	0.0050 mg/L	0.0200		82	80-120			
Cadmium, total	0.0202	0.000010 mg/L	0.0200		101	80-120			
Calcium, total	2.26	0.20 mg/L	2.00		113	80-120			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8020060
2018-02-08 13:09

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B8B0086, Continued									
LCS (B8B0086-BS1), Continued					Prepared: 2018-02-01, Analyzed: 2018-02-02				
Chromium, total	0.0201	0.00050 mg/L	0.0200		101	80-120			
Cobalt, total	0.0202	0.00010 mg/L	0.0200		101	80-120			
Copper, total	0.0207	0.00040 mg/L	0.0200		103	80-120			
Iron, total	2.07	0.010 mg/L	2.00		103	80-120			
Lead, total	0.0203	0.00020 mg/L	0.0200		102	80-120			
Lithium, total	0.0201	0.00010 mg/L	0.0200		100	80-120			
Magnesium, total	2.00	0.010 mg/L	2.00		100	80-120			
Manganese, total	0.0203	0.00020 mg/L	0.0200		102	80-120			
Molybdenum, total	0.0199	0.00010 mg/L	0.0200		100	80-120			
Nickel, total	0.0200	0.00040 mg/L	0.0200		100	80-120			
Phosphorus, total	1.91	0.050 mg/L	2.00		95	80-120			
Potassium, total	1.98	0.10 mg/L	2.00		99	80-120			
Selenium, total	0.0200	0.00050 mg/L	0.0200		100	80-120			
Silicon, total	2.3	1.0 mg/L	2.00		114	80-120			
Silver, total	0.0199	0.000050 mg/L	0.0200		99	80-120			
Sodium, total	2.00	0.10 mg/L	2.00		100	80-120			
Strontium, total	0.0204	0.0010 mg/L	0.0200		102	80-120			
Sulfur, total	5.3	3.0 mg/L	5.00		105	80-120			
Tellurium, total	0.0196	0.00050 mg/L	0.0200		98	80-120			
Thallium, total	0.0201	0.000020 mg/L	0.0200		101	80-120			
Thorium, total	0.0198	0.00010 mg/L	0.0200		99	80-120			
Tin, total	0.0208	0.00020 mg/L	0.0200		104	80-120			
Titanium, total	0.0207	0.0050 mg/L	0.0200		104	80-120			
Tungsten, total	0.0160	0.0010 mg/L	0.0200		80	80-120			
Uranium, total	0.0219	0.000020 mg/L	0.0200		109	80-120			
Vanadium, total	0.0195	0.0010 mg/L	0.0200		97	80-120			
Zinc, total	0.0223	0.0040 mg/L	0.0200		111	80-120			
Zirconium, total	0.0210	0.00010 mg/L	0.0200		105	80-120			
Reference (B8B0086-SRM1)					Prepared: 2018-02-01, Analyzed: 2018-02-02				
Aluminum, total	0.297	0.0050 mg/L	0.303		98	82-114			
Antimony, total	0.0530	0.00020 mg/L	0.0511		104	88-115			
Arsenic, total	0.124	0.00050 mg/L	0.118		105	88-111			
Barium, total	0.806	0.0050 mg/L	0.823		98	83-110			
Beryllium, total	0.0470	0.00010 mg/L	0.0496		95	80-119			
Boron, total	3.05	0.0050 mg/L	3.45		88	80-118			
Cadmium, total	0.0493	0.000010 mg/L	0.0495		100	90-110			
Calcium, total	11.3	0.20 mg/L	11.6		97	85-113			
Chromium, total	0.252	0.00050 mg/L	0.250		101	88-111			
Cobalt, total	0.0391	0.00010 mg/L	0.0377		104	90-114			
Copper, total	0.515	0.00040 mg/L	0.486		106	90-117			
Iron, total	0.511	0.010 mg/L	0.488		105	90-116			
Lead, total	0.201	0.00020 mg/L	0.204		98	90-110			
Lithium, total	0.398	0.00010 mg/L	0.403		99	79-118			
Magnesium, total	3.74	0.010 mg/L	3.79		99	88-116			
Manganese, total	0.111	0.00020 mg/L	0.109		102	88-108			
Molybdenum, total	0.197	0.00010 mg/L	0.198		100	88-110			
Nickel, total	0.250	0.00040 mg/L	0.249		100	90-112			
Phosphorus, total	0.233	0.050 mg/L	0.227		103	72-118			
Potassium, total	7.49	0.10 mg/L	7.21		104	87-116			
Selenium, total	0.121	0.00050 mg/L	0.121		100	90-122			
Sodium, total	7.53	0.10 mg/L	7.54		100	86-118			
Strontium, total	0.385	0.0010 mg/L	0.375		103	86-110			
Thallium, total	0.0811	0.000020 mg/L	0.0805		101	90-113			
Uranium, total	0.0293	0.000020 mg/L	0.0306		96	88-112			
Vanadium, total	0.380	0.0010 mg/L	0.386		98	87-110			

APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8020060
2018-02-08 13:09

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B8B0086, Continued									
Reference (B8B0086-SRM1), Continued				Prepared: 2018-02-01, Analyzed: 2018-02-02					
Zinc, total	2.57	0.0040 mg/L	2.49		103	90-113			
Total Metals, Batch B8B0261									
Blank (B8B0261-BLK1)				Prepared: 2018-02-05, Analyzed: 2018-02-06					
Mercury, total	< 0.000010	0.000010 mg/L							
Duplicate (B8B0261-DUP1)				Source: 8020060-03		Prepared: 2018-02-05, Analyzed: 2018-02-06			
Mercury, total	< 0.000010	0.000010 mg/L		< 0.000010			20		
Matrix Spike (B8B0261-MS1)				Source: 8020060-04		Prepared: 2018-02-05, Analyzed: 2018-02-06			
Mercury, total	0.000229	0.000010 mg/L	0.000250	< 0.000010	92	70-130			
Reference (B8B0261-SRM1)				Prepared: 2018-02-05, Analyzed: 2018-02-06					
Mercury, total	0.00463	0.000010 mg/L	0.00489		95	80-120			

Client Information	Project Information	Laboratory Information	COC Information
Allterra Construction 2158 Millstream Road Victoria BC V9B 6H4 Phone: (250) 508-0726	P17-932 Number: [none] Sample count: 14 TAT: 5	CARO Analytical Services #110 - 4011 Viking Way Richmond BC V6V 2K9 Phone: (604) 279-1499 Fax: (604) 279-1599	Number: Jan 2018 Shipped via: Harbour Air

#	Sample Information	Analyses	Containers
#1	MW6 01/31/2018 11:30 Grab / Water	Alkalinity, all (KEL) TAT: 5 Anions in Water by IC, 5 Analytes (KEL) TAT: 5 Colour, True - 456 nm (KEL) TAT: 5 Conductivity in Water (RMD) TAT: 5 L/HEPH in Water (RMD) TAT: 5 Mercury, diss CVAFS Reg & Low (RMD) TAT: 5 Mercury, total CVAFS Reg & Low (RMD) TAT: 5 Metals, dissolved, All, Low (RMD) TAT: 5 Metals, total, All, Low (RMD) TAT: 5 pH in Water (RMD) TAT: 5 Solids, Total Suspended (RMD) TAT: 5 Turbidity (RMD) TAT: 5	C03_250 mL Glass (EPH/PAH) (1) C05_125 mL Plastic (Metals) (1) C06_40 mL Vial (Mercury) (1) C11_1 L Plastic (General) (1) S05_125 mL Plastic (Metals-F) (1) S06_40 mL Vial (Mercury-F) (1) C10_125 mL Plastic (H2SO4) (1)
#2	MW3S 01/31/2018 12:30 Grab / Water	Alkalinity, all (KEL) TAT: 5 Anions in Water by IC, 5 Analytes (KEL) TAT: 5 Colour, True - 456 nm (KEL) TAT: 5 Conductivity in Water (RMD) TAT: 5 L/HEPH in Water (RMD) TAT: 5 Mercury, diss CVAFS Reg & Low (RMD) TAT: 5 Mercury, total CVAFS Reg & Low (RMD) TAT: 5 Metals, dissolved, All, Low (RMD) TAT: 5 Metals, total, All, Low (RMD) TAT: 5 pH in Water (RMD) TAT: 5 Solids, Total Suspended (RMD) TAT: 5 Turbidity (RMD) TAT: 5	C03_250 mL Glass (EPH/PAH) (1) C05_125 mL Plastic (Metals) (1) C06_40 mL Vial (Mercury) (1) C11_1 L Plastic (General) (1) S05_125 mL Plastic (Metals-F) (1) S06_40 mL Vial (Mercury-F) (1) C10_125 mL Plastic (H2SO4) (1)
#3	MW3D 01/31/2018 12:50 Grab / Water	Alkalinity, all (KEL) TAT: 5 Anions in Water by IC, 5 Analytes (KEL) TAT: 5 Colour, True - 456 nm (KEL) TAT: 5 Conductivity in Water (RMD) TAT: 5 L/HEPH in Water (RMD) TAT: 5 Mercury, diss CVAFS Reg & Low (RMD) TAT: 5 Mercury, total CVAFS Reg & Low (RMD) TAT: 5 Metals, dissolved, All, Low (RMD) TAT: 5 Metals, total, All, Low (RMD) TAT: 5 pH in Water (RMD) TAT: 5 Solids, Total Suspended (RMD) TAT: 5 Turbidity (RMD) TAT: 5	C03_250 mL Glass (EPH/PAH) (1) C05_125 mL Plastic (Metals) (1) C06_40 mL Vial (Mercury) (1) C11_1 L Plastic (General) (1) S05_125 mL Plastic (Metals-F) (1) S06_40 mL Vial (Mercury-F) (1) C10_125 mL Plastic (H2SO4) (1)
#4	MW2 01/31/2018 13:30 Grab / Water	Alkalinity, all (KEL) TAT: 5 Anions in Water by IC, 5 Analytes (KEL) TAT: 5 Colour, True - 456 nm (KEL) TAT: 5 Conductivity in Water (RMD) TAT: 5 L/HEPH in Water (RMD) TAT: 5 Mercury, diss CVAFS Reg & Low (RMD) TAT: 5 Mercury, total CVAFS Reg & Low (RMD) TAT: 5 Metals, dissolved, All, Low (RMD) TAT: 5 Metals, total, All, Low (RMD) TAT: 5 pH in Water (RMD) TAT: 5 Solids, Total Suspended (RMD) TAT: 5 Turbidity (RMD) TAT: 5	C03_250 mL Glass (EPH/PAH) (1) C05_125 mL Plastic (Metals) (1) C06_40 mL Vial (Mercury) (1) C11_1 L Plastic (General) (1) S05_125 mL Plastic (Metals-F) (1) S06_40 mL Vial (Mercury-F) (1) C10_125 mL Plastic (H2SO4) (1)
#5	LE-1 01/31/2018 16:00 Grab / Water	Alkalinity, all (KEL) TAT: 5 Anions in Water by IC, 5 Analytes (KEL) TAT: 5 Colour, True - 456 nm (KEL) TAT: 5 Conductivity in Water (RMD) TAT: 5 L/HEPH in Water (RMD) TAT: 5 Mercury, total CVAFS Reg & Low (RMD) TAT: 5	C03_250 mL Glass (EPH/PAH) (1) C05_125 mL Plastic (Metals) (1) C06_40 mL Vial (Mercury) (1) C11_1 L Plastic (General) (1) S05_125 mL Plastic (Metals-F) (1) C10_125 mL Plastic (H2SO4) (1)

		Metals, dissolved, All, Low (RMD) TAT: 5 Metals, total, All, Low (RMD) TAT: 5 pH in Water (RMD) TAT: 5 Solids, Total Suspended (RMD) TAT: 5 Turbidity (RMD) TAT: 5	
#6	SW1 01/31/2018 13:10 Grab / Water	Analyses Alkalinity, all (KEL) TAT: 5 Anions in Water by IC, 5 Analytes (KEL) TAT: 5 Colour, True - 456 nm (KEL) TAT: 5 Conductivity in Water (RMD) TAT: 5 L/HEPH in Water (RMD) TAT: 5 Mercury, diss CVAFS Reg & Low (RMD) TAT: 5 Mercury, total CVAFS Reg & Low (RMD) TAT: 5 Metals, dissolved, All, Low (RMD) TAT: 5 Metals, total, All, Low +Cr6 (RMD) TAT: 5 pH in Water (RMD) TAT: 5 Solids, Total Suspended (RMD) TAT: 5 Turbidity (RMD) TAT: 5	Containers C03_250 mL Glass (EPH/PAH) (1) C05_125 mL Plastic (Metals) (1) C06_40 mL Vial (Mercury) (1) C11_1 L Plastic (General) (1) S05_125 mL Plastic (Metals-F) (1) S06_40 mL Vial (Mercury-F) (1) C10_125 mL Plastic (H2SO4) (1)
#7	SW2 01/31/2018 11:50 Grab / Water	Analyses Alkalinity, all (KEL) TAT: 5 Anions in Water by IC, 5 Analytes (KEL) TAT: 5 Colour, True - 456 nm (KEL) TAT: 5 Conductivity in Water (RMD) TAT: 5 L/HEPH in Water (RMD) TAT: 5 Mercury, diss CVAFS Reg & Low (RMD) TAT: 5 Mercury, total CVAFS Reg & Low (RMD) TAT: 5 Metals, dissolved, All, Low (RMD) TAT: 5 Metals, total, All, Low (RMD) TAT: 5 pH in Water (RMD) TAT: 5 Solids, Total Suspended (RMD) TAT: 5 Turbidity (RMD) TAT: 5	Containers C03_250 mL Glass (EPH/PAH) (1) C05_125 mL Plastic (Metals) (1) C06_40 mL Vial (Mercury) (1) C11_1 L Plastic (General) (1) S05_125 mL Plastic (Metals-F) (1) S06_40 mL Vial (Mercury-F) (1) C10_125 mL Plastic (H2SO4) (1)
#8	SB1 01/31/2018 15:40 Grab / Water	Analyses Alkalinity, all (KEL) TAT: 5 Anions in Water by IC, 5 Analytes (KEL) TAT: 5 Colour, True - 456 nm (KEL) TAT: 5 Conductivity in Water (RMD) TAT: 5 L/HEPH in Water (RMD) TAT: 5 Mercury, diss CVAFS Reg & Low (RMD) TAT: 5 Mercury, total CVAFS Reg & Low (RMD) TAT: 5 Metals, dissolved, All, Low (RMD) TAT: 5 Metals, total, All, Low (RMD) TAT: 5 pH in Water (RMD) TAT: 5 Solids, Total Suspended (RMD) TAT: 5 Turbidity (RMD) TAT: 5	Containers C03_250 mL Glass (EPH/PAH) (1) C05_125 mL Plastic (Metals) (1) C06_40 mL Vial (Mercury) (1) C11_1 L Plastic (General) (1) S05_125 mL Plastic (Metals-F) (1) S06_40 mL Vial (Mercury-F) (1) C10_125 mL Plastic (H2SO4) (1)
#9	SB2 01/31/2018 15:10 Grab / Water	Analyses Alkalinity, all (KEL) TAT: 5 Anions in Water by IC, 5 Analytes (KEL) TAT: 5 Colour, True - 456 nm (KEL) TAT: 5 Conductivity in Water (RMD) TAT: 5 L/HEPH in Water (RMD) TAT: 5 Mercury, diss CVAFS Reg & Low (RMD) TAT: 5 Mercury, total CVAFS Reg & Low (RMD) TAT: 5 Metals, dissolved, All, Low (RMD) TAT: 5 Metals, total, All, Low (RMD) TAT: 5 pH in Water (RMD) TAT: 5 Solids, Total Suspended (RMD) TAT: 5 Turbidity (RMD) TAT: 5	Containers C03_250 mL Glass (EPH/PAH) (1) C05_125 mL Plastic (Metals) (1) C06_40 mL Vial (Mercury) (1) C11_1 L Plastic (General) (1) S05_125 mL Plastic (Metals-F) (1) S06_40 mL Vial (Mercury-F) (1) C10_125 mL Plastic (H2SO4) (1)
#10	SB3 01/31/2018 14:40 Grab / Water	Analyses Alkalinity, all (KEL) TAT: 5 Anions in Water by IC, 5 Analytes (KEL) TAT: 5 Colour, True - 456 nm (KEL) TAT: 5 Conductivity in Water (RMD) TAT: 5 L/HEPH in Water (RMD) TAT: 5 Mercury, diss CVAFS Reg & Low (RMD) TAT: 5 Mercury, total CVAFS Reg & Low (RMD) TAT: 5 Metals, dissolved, All, Low (RMD) TAT: 5	Containers C03_250 mL Glass (EPH/PAH) (1) C05_125 mL Plastic (Metals) (1) C06_40 mL Vial (Mercury) (1) C11_1 L Plastic (General) (1) S05_125 mL Plastic (Metals-F) (1) S06_40 mL Vial (Mercury-F) (1) C10_125 mL Plastic (H2SO4) (1)

		Metals, total, All, Low (RMD) TAT: 5 pH in Water (RMD) TAT: 5 Solids, Total Suspended (RMD) TAT: 5 Turbidity (RMD) TAT: 5	
#11	SW1 01/31/2018 13:10 Grab / Water	Analyses Alkalinity, all (KEL) TAT: 5 Anions in Water by IC, 5 Analytes (KEL) TAT: 5 Colour, True - 456 nm (KEL) TAT: 5 Conductivity in Water (RMD) TAT: 5 L/HEPH in Water (RMD) TAT: 5 Mercury, diss CVAFS Reg & Low (RMD) TAT: 5 Mercury, total CVAFS Reg & Low (RMD) TAT: 5 Metals, dissolved, All, Low (RMD) TAT: 5 Metals, total, All, Low +Cr6 (RMD) TAT: 5 pH in Water (RMD) TAT: 5 Solids, Total Suspended (RMD) TAT: 5 Turbidity (RMD) TAT: 5	Containers C03_250 mL Glass (EPH/PAH) (1) C05_125 mL Plastic (Metals) (1) C06_40 mL Vial (Mercury) (1) C11_1 L Plastic (General) (1) S05_125 mL Plastic (Metals-F) (1) S06_40 mL Vial (Mercury-F) (1) C10_125 mL Plastic (H2SO4) (1) C09_125 mL Plastic (CN/Cr6) (1)
#12	FB 01/31/2018 16:30 Grab / Water	Analyses Alkalinity, all (KEL) TAT: 5 Anions in Water by IC, 5 Analytes (KEL) TAT: 5 Colour, True - 456 nm (KEL) TAT: 5 Conductivity in Water (RMD) TAT: 5 L/HEPH in Water (RMD) TAT: 5 Mercury, diss CVAFS Reg & Low (RMD) TAT: 5 Mercury, total CVAFS Reg & Low (RMD) TAT: 5 Metals, dissolved, All, Low (RMD) TAT: 5 Metals, total, All, Low (RMD) TAT: 5 pH in Water (RMD) TAT: 5 Solids, Total Suspended (RMD) TAT: 5 Turbidity (RMD) TAT: 5	Containers C03_250 mL Glass (EPH/PAH) (1) C05_125 mL Plastic (Metals) (1) C06_40 mL Vial (Mercury) (1) C11_1 L Plastic (General) (1) S05_125 mL Plastic (Metals-F) (1) S06_40 mL Vial (Mercury-F) (1) C10_125 mL Plastic (H2SO4) (1)
#13	FB 01/31/2018 16:30 Grab / Water	Analyses Alkalinity, all (KEL) TAT: 5 Anions in Water by IC, 5 Analytes (KEL) TAT: 5 Colour, True - 456 nm (KEL) TAT: 5 Conductivity in Water (RMD) TAT: 5 L/HEPH in Water (RMD) TAT: 5 Metals, dissolved, All, Low (RMD) TAT: 5 Metals, total, All, Low (RMD) TAT: 5 pH in Water (RMD) TAT: 5 Solids, Total Suspended (RMD) TAT: 5 Turbidity (RMD) TAT: 5	Containers C03_250 mL Glass (EPH/PAH) (1) C05_125 mL Plastic (Metals) (1) C06_40 mL Vial (Mercury) (1) C11_1 L Plastic (General) (1) S05_125 mL Plastic (Metals-F) (1) S06_40 mL Vial (Mercury-F) (1) C10_125 mL Plastic (H2SO4) (1)
#14	FB 01/31/2018 16:30 Grab / Water	Analyses Alkalinity, all (KEL) TAT: 5 Anions in Water by IC, 5 Analytes (KEL) TAT: 5 Colour, True - 456 nm (KEL) TAT: 5 Conductivity in Water (RMD) TAT: 5 L/HEPH in Water (RMD) TAT: 5 Metals, dissolved, All, Low (RMD) TAT: 5 Metals, total, All, Low (RMD) TAT: 5 pH in Water (RMD) TAT: 5 Solids, Total Suspended (RMD) TAT: 5 Turbidity (RMD) TAT: 5	Containers C03_250 mL Glass (EPH/PAH) (1) C05_125 mL Plastic (Metals) (1) C11_1 L Plastic (General) (1) S05_125 mL Plastic (Metals-F) (1) C10_125 mL Plastic (H2SO4) (1)

Relinquished by	Date/Time	Accepted by	Date/Time

CARO Analytical Services
FINAL Analytical Testing Report
Work Order: 8020060
Report Date: 2018-02-08 13:09:27

Client Allterra Construction
Attention Rahim Gaidhar
Project P17-932
Project Info [none]

Note: This is not the original data. Please refer to PDF / Hardcopy report.

LAB ID				8020060-01	8020060-02	8020060-03	8020060-04	8020060-05	8020060-07	8020060-08	8020060-09	8020060-10	8020060-11	8020060-12
CLIENT ID				MW6	MW3S	MW3D	MW2	LE-1	SW2	SB1	SB2	SB3	SW1	FB
DATE SAMPLED				2018-01-31	2018-01-31	2018-01-31	2018-01-31	2018-01-31	2018-01-31	2018-01-31	2018-01-31	2018-01-31	2018-01-31	2018-01-31
DATE RECEIVED				2018-02-01	2018-02-01	2018-02-01	2018-02-01	2018-02-01	2018-02-01	2018-02-01	2018-02-01	2018-02-01	2018-02-01	2018-02-01
MATRIX				Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water
General Method	Analyte	Units	MRL											
Anions	Chloride	mg/L	0.1	39.1	7.66	2.52	5.34	2700	1.31	6.88	15.7	2.79	6.01	<0.10
Anions	Fluoride	mg/L	0.1	0.14	0.11	0.18	0.18	<1.00	<0.10	0.13	0.28	0.2	<0.10	<0.10
Anions	Nitrate (as N)	mg/L	0.01	<0.010	0.017	0.014	<0.010	1.66	<0.010	0.213	0.216	0.05	0.247	<0.010
Anions	Nitrite (as N)	mg/L	0.01	<0.010	<0.010	<0.010	<0.010	<0.100	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Anions	Sulfate	mg/L	1	101	43	22.4	20.2	1320	1.5	28.1	46	8.6	36.3	<1.0
General Parameters	Colour, True	CU	5	7	<5.0	6.7	8.4	5.8	7.7	<5.0	<5.0	7.3	5.2	<5.0
General Parameters	Alkalinity, Total (as CaCO3)	mg/L	1	625	126	100	123	60.6	3.1	44.1	126	10.4	51.4	<1.0
General Parameters	Alkalinity, Phenolphthalein (as CaCO3)	mg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
General Parameters	Alkalinity, Bicarbonate (as CaCO3)	mg/L	1	625	126	100	123	60.6	3.1	44.1	126	10.4	51.4	<1.0
General Parameters	Alkalinity, Carbonate (as CaCO3)	mg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
General Parameters	Alkalinity, Hydroxide (as CaCO3)	mg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
General Parameters	Chromium, Hexavalent	mg/L	0.001										<0.0010	
General Parameters	Solids, Total Suspended	mg/L	2	15.4	8.4	7.7	18.3	<2.2	<2.2	134	571	556	<2.0	<2.0
General Parameters	Turbidity	NTU	0.1	16.6	13.5	32.3	14	<0.10	1.59	108	571	755	4.75	<0.10
General Parameters	pH	pH units	0.1	7.64	7.99	7.86	7.93	7.29	6.48	7.17	7.31	6.86	7.44	5.39
General Parameters	Conductivity (EC)	uS/cm	2	1330	345	242	293	9790	16.1	169	386	49.1	202	<2.0
Calculated Parameters	Chromium, Trivalent	mg/L	0.001										<0.00100	
Calculated Parameters	Hardness, Total (as CaCO3)	mg/L	0.5	591	144	100	126	2600	4.99	69.5	167	17.7	85.5	<0.500
Dissolved Metals	Aluminum, dissolved	mg/L	0.005	<0.0050	<0.0050	0.0134	<0.0050	0.0112	0.0631	0.0075	<0.0050	0.0157	<0.0050	<0.0050
Dissolved Metals	Antimony, dissolved	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	0.00079	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Metals	Arsenic, dissolved	mg/L	0.0005	0.00405	0.00097	0.00121	0.00183	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Metals	Barium, dissolved	mg/L	0.005	0.0827	0.0273	0.0189	0.029	0.0624	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Metals	Beryllium, dissolved	mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Metals	Bismuth, dissolved	mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Metals	Boron, dissolved	mg/L	0.005	0.0728	0.0199	0.0222	0.0224	0.203	0.0069	0.0061	0.0169	0.0053	0.0119	<0.0050
Dissolved Metals	Cadmium, dissolved	mg/L	1E-05	<0.000010	0.000011	0.000011	<0.000010	0.000336	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Dissolved Metals	Calcium, dissolved	mg/L	0.2	178	46.3	31.5	38.9	715	1.46	23.6	55.1	5.63	27.6	<0.20
Dissolved Metals	Chromium, dissolved	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Metals	Cobalt, dissolved	mg/L	0.0001	0.00227	0.00085	0.00032	0.00036	0.00356	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Metals	Copper, dissolved	mg/L	0.0004	<0.00040	<0.00040	<0.00040	<0.00040	0.00191	0.00045	0.00042	0.00088	0.00046	0.00085	<0.00040
Dissolved Metals	Iron, dissolved	mg/L	0.01	1.86	0.039	0.078	0.231	<0.010	0.011	<0.010	<0.010	0.015	<0.010	<0.010
Dissolved Metals	Lead, dissolved	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Metals	Lithium, dissolved	mg/L	0.0001	0.0119	<0.00010	<0.00010	<0.00010	0.00015	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Metals	Magnesium, dissolved	mg/L	0.01	35.5	6.88	5.19	6.95	197	0.325	2.57	7.06	0.888	4.02	<0.010
Dissolved Metals	Manganese, dissolved	mg/L	0.0002	2.02	0.384	0.247	0.44	17.9	0.00613	0.0006	0.0203	0.00094	<0.00020	<0.00020
Dissolved Metals	Mercury, dissolved	mg/L	1E-05	<0.000010	<0.000010	<0.000010	<0.000010		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	
Dissolved Metals	Molybdenum, dissolved	mg/L	0.0001	0.00073	0.00606	0.00634	0.00398	0.00254	<0.00010	0.00032	0.00066	0.00026	0.0006	<0.00010
Dissolved Metals	Nickel, dissolved	mg/L	0.0004	0.00376	0.0014	0.00122	0.00088	0.00446	<0.00040	0.0026	0.00064	<0.00040	<0.00040	<0.00040
Dissolved Metals	Phosphorus, dissolved	mg/L	0.05	<0.050	0.057	0.099	0.145	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Metals	Potassium, dissolved	mg/L	0.1	3.88	0.91	0.61	0.7	17.2	0.12	0.3	1	0.15	0.48	<0.10
Dissolved Metals	Selenium, dissolved	mg/L	0.0005	0.00056	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Metals	Silicon, dissolved	mg/L	1	11.5	6	5.8	6.4	3.6	1.7	2.2	4.7	<1.0	3	<1.0

CARO Analytical Services
FINAL Analytical Testing Report
Work Order: 8020060
Report Date: 2018-02-08 13:09:27

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Dissolved Metals	Silver, dissolved	mg/L	5E-05	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Dissolved Metals	Sodium, dissolved	mg/L	0.1	70.8	13.6	11	9.46	1350	1.17	3.95	14.1	1.56	5.3	<0.10
Dissolved Metals	Strontium, dissolved	mg/L	0.001	0.549	0.211	0.172	0.152	3.18	0.0062	0.0559	0.148	0.012	0.0686	<0.0010
Dissolved Metals	Sulfur, dissolved	mg/L	3	25.4	14	6.9	6.6	508	<3.0	10.5	17	3.8	11.9	<3.0
Dissolved Metals	Tellurium, dissolved	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Dissolved Metals	Thallium, dissolved	mg/L	2E-05	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Dissolved Metals	Thorium, dissolved	mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Dissolved Metals	Tin, dissolved	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Metals	Titanium, dissolved	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Metals	Tungsten, dissolved	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Uranium, dissolved	mg/L	2E-05	0.0073	0.000953	0.000568	0.000773	0.00022	<0.000020	0.000101	0.000755	<0.000020	0.000206	<0.000020
Dissolved Metals	Vanadium, dissolved	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Zinc, dissolved	mg/L	0.004	<0.0040	<0.0040	<0.0040	<0.0040	0.0099	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Dissolved Metals	Zirconium, dissolved	mg/L	0.0001	0.00021	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Metals	Aluminum, total	mg/L	0.005	0.375	0.0749	0.0736	0.422	0.0728	0.151	4.18	18.3	18.8	0.147	<0.0050
Total Metals	Antimony, total	mg/L	0.0002	0.00021	<0.00020	<0.00020	<0.00020	0.00109	<0.00020	<0.00020	<0.00020	0.00025	<0.00020	<0.00020
Total Metals	Arsenic, total	mg/L	0.0005	0.00413	0.00104	0.00125	0.00204	<0.00050	<0.00050	0.00058	0.00165	0.00275	<0.00050	<0.00050
Total Metals	Barium, total	mg/L	0.005	0.0901	0.0325	0.0214	0.033	0.0706	<0.0050	0.0246	0.0774	0.0771	0.0053	<0.0050
Total Metals	Beryllium, total	mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00049	0.00031	<0.00010	<0.00010
Total Metals	Bismuth, total	mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Metals	Boron, total	mg/L	0.005	0.0803	0.0274	0.0272	0.0261	0.226	0.0182	0.0077	0.0149	<0.0050	0.0121	<0.0050
Total Metals	Cadmium, total	mg/L	1E-05	0.000176	0.000222	0.000097	0.000023	0.00039	<0.000010	0.000028	0.000062	0.000066	<0.000010	<0.000010
Total Metals	Calcium, total	mg/L	0.2	173	48.2	33.2	40.2	728	1.82	25.1	62.2	12.7	29.2	<0.20
Total Metals	Chromium, total	mg/L	0.0005	0.00085	0.00073	<0.00050	0.00078	<0.00050	<0.00050	0.00523	0.0156	0.041	<0.00050	<0.00050
Total Metals	Cobalt, total	mg/L	0.0001	0.0026	0.00096	0.00039	0.00069	0.00385	0.00013	0.00466	0.0168	0.022	<0.00010	<0.00010
Total Metals	Copper, total	mg/L	0.0004	0.00347	0.00044	<0.00040	0.00072	0.00236	0.00102	0.0124	0.0652	0.0671	0.00138	<0.00040
Total Metals	Iron, total	mg/L	0.01	2.33	0.119	0.145	0.909	0.065	0.207	5.08	24.4	26.3	0.165	<0.010
Total Metals	Lead, total	mg/L	0.0002	0.00112	<0.00020	<0.00020	0.00027	<0.00020	<0.00020	0.00482	0.00608	0.0104	<0.00020	<0.00020
Total Metals	Lithium, total	mg/L	0.0001	0.0119	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00117	0.00531	0.00843	<0.00010	<0.00010
Total Metals	Magnesium, total	mg/L	0.01	34.1	7.15	5.43	7.22	210	0.36	3.82	12.7	9.12	4.02	<0.010
Total Metals	Manganese, total	mg/L	0.0002	2.12	0.417	0.279	0.491	20.6	0.011	0.153	1.11	0.499	0.00286	<0.00020
Total Metals	Mercury, total	mg/L	1E-05	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000016	0.000015	0.000018	<0.000010	<0.000010
Total Metals	Molybdenum, total	mg/L	0.0001	0.00109	0.00639	0.0067	0.00421	0.00283	<0.00010	0.0004	0.00103	0.00042	0.00066	<0.00010
Total Metals	Nickel, total	mg/L	0.0004	0.0053	0.00169	0.00155	0.00133	0.00519	0.00048	0.00689	0.0154	0.0349	0.00066	<0.00040
Total Metals	Phosphorus, total	mg/L	0.05	<0.050	0.075	0.117	0.204	<0.050	<0.050	0.149	0.845	0.524	<0.050	<0.050
Total Metals	Potassium, total	mg/L	0.1	3.86	0.93	0.59	0.68	18.3	<0.10	0.56	3.34	1.45	0.47	<0.10
Total Metals	Selenium, total	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Total Metals	Silicon, total	mg/L	1	12.3	6.9	6.9	7.8	4.3	2.2	8	31.5	27.7	3.9	<1.0
Total Metals	Silver, total	mg/L	5E-05	<0.000050	<0.000050	<0.000050	<0.000050	0.000248	<0.000050	<0.000050	0.000054	0.000074	<0.000050	<0.000050
Total Metals	Sodium, total	mg/L	0.1	65.4	13.5	11.1	9.31	1350	1.3	3.94	13.3	2.36	5.27	<0.10
Total Metals	Strontium, total	mg/L	0.001	0.593	0.246	0.205	0.176	3.78	0.0073	0.0719	0.209	0.0587	0.081	<0.0010
Total Metals	Sulfur, total	mg/L	3	24.5	14.3	7.9	6.3	523	<3.0	10.8	15.7	<3.0	13	<3.0
Total Metals	Tellurium, total	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Total Metals	Thallium, total	mg/L	2E-05	0.000075	0.000029	<0.000020	<0.000020	0.000026	<0.000020	<0.000020	0.000058	0.000056	<0.000020	<0.000020
Total Metals	Thorium, total	mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.0007	0.00058	<0.00010	<0.00010
Total Metals	Tin, total	mg/L	0.0002	0.00091	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.0004	0.00039	0.00059	<0.00020	<0.00020
Total Metals	Titanium, total	mg/L	0.005	0.0208	<0.0050	<0.0050	0.0249	<0.0050	<0.0050	0.225	0.753	0.821	0.0067	<0.0050
Total Metals	Tungsten, total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Metals	Uranium, total	mg/L	2E-05	0.00783	0.00112	0.000706	0.000899	0.000261	<0.000020	0.000319	0.00153	0.000707	0.000246	<0.000020
Total Metals	Vanadium, total	mg/L	0.001	<0.0010	<0.0010	<0.0010	0.0018	<0.0010	<0.0010	0.0122	0.0421	0.0559	<0.0010	<0.0010
Total Metals	Zinc, total	mg/L	0.004	0.0088	<0.0040	<0.0040	<0.0040	0.0126	<0.0040	0.0156	0.0564	0.0701	<0.0040	<0.0040

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[illegible]

Table GW1: Analytical Results for Nutrients in Groundwater

Sample Location	CSR Standards ⁽¹⁾		MW-6	MW-3S	MW-3D	MW-2	SB1	SB2	SB3
As-built Well Depths			47m	23m	46m	43m	4.01m	3.28m	3.53m
Sample ID			8020060-01	8020060-02	8020060-03	8020060-04	8020060-08	8020060-09	8020060-10
			MW6	MW3S	MW3D	MW2	SB1	SB2	SB3
Date Sampled	Aquatic Life	Drinking Water	2018-01-31	2018-01-31	2018-01-31	2018-01-31	2018-01-31	2018-01-31	2018-01-31
Physical Tests									
Colour, True (TCU)	-	-	7	<5.0	6.7	8.4	<5.0	<5.0	7.3
Conductivity (uS/cm)	-	-	1330	345	242	293	169	386	49.1
Hardness (as CaCO ₃) mg/L	-	-	591	144	100	126	69.5	167	17.7
pH (pH Units)	-	-	7.64	7.99	7.86	7.93	7.17	7.31	6.86
Total Suspended Solids mg/L			15.4	8.4	7.7	18.3	134	571	556
Total Dissolved Solids mg/L	-	-	-	-	-	-	-	-	-
Turbidity (NTU)	-	-	16.6	13.5	32.3	14	108	571	755
Anions and Nutrients mg/L									
Alkalinity, Total (as CaCO ₃)	-	-	625	126	100	123	44.1	126	10.4
Chloride (Cl)	1500	250	39.1	7.66	2.52	5.34	6.88	15.7	2.79
Fluoride (F)	2 (H < 50)	1.5							
	3 (H ≥ 50)		0.14	0.11	0.18	0.18	0.13	0.28	0.2
Nitrate (as N)	400	10	<0.010	0.017	0.014	<0.010	0.213	0.216	0.05
Nitrite (as N) ⁽²⁾ Cl <2 mg/L	0.2								
Cl 2 - <4 mg/L	0.4	3.2			<0.010				<0.010
Cl 4 - <6 mg/L	0.6					<0.010			
Cl 6 - <8 mg/L	0.8						<0.010		
Cl 8 - <10 mg/L	1			<0.010				<0.010	
Cl ≥ 10 mg/L	2		<0.010						
Sulfate (SO ₄)	1000	500	101	43	22.4	20.2	28.1	46	8.6

Notes: Refer to Table Endnotes (attached)

Table GW2: Analytical Results for Total Metals in Groundwater

Sample Location			CSR Standards ⁽¹⁾		MW-6	MW-3S	MW-3D	MW-2	SB1	SB2	SB3
As-built Well Depths					47m	23m	46m	43m	4.01m	3.28m	3.53m
Sample ID					8020060-01	8020060-02	8020060-03	8020060-04	8020060-08	8020060-09	8020060-10
Date Sampled					MW6	MW3S	MW3D	MW2	SB1	SB2	SB3
Physical Tests mg/L			Aquatic Life	Drinking Water	2018-01-31	2018-01-31	2018-01-31	2018-01-31	2018-01-31	2018-01-31	2018-01-31
Hardness (as CaCO3)			-	-	591	144	100	126	69.5	167	17.7
Total Metals mg/L			-	-	0.375	0.0749	0.0736	0.422	4.18	18.3	18.8
Aluminum (Al)-Total			-	-	0.00021	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00025
Antimony (Sb)-Total			-	-	0.00413	0.00104	0.00125	0.00204	0.00058	0.00165	0.00275
Arsenic (As)-Total			-	-	0.0901	0.0325	0.0214	0.033	0.0246	0.0774	0.0771
Barium (Ba)-Total			-	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00049	0.00031
Beryllium (Be)-Total			-	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Total			-	-	0.0803	0.0274	0.0272	0.0261	0.0077	0.0149	<0.00050
Boron (B)-Total			-	-	0.000176	0.000222	0.000097	0.000023	0.000028	0.000062	0.000066
Cadmium (Cd)-Total			-	-	173	48.2	33.2	40.2	25.1	62.2	12.7
Calcium (Ca)-Total			-	-	0.00085	0.00073	<0.00050	0.00078	0.00523	0.0156	0.041
Chromium (Cr)-Total			-	-	0.0026	0.00096	0.00039	0.00069	0.00466	0.0168	0.022
Cobalt (Co)-Total			-	-	0.00347	0.00044	<0.00040	0.00072	0.0124	0.0652	0.0671
Copper (Cu)-Total			-	-	2.33	0.119	0.145	0.909	5.08	24.4	26.3
Iron (Fe)-Total			-	-	0.00112	<0.00020	<0.00020	0.00027	0.00482	0.00608	0.0104
Lead (Pb)-Total			-	-	0.0119	<0.00010	<0.00010	<0.00010	0.00117	0.00531	0.00843
Lithium (Li)-Total			-	-	34.1	7.15	5.43	7.22	3.82	12.7	9.12
Magnesium (Mg)-Total			-	-	2.12	0.417	0.279	0.491	0.153	1.11	0.499
Manganese (Mn)-Total			-	-	<0.00010	<0.00010	<0.00010	<0.00010	0.000016	0.000015	0.000018
Mercury (Hg)-Total			-	-	0.00109	0.00639	0.0067	0.00421	0.0004	0.00103	0.00042
Molybdenum (Mo)-Total			-	-	0.0053	0.00169	0.00155	0.00133	0.00689	0.0154	0.0349
Nickel (Ni)-Total			-	-	<0.00050	0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Phosphorus (P)-Total			-	-	12.3	6.9	6.9	7.8	8	31.5	27.7
Potassium (K)-Total			-	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	0.000054	0.000074
Selenium (Se)-Total			-	-	65.4	13.5	11.1	9.31	3.94	13.3	2.36
Silicon (Si)-Total			-	-	0.593	0.246	0.205	0.176	0.0719	0.209	0.0587
Silver (Ag)-Total			-	-	24.5	14.3	7.9	6.3	10.8	15.7	<3.0
Sodium (Na)-Total			-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Strontium (Sr)-Total			-	-	0.000075	0.000029	<0.000020	<0.000020	<0.000020	0.000058	0.000056
Sulfur (S)-Total			-	-	<0.00010	<0.00010	0.00017	<0.00010	<0.00010	0.0007	0.00058
Tellurium (Te)-Total			-	-	0.00091	<0.00020	<0.00020	<0.00020	0.0004	0.00039	0.00059
Thallium (Tl)-Total			-	-	0.0208	<0.00050	<0.00050	0.0249	0.225	0.753	0.821
Thorium (Th)-Total			-	-	0.00783	0.00112	0.000706	0.000899	0.000319	0.00153	0.000707
Tin (Sn)-Total			-	-	<0.00010	<0.00010	<0.00010	0.0018	0.0122	0.0421	0.0559
Titanium (Ti)-Total			-	-	0.0088	<0.0040	<0.0040	<0.0040	0.0156	0.0564	0.0701
Uranium (U)-Total			-	-	0.00024	0.00013	0.00026	0.00014	<0.00010	0.00024	0.00048
Vanadium (V)-Total			-	-							
Zinc (Zn)-Total			-	-							
Zirconium (Zr)-Total			-	-							

Notes: Refer to Table Endnotes (attached)

Table GW3: Analytical Results for Dissolved Metals in Groundwater

Sample Location	CSR Standards ⁽¹⁾		MW-6	MW-3S	MW-3D	MW-2	SB1	SB2	SB3
As-built Well Depths			47m	23m	46m	43m	4.01m	3.28m	3.53m
Sample ID			8020060-01	8020060-02	8020060-03	8020060-04	8020060-08	8020060-09	8020060-10
			MW6	MW3S	MW3D	MW2	SB1	SB2	SB3
Date Sampled	Aquatic Life	Drinking Water	2018-01-31	2018-01-31	2018-01-31	2018-01-31	2018-01-31	2018-01-31	2018-01-31
Physical Tests mg/L			591	144	100	126	69.5	167	17.7
Hardness (as CaCO ₃)	-	-							
Dissolved Metals mg/L									
Aluminum (Al)-Dissolved	-	9.5	<0.0050	<0.0050	0.0134	<0.0050	0.0075	<0.0050	0.0157
Antimony (Sb)-Dissolved	0.2	0.006	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Arsenic (As)-Dissolved	0.05	0.01	0.00405	0.00097	0.00121	0.00183	<0.00050	<0.00050	<0.00050
Barium (Ba)-Dissolved	10	1	0.0827	0.0273	0.0189	0.029	<0.0050	<0.0050	<0.0050
Beryllium (Be)-Dissolved	0.053	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Dissolved	-	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Boron (B)-Dissolved	50	5	0.0728	0.0199	0.0222	0.0224	0.0061	0.0169	0.0053
Cadmium (Cd)-Dissolved	0.0001 (H<30) 0.0003 (H=30 <90) 0.0005 (H=90 <150) 0.0006 (H=150 <210)	0.005		0.000011	0.000011	<0.000010	<0.000010		<0.000010
Calcium (Ca)-Dissolved	-	-	178	46.3	31.5	38.9	23.6	55.1	5.63
Chromium (Cr)-Dissolved	0.01	0.05	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Colbal (Co)-Dissolved	0.04	-	0.00227	0.00085	0.00032	0.00036	<0.00010	<0.00010	<0.00010
Copper (Cu)-Dissolved	0.02 (H<50) 0.03 (H=50 <75) 0.04 (H=75 <100) 0.05 (H=100 <125) 0.06 (H=125 <150) 0.07 (H=150 <175) 0.08 (H=175 <200) 0.09 (H=200)	1			<0.00040		0.00042		0.00046
Iron (Fe)-Dissolved	0.04 (H<50) 0.05 (H=50 <100) 0.06 (H=100 <200) 0.11 (H=200 <300) 0.16 (H=300)	6.5	1.86	0.039	0.078	0.231	<0.010	<0.010	0.015
Lead (Pb)-Dissolved		0.01					<0.00020	<0.00020	<0.00020
Lithium (Li)-Dissolved	-	-	0.0119	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Magnesium (Mg)-Dissolved	-	100	35.5	6.88	5.19	6.95	2.57	7.06	0.888
Manganese (Mn)-Dissolved	-	0.55	2.02	0.384	0.247	0.44	0.0006	0.0203	0.00094
Mercury (Hg)-Dissolved	0.001	0.001	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum (Mo)-Dissolved	10	0.25	0.00073	0.00066	0.00634	0.00398	0.00032	0.00066	0.00026
Nickel (Ni)-Dissolved	0.25 (H<60) 0.65 (H=60 <120) 1.1 (H=120 <180) 1.5 (H=180)	-			0.00122		0.0026		<0.00040
Phosphorus(P)-Dissolved	-	-	0.00376	0.0014		0.00088		0.00064	
Potassium (K)-Dissolved	-	-	<0.050	0.057	0.099	0.145	<0.050	<0.050	<0.050
Selenium (Se)-Dissolved	0.01	0.01	3.88	0.91	0.61	0.7	0.3	1	0.15
Silicon (Si)-Dissolved	-	-	0.00056	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silver (Ag)-Dissolved	0.0005 (H<100) 0.015 (H=100)	-	11.5	6	5.8	6.4	2.2	4.7	<1.0
Sodium (Na)-Dissolved	-	200	<0.000050	<0.000050		<0.000050	<0.000050	<0.000050	<0.000050
Strontium (Sr)-Dissolved	-	-	70.8	13.6	11	9.46	3.95	14.1	1.56
Sulfur (S)-Dissolved	-	-	0.549	0.211	0.172	0.152	0.0559	0.148	0.012
Tellurium (Te)-Dissolved	-	-	25.4	14	6.9	6.6	10.5	17	3.8
Thallium (Tl)-Dissolved	0.003	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thorium (Th)-Dissolved	-	-	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Tin (Sn)-Dissolved	-	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Titanium (Ti)-Dissolved	1	-	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Uranium (U)-Dissolved	3	0.02	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Vanadium (V)-Dissolved	-	-	0.0073	0.000953	0.000568	0.000773	0.000101	0.000755	<0.000020
Zinc (Zn)-Dissolved	0.075 (H<90) 0.150 (H=90 <100) 0.900 (H=100 <200) 1.650 (H=200 <300) 2.4 (H=300 <400)	5	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Zirconium (Zr)-Dissolved	-	-					<0.0040		<0.0040
				<0.0040	<0.0040	<0.0040		<0.0040	
			<0.0040						
			0.00021	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010

Notes: Refer to Table Endnotes (attached)

Table GW4: Analytical Results for Hydrocarbons and PAHs in Groundwater

Sample Location			MW-6	MW-3S	MW-3D	MW-2	SB1	SB2	SB3
As-built Well Depths			47m	23m	46m	43m	4.01m	3.28m	3.53m
Sample ID			8020060-01	8020060-02	8020060-03	8020060-04	8020060-08	8020060-09	8020060-10
Date Sampled			MW6	MW3S	MW3D	MW2	SB1	SB2	SB3
Aquatic Life			2018-01-31	2018-01-31	2018-01-31	2018-01-31	2018-01-31	2018-01-31	2018-01-31
Drinking Water									
Hydrocarbons ug/L			<250	<250	<250	<250	<250	<250	<250
EPH10-19	5000	5000							
EPH10-19 (SG)	5000	5000							
EPH19-32	-	-	254	<250	<250	<250	<250	<250	<250
EPH19-32 (SG)	-	-							
LEPH	500	-	<250	<250	<250	<250	<250	<250	<250
HEPH	-	-	253	<250	<250	<250	<250	<250	<250
Polycyclic Aromatic Hydrocarbons ug/L									
Acenaphthene	60	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acenaphthylene	-	-	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
Acridine	0.5	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Anthracene	1	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benz(a)anthracene	1	-	0.084	<0.010	<0.010	<0.010	<0.010	<0.010	0.024
Benzo(a)pyrene	0.1	0.01	0.074	<0.010	<0.010	0.017	<0.010	<0.010	0.038
Benzo(b)fluoranthene	-	-	-	-	-	-	-	-	-
Benzo(b+)fluoranthene	-	-	0.307	<0.050	<0.050	<0.050	<0.050	<0.050	0.085
Benzo(g,h,i)perylene	-	-	0.178	<0.050	<0.050	<0.050	<0.050	<0.050	0.084
Benzo(k)fluoranthene	-	-	0.167	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2-Chloronaphthalene			<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Chrysene	1	-	0.1	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibenz(a,h)anthracene	-	-	0.156	<0.010	<0.010	0.037	<0.010	<0.010	0.058
Fluoranthene	2	-	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Fluorene	120	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Indeno(1,2,3-c,d)pyrene	-	-	0.175	<0.050	<0.050	<0.050	<0.050	<0.050	0.073
1-Methylnaphthalene			<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
2-Methylnaphthalene			<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Naphthalene	10	-	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
Phenanthrene	3	-	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Pyrene	0.2	-	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.026
Quinoline	34	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

Notes: Refer to Table Endnotes (attached)

Analytical Table Footnotes: Analytical Results for Groundwater

All concentrations in mg/L, except pH or as indicated.

"<" less than the laboratory detection limit indicated.

"_" means not analyzed or no standard or guideline applies.

* RPDs are not normally calculated where one or more concentrations are less than five times MDL.

(1) A compendium of CSR Schedules 6 and 10 guidelines with respect to Drinking Water (DW) and Freshwater Aquatic Life (AW).

(2) Standard is dissolved Chloride-dependent.

BOLD, UNDERLINE

Laboratory Detection Limit exceeds one or more applicable Standard

BLUE SHADING

Concentration greater than CSR Aquatic Life (AW) Standard

BOLD, BEIGE TEXT

Concentration greater than CSR Drinking Water (DW) Standard

Table 1: Analytical Results for Nutrients in Surface Water			SHA-LE-1	SHA-SW-2	SHA-SW-1	FIELD BLANK
Laboratory ID	BC DRINKING WATER QUALITY GUIDELINES	BC FRESHWATER AQUATIC LIFE WATER QUALITY GUIDELINES	8020060-05	8020060-07	8020060-11	8020060-12
Sample ID			LE-1	SW2	SW1	FB
Date Sampled/Time			2018-01-31	2018-01-31	2018-01-31	2018-01-31
Physical Tests						
Colour, True (Colour Units)	15 TCU	15 ⁽¹⁾ units absolute, or 5 units above background (30-day average)	5.8	7.7	5.2	<5.0
Total Dissolved Solids (mg/L)	-	-	-	-	-	-
Total Suspended Solids (mg/L)	-	25 mg/L above background (24-hr during	<2.2	<2.2	<2.0	<2.0
pH	7-10.5	6.5-9	7.29	6.48	7.44	5.39
Conductivity (uS/cm)	-	-	9790	16.1	202	<2.0
Hardness (as CaCO3)	-	-	2600	4.99	85.5	<0.500
Turbidity (NTU)	Δ1 NTU	8 NTU above background (24-hr during clear flow	<0.10	1.59	4.75	<0.10
	5 NTU at any time when background is 8 - 50 NTU during high flows or in turbid waters	Change from background of 5 NTU at any time when background is 8 - 50 NTU during high flows or in turbid waters				
Anions and Nutrients mg/L						
Alkalinity Total (as CaCO3)	<10 high sensitivity to acid inputs		60.6	3.1	51.4	<1.0
Acid Sensitivity	moderate sensitivity to acid inputs		Low	High	Low	High
Chloride (Cl)	250 mg/L	600 mg/L (instant max), 150 mg/L (30-day average)	2700	1.31	6.01	<0.10
Fluoride (F)	1.5 mg/L (instant max) 1.0 mg/L (30-day average)	0.4 (Hardness <10mg/L) Hardness-Dependent AW (Hardness is ≥10mg/L) ⁽²⁾	<1.00	<0.10	<0.10	<0.10
			0.28	0.23	0.29	0.16
Nitrate (as N)	45 mg/L	32.8 mg/L (instant maximum) 3.0 mg/L (30-day average)	1.66	<0.010	0.247	<0.010
Nitrite (as N) ⁽³⁾	3 mg/L	Cl > 10 mg/L 0.6 mg/L (MAX), 0.2 mg/L (30-day average)	<0.100	<0.010	<0.010	<0.010
Sulfate (SO4) H 0-30 mg/L	500 mg/L	128 mg/L (30-day average)		1.5		<1.0
H 31 - 75 mg/L		218 mg/L (30-day average)				
H 76 - 180 mg/L		309 mg/L (30-day average)			36.3	
H 181 - 250 mg/L		429 mg/L (30-day average)				
H > 250 mg/L		TBD	1320			

Notes: Refer to Table Endnotes (attached)

Table 2: Analytical Results for Total Metals in Surface Water			SHA-LE-1	SHA-SW-2	SHA-SW-1	FIELD BLANK
Laboratory ID	BC DRINKING WATER QUALITY GUIDELINES	BC FRESHWATER AQUATIC LIFE WATER QUALITY GUIDELINES	8020060-05	8020060-07	8020060-11	8020060-12
Sample ID			LE-1	SW2	SW1	FB
Date Sampled/Time			2018-01-31	2018-01-31	2018-01-31	2018-01-31
Physical Tests						
Hardness (as CaCO3) (mg/L)	-	-	2600	4.99	85.5	<0.500
pH	7-10.5	6.5-9	7.29	6.48	7.44	5.39
Total Metals (mg/L)						
Aluminum (Al)-Total	0.2	-	0.0728	0.151	0.147	<0.0050
Antimony (Sb)-Total	-	-	0.00109	<0.00020	<0.00020	<0.00020
Arsenic (As)-Total	0.01	0.005	<0.00050	<0.00050	<0.00050	<0.00050
Barium (Ba)-Total	-	-	0.0706	<0.0050	0.0053	<0.0050
Beryllium (Be)-Total	-	-	<0.00010	<0.00010	<0.00010	<0.00010
Bismuth, total	-	-	<0.00010	<0.00010	<0.00010	<0.00010
Boron (B)-Total	5	1.2	0.226	0.0182	0.0121	<0.0050
Cadmium (Cd)-Total	-	-	0.00039	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	-	-	728	1.82	29.2	<0.20
Chromium (Cr)-Total Chromium	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Chromium (Cr(III))	-	-	-	-	<0.00100	-
Chromium (Cr(VI))	-	-	-	-	<0.0010	-
Cobalt (Co)-Total	-	0.110 (Short Term), 0.004 (Long Term Average)	0.00385	0.00013	<0.00010	<0.00010
		Hardness-Dependent ⁽¹⁾	0.00236	0.00102	0.00138	<0.00040
Copper (Cu)-Total	0.5	Hardness-Dependent BCAWQG to protect AW ⁽¹⁸⁾ (instant max)	0.2464	0.0025	0.0100	-
		Hardness-Dependent BCAWQG to protect AW ⁽¹⁸⁾ (30-d average)	0.1040	0.0020	0.0034	-
Iron (Fe)-Total	-	1	0.065	0.207	0.165	<0.010
		Hardness-Dependent ⁽¹⁾	<0.00020	<0.00020	<0.00020	<0.00020
		Hardness-Dependent BCAWQG to protect AW ⁽¹⁸⁾ (instant max)	5.1664	0.0030	0.0669	-
Lead (Pb)-Total	0.01	Hardness-Dependent BCAWQG to protect AW ⁽¹⁸⁾ (30-d average)	0.2048	Hardness is less than 8 mg/L	0.0059	-
Lithium (Li)-Total	-	-	<0.00010	<0.00010	<0.00010	<0.00010
Magnesium (Mg)-Total	-	-	210	0.36	4.02	<0.010
		Hardness-Dependent ⁽¹⁾	20.6	0.011	0.00286	<0.00020
		Hardness-Dependent BCAWQG to protect AW ⁽¹⁸⁾ (instant max)	29.2	0.6	1.5	-
		Hardness-Dependent BCAWQG to protect AW ⁽¹⁸⁾ (30-d average)	12.0	0.6	1.0	-
Mercury (Hg)-Total	0.001	0.00002	<0.000010	<0.000010	<0.000010	-
Molybdenum (Mo)-Total	0.25	51 (instant max) 2 (30-d average)	0.00283	<0.00010	0.00066	<0.00010
		0.025 (Hardness-Dependent ⁽¹⁸⁾ BCAWWQG to protect AW <=60mg/L)	0.00519	0.00048	0.00066	<0.00040
		Calculated Hardness-Dependent ⁽¹⁸⁾ BCAWWQG to protect AW (0.0015 mg/L CaCO3)	1.136	0.025	0.085	-
Nickel (Ni)-Total	-	-	<0.050	<0.050	<0.050	<0.050
Phosphorus(P)-Total	-	-	-	<0.050	<0.050	<0.050
Potassium (K)-Total	-	-	18.3	<0.10	0.47	<0.10
Selenium (Se)-Total	0.01	0.002	<0.00050	<0.00050	<0.00050	<0.00050
Silicon (Si)-Total	-	-	4.3	2.2	3.9	<1.0
Silver (Ag)-Total	-	HARDNESS <100mg/L 0.0001 (SHORT TERM), 0.00005 (LONG TERM), HARDNESS >100mg/L 0.003 (SHORT TERM), 0.0015 (LONG TERM)	0.000248	<0.000050	<0.000050	<0.000050
Sodium (Na)-Total	-	-	1350	1.3	5.27	<0.10
Strontium (Sr)-Total	-	-	3.78	0.0073	0.081	<0.0010
Sulfur (S)-Total	-	-	523	<3.0	13	<3.0
Tellurium (Te)-Total	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Thallium (Tl)-Total	-	-	0.000025	<0.000020	<0.000020	<0.000020
Thorium (Th)-Total	-	-	<0.00010	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	-	-	<0.00020	<0.00020	<0.00020	<0.00020
Titanium (Ti)-Total	-	-	<0.0050	<0.0050	0.0067	<0.0050
Uranium (U)-Total	-	-	0.000261	<0.000020	0.000246	<0.000020
Vanadium (V)-Total	-	-	<0.0010	<0.0010	<0.0010	<0.0010
		Hardness >90 mg/L	0.0126	<0.0040	<0.0040	<0.0040
		Hardness-Dependent BCAWQG to protect AW ⁽¹⁸⁾ (instant max)	1.916	0.033	0.033	-
		Hardness-Dependent BCAWQG to protect AW ⁽¹⁸⁾ (30-d average)	1.890	0.008	0.008	-
Zinc (Zn)-Total	5.0	-	<0.00010	<0.00010	<0.00010	<0.00010
Zirconium (Zr)-Total	-	-	<0.00010	<0.00010	<0.00010	<0.00010

Table 3: Analytical Results for Dissolved Metals in Surface Water			SHA-LE-1	SHA-SW-2	SHA-SW-1	FIELD BLANK
Laboratory ID	BC DRINKING WATER QUALITY GUIDELINES	BC FRESHWATER AQUATIC LIFE WATER QUALITY GUIDELINES	8020060-05	8020060-07	8020060-11	8020060-12
Sample ID			LE-1	SW2	SW1	FB
Date Sampled/Time			2018-01-31	2018-01-31	2018-01-31	2018-01-31
Physical Tests						
Hardness (as CaCO ₃) (mg/L)	-	-	2600	4.99	85.5	<0.500
pH	7-10.5	6.5-9	7.29	6.48	7.44	5.39
Dissolved Metals (mg/L)						
Aluminum (Al)-Dissolved	-	0.05 (30-day average where median pH > 6.5) 0.1 (maximum where instantaneous pH > 6.5) *** indicates pH-dependent maximum where instant pH < 6.5	0.0112	0.0631	<0.0050	<0.0050
		pH/Hardness Dependent BCAWQG to protect AW ⁽⁴⁾ (instant max)	0.279	0.082	0.364	-
		pH/Hardness Dependent BCAWQG to protect AW ⁽⁴⁾ (30-d Mean)	0.275	0.046	0.406	-
Antimony (Sb)-Dissolved	-	-	0.00079	<0.00020	<0.00020	<0.00020
Arsenic (As)-Dissolved	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Barium (Ba)-Dissolved	-	-	0.0624	<0.0050	<0.0050	<0.0050
Beryllium (Be)-Dissolved	-	-	<0.00010	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Dissolved	-	-	<0.00010	<0.00010	<0.00010	<0.00010
Boron (B)-Dissolved	-	-	0.203	0.0069	0.0119	<0.0050
Cadmium (Cd)-Dissolved	-	Hardness-Dependent ⁽³⁾	0.000336	<0.000010	<0.000010	<0.000010
	-	Calculated Hardness-Dependent ⁽³⁾ BCAWQG to protect AW (short-term max) $e[1.03 * \ln(Hss) - 5.274]$ ug/L H<455mg/L	Hardness exceeds 455mg/L	0.00003	0.00050	-
	-	Calculated Hardness-Dependent BCAWQG to protect AW ⁽³⁾ (long-term max) $e[0.736 * \ln(Hss) - 4.943]$ ug/L H<285mg/L	Hardness exceeds 285mg/L	0.00002	0.00019	-
Calcium (Ca)-Dissolved	-	up to 4, highly sensitive to acid inputs 4 to 8, moderately sensitive over 8 low sensitivity	715	1.46	27.6	<0.20
Chromium (Cr)-Dissolved	-	-	Low	High	Low	High
Cobalt (Co)-Dissolved	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Copper (Cu)-Dissolved	-	-	0.00356	<0.00010	<0.00010	<0.00010
Iron (Fe)-Dissolved	-	0.35	0.00191	0.00045	0.00085	<0.00040
Lead (Pb)-Dissolved	-	-	<0.010	0.011	<0.010	<0.010
Lithium, dissolved	-	-	<0.00020	<0.00020	<0.00020	<0.00020
Magnesium (Mg)-Dissolved	-	-	0.00015	<0.00010	<0.00010	<0.00010
Manganese (Mn)-Dissolved	-	-	197	0.325	4.02	<0.010
Mercury (Hg)-Dissolved	-	-	17.9	0.00613	<0.00020	<0.00020
Molybdenum (Mo)-Dissolved	-	-		<0.000010	<0.000010	
Nickel (Ni)-Dissolved	-	-	0.00254	<0.00010	0.0006	<0.00010
Phosphorus (P)-Dissolved	-	-	0.00446	<0.00040	<0.00040	<0.00040
Potassium (K)-Dissolved	-	-	<0.050	<0.050	<0.050	<0.050
Selenium (Se)-Dissolved	-	-	17.2	0.12	0.48	<0.10
Silicon (Si)-Dissolved	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Silver (Ag)-Dissolved	-	-	3.6	1.7	3	<1.0
Sodium (Na)-Dissolved	-	-	<0.000050	<0.000050	<0.000050	<0.000050
Strontium (Sr)-dissolved	-	-	1350	1.17	5.3	<0.10
Sulfur (S)-Dissolved	-	-	3.18	0.0062	0.0686	<0.0010
Tellurium (Te)-Dissolved	-	-	508	<3.0	11.9	<3.0
Thallium (Tl)-Dissolved	-	-	<0.00050	<0.00050	<0.00050	<0.00050
Thorium (Th)-Dissolved	-	-	<0.000020	<0.000020	<0.000020	<0.000020
Tin (Sn)-Dissolved	-	-	<0.00010	<0.00010	<0.00010	<0.00010
Titanium (Ti)-Dissolved	-	-	<0.00020	<0.00020	<0.00020	<0.00020
Uranium (U)-Dissolved	-	-	<0.0050	<0.0050	<0.0050	<0.0050
Vanadium (V)-Dissolved	-	-	0.00022	<0.000020	0.000206	<0.000020
Zinc (Zn)-Dissolved	-	-	<0.0010	<0.0010	<0.0010	<0.0010
Zirconium (Zr)-Dissolved	-	-	0.0099	<0.0040	<0.0040	<0.0040
			<0.00010	<0.00010	<0.00010	<0.00010

Notes: Refer to Table Endnotes (attached)

Table 4: Analytical Results for Hydrocarbons and PAHs in			SHA-LE-1	SHA-SW-2	SHA-SW-1	FIELD BLANK
Laboratory ID	BC DRINKING	BC FRESHWATER AQUATIC LIFE WATER QUALITY GUIDELINES	8020060-05	8020060-07	8020060-11	8020060-12
Sample ID			LE-1	SW2	SW1	FB
Date Sampled/ Time			2018-01-31	2018-01-31	2018-01-31	2018-01-31
Hydrocarbons ug/L						
LEPH	-	-	<250	<250	<250	<250
HEPH	-	-	<250	<250	<250	<250
Polycyclic Aromatic						
Acenaphthene	-	6 (LONG TERM)	<0.050	<0.050	<0.050	<0.050
Acenaphthylene	-	-	<0.200	<0.200	<0.200	<0.200
Acridine	-	3 (LONG TERM), 0.05 (PHOTOTOXIC)	<0.050	<0.050	<0.050	<0.050
Anthracene	-	4 (LONG TERM), 0.1 (PHOTOTOXIC)	<0.010	<0.010	<0.010	<0.010
Benz(a)anthracene	0.01	0.1 (LONG TERM), 0.1 (PHOTOTOXIC)	<0.010	<0.010	<0.010	<0.010
Benzo(a)pyrene	-	0.01 (LONG TERM)	<0.010	<0.010	<0.010	<0.010
Benzo(b)fluoranthene	-	-	-	-	-	-
Benzo(b+)fluoranthene	-	-	<0.050	<0.050	<0.050	<0.050
Benzo(g,h,i)perylene	-	-	<0.050	<0.050	<0.050	<0.050
Benzo(k)fluoranthene	-	-	<0.050	<0.050	<0.050	<0.050
2-Chloronaphthalene			<0.100	<0.100	<0.100	<0.100
Chrysene	-	-	<0.050	<0.050	<0.050	<0.050
Dibenz(a,h)anthracene	-	-	<0.010	<0.010	<0.010	<0.010
Fluoranthene	-	4 (LONG TERM), 0.2 (PHOTOTOXIC)	<0.030	<0.030	<0.030	<0.030
Fluorene	-	12 (LONG TERM)	<0.050	<0.050	<0.050	<0.050
Indeno(1,2,3-c,d)pyrene	-	-	<0.050	<0.050	<0.050	<0.050
1-Methylnaphthalene			<0.100	<0.100	<0.100	<0.100
2-Methylnaphthalene			<0.100	<0.100	<0.100	<0.100
Naphthalene	-	1 (LONG TERM)	<0.200	<0.200	<0.200	<0.200
Phenanthrene	-	0.3 (LONG TERM)	<0.100	<0.100	<0.100	<0.100
Pyrene	-	0.02 (PHOTOTOXIC)	<0.020	<0.020	<0.020	<0.020
Quinoline	-	-	<0.050	<0.050	<0.050	<0.050

Notes: Refer to Table Endnotes (attached)

Analytical Table Footnotes: Analytical Results for Surface Water

- All concentrations in mg/L, except pH or as indicated.
- "<" less than the laboratory detection limit indicated.
- "-" means not analyzed or no standard or guideline applies.
- * RPDs are not normally calculated where one or more concentrations are less than five times RDL.
- (1) Guideline of 15 mg/L Pt for Drinking Water. Once background levels are established, colour should also not exceed 5 mg/L above background, to protect for Aquatic Life. This is considered a clearwater system (background less than 20 mg/L Pt.)
- (2) Nitrite BCAWWQG Guideline is Chloride dependent
- (3) Standard is calculated based on the hardness dependent BCAWWQG formula, and has been calculated and shown for each individual result
- (4) pH-dependent maximum where instant pH < 6.5

BOLD, UNDERLINE

Laboratory Detection Limit exceeds one or more applicable Standard

BOLD, BLUE SHADING

Concentration greater than BCAWWQG Guideline

BOLD, BEIGE SHADING

Concentration greater than BCAWWQG Chronic Guideline

BOLD, GREEN SHADING

Concentration greater than BC Ministry of Environment Drinking Water Sources

RED FONT

Concentration less than laboratory detection limit (Formula 0.5MRL utilized for statistical analysis)