

From: SPOMO1701@outlook.com
To: [Environmental Compliance ENV:EX](#); marty@chholdings.ca
Subject: SPO MO1701-Status Update October 15, 2018
Date: Monday, October 15, 2018 8:33:07 PM
Attachments: [Oct15_2018 CHH Progress Report.pdf](#)
[CHH_COA Leachate SEP 2018.pdf](#)
[CHH_COA Leachate SEP 2018.xlsx](#)
[CHH_COA SEP 2018.pdf](#)
[CHH_COA SEP 2018.xlsx](#)
[Sep 2018-CHH SUBMITTAL-Ground Water Quality DATA-CLOSURE PLAN.pdf](#)
[Sep 2018-CHH SUBMITTAL-Surface Water Quality DATA-CLOSURE PLAN.pdf](#)

- ***Please find information regarding the Leachate reporting requirements for the Oct 15, 2018 reporting period as per SPILL PREVENTION ORDER : MO1701 Section 1d***

Total Leachate Collected= 5.69 m³

Total Leachate Stored= 30.69 m³

Total Leachate Transported= 0 m³

- ***Sampling was conducted on September 26, 2018 as per Section 6biii of File 311372 August 11, 2017 letter. Tabulated laboratory results and COA's are attached.***

Sampling Summary:

1. *SHA-SW1*
2. *SHA-SW2 (No Flow)*
3. *MW6*
4. *MW3*
5. *MW2*
6. *SHA-LE-1*
7. *SHA-LD-1 (Dry)*
8. *SB-1*
9. *SB-2*
10. *SB-3 (Dry)*

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

Thank you



FIELD REVIEW REPORT		DATE: Oct 15, 2018	ISLANDER PROJECT No.: 2087
REPORT No: 30	STAGE OF CONSTRUCTION: Landfill Closure	WEATHER: Sun 14°C	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, with no noticeable changes since the date of our last inspection
- **Leachate and Leak Detention facility**
 - Total leachate collected: = 5.69 m³
 - Total leachate stored = 30.69 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

FIELD REVIEW REPORT	DATE: Oct 15, 2018	ISLANDER PROJECT No.: 2087
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REPORT No: 30	STAGE OF CONSTRUCTION: Landfill Closure	WEATHER: Sun 14°C	PAGE: 2 of 3
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SMA - looking south



SMA - looking north



Contact water containment Pond



Leak and leachate detection works

FIELD REVIEW REPORT	DATE: Oct 15, 2018	ISLANDER PROJECT No.: 2087
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REPORT No: 30	STAGE OF CONSTRUCTION: Landfill Closure	WEATHER: Sun 14°C	PAGE: 3 of 3
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PEA – liner near NE corner



PEA– NW corner



Cut-off ditch upland of PEA

Table 1: Analytical Results for Nutrients			SHA-LE-1	SHA-SW-1
Laboratory ID			8090550-01	8092576-07
Sample ID	BC DRINKING WATER QUALITY GUIDELINES	BC FRESHWATER AQUATIC LIFE WATER QUALITY GUIDELINES	Leachate Post Treatment	SW1
Date Sampled/Time			2018-09-05	2018-09-26
Physical Tests				
Colour, True (Colour Units)	15 TCU	15 ⁽¹⁾ units absolute, or 5 units above background (30-day average)	-	<5.0
Total Dissolved Solids (mg/L)	-	-	-	-
Total Suspended Solids (mg/L)	-	25 mg/L above background (24-hr during clear flow)	<2.0	<2.0
pH	7-10.5	6.5-9	7.28	7.35
Conductivity (uS/cm)	-	-	5680	617
Hardness (as CaCO ₃)	-	-	1300	260
Turbidity (NTU)	Δ1 NTU	8 NTU above background (24-hr during clear flow)	0.58	<0.10
Anions and Nutrients mg/L				
Alkalinity Total (as CaCO ₃)	<10 high sensitivity to acid inputs 10-20 moderate sensitivity to acid inputs >20 low sensitivity to acid inputs		26.9	127
Acid Sensitivity			Low	Low
Chloride (Cl)	250 mg/L	600 mg/L (instant max), 150 mg/L (30-day average)	1460	23.9
Fluoride (F)	1.5 mg/L (instant max) 1.0 mg/L (30-day average)	0.4 (Hardness <10mg/L)	<10.0	<0.10
		Hardness-Dependent AW (Hardness is >10mg/L) ⁽³⁾	0.28	0.28
Nitrate (as N)	45 mg/L	32.8 mg/L (instant maximum) 3.0 mg/L (30-day average)	0.829	0.694
Nitrite (as N) ⁽²⁾	3 mg/L	Cl > 10 mg/L 0.6 mg/L (MAX), 0.2 mg/L (30-day average)	<1.00	<0.010
Sulfate (SO ₄) H 0-30 mg/L	500 mg/L	128 mg/L 30-day average)		
H 31 - 75 mg/L		218 mg/L (30-day average)		
H 76 - 180 mg/L		309 mg/L (30-day average)		
H 181 - 250 mg/L		429 mg/L (30-day average)		
H > 250 mg/L		TBD	767	164

Notes: Refer to Table Endnotes (attached)

Table 2: Analytical Results for Total Metals			SHA-LE-1	SHA-SW-1
Laboratory ID	BC DRINKING WATER QUALITY GUIDELINES	BC FRESHWATER AQUATIC LIFE WATER QUALITY GUIDELINES	8090550-01	8092576-07
Sample ID			Leachate Post Treatment	SW1
Date Sampled/Time			2018-09-05	2018-09-26
Physical Tests				
Hardness (as CaCO ₃) (mg/L)	-	-	1300	260
pH	7-10.5	6.5-9	7.28	7.35
Total Metals (mg/L)				
Aluminum (Al)-Total	0.2	-	0.0163	0.0398
Antimony (Sb)-Total	-	-	<0.00020	<0.00020
Arsenic (As)-Total	0.01	0.005	<0.00050	<0.00050
Barium (Ba)-Total	-	-	0.0242	0.0201
Beryllium (Be)-Total	-	-	<0.00010	<0.00010
Bismuth, total	-	-	<0.00010	<0.00010
Boron (B)-Total	5	1.2	0.118	0.0207
Cadmium (Cd)-Total	-	-	0.000325	<0.000010
Calcium (Ca)-Total	-	-	353	90.4
Chromium (Cr)-Total Chromium	-	-	<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)	0.00294	0.00015
Copper (Cu)-Total	0.5	Hardness-Dependent ⁽⁷⁾	0.00255	0.00133
		Hardness-Dependent BCAWQG to protect AW ⁽³⁾ (instant max)	0.1242	0.0264
		Hardness-Dependent BCAWQG to protect AW ⁽³⁾ (30-d average)	0.0520	0.0104
Iron (Fe)-Total	-	1	<0.010	0.031
Lead (Pb)-Total	0.01	Hardness-Dependent ⁽⁸⁾	<0.00020	<0.00020
		Hardness-Dependent BCAWQG to protect AW ⁽³⁾ (instant max)	2.1379	0.2755
		Hardness-Dependent BCAWQG to protect AW ⁽³⁾ (30-d average)	0.0867	0.0141
Lithium (Li)-Total	-	-	0.0002	0.00027
Magnesium (Mg)-Total	-	-	103	12.7
Manganese (Mn)-Total	-	Hardness-Dependent ⁽⁸⁾	12.6	0.0417
		Hardness-Dependent BCAWQG to protect AW ⁽³⁾ (instant max)	14.9	3.4
		Hardness-Dependent BCAWQG to protect AW ⁽³⁾ (30-d average)	6.3	1.7
Mercury (Hg)-Total	0.001	0.00002	<0.000010	<0.000010
Molybdenum (Mo)-Total	0.25	≤1 (instant max) 2 (30-d average)	0.00069	0.00103
Nickel (Ni)-Total	-	0.025 (Hardness-Dependent ⁽⁸⁾ BCAWQG to protect AW H<60mg/L)	0.00421	0.00055
		Calculated Hardness-Dependent ⁽⁸⁾ BCAWQG to protect AW 60≤H≤180 mg/L CaCO ₃	0.671	0.197
Phosphorus(P)-Total	-	-	<0.050	<0.050
Potassium (K)-Total	-	-	8.87	1.05
Selenium (Se)-Total	0.01	0.002	<0.00050	0.0005
Silicon (Si)-Total	-	-	2.4	6.1
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)	<0.000050	<0.000050
Sodium (Na)-Total	-	-	674	13.5
Strontium (Sr)-Total	-	-	1.76	0.255
Sulfur (S)-Total	-	-	287	53.1
Tellurium (Te)-Total	-	-	<0.00050	<0.00050
Thallium (Tl)-Total	-	-	0.000029	<0.000020
Thorium (Th)-Total	-	-	<0.00010	<0.00010
Tin (Sn)-Total	-	-	<0.00020	<0.00020
Titanium (Ti)-Total	-	-	<0.0050	<0.0050
Uranium (U)-Total	-	-	0.000127	0.00172
Vanadium (V)-Total	-	-	<0.0010	0.001
Zinc (Zn)-Total	5.0	Hardness >90 mg/L	0.0182	<0.0040
		Hardness-Dependent BCAWQG to protect AW ⁽³⁾ (instant max)	0.941	0.161
		Hardness-Dependent BCAWQG to protect AW ⁽³⁾ (30-d average)	0.915	0.135
Zirconium (Zr)-Total	-	-	<0.00010	<0.00010

Table 3: Analytical Results for Dissolved Metals			SHA-LE-1	SHA-SW-1
Laboratory ID			8090550-01	8092576-07
Sample ID	BC DRINKING WATER QUALITY GUIDELINES	BC FRESHWATER AQUATIC LIFE WATER QUALITY GUIDELINES	Leachate Post Treatment	SW1
Date Sampled/Time			2018-09-05	2018-09-26
Physical Tests				
Hardness (as CaCO3) (mg/L)	-	-	1300	260
pH	7-10.5	6.5-9	7.28	7.35
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	<0.0050
		pH/Hardness Dependent BCAAQ to protect AW ⁽⁴⁾ (instant max)	0.274	0.310
		pH/Hardness Dependent BCAAQ to protect AW ⁽⁴⁾ (30-d Mean)	0.268	0.321
Antimony (Sb)-Dissolved	-	-	<0.00020	<0.00020
Arsenic (As)-Dissolved	-	-	<0.00050	<0.00050
Barium (Ba)-Dissolved	-	-	0.0249	0.0189
Beryllium (Be)-Dissolved	-	-	<0.00010	<0.00010
Bismuth (Bi)-Dissolved	-	-	<0.00010	<0.00010
Boron (B)-Dissolved	-	-	0.118	0.0175
Cadmium (Cd)-Dissolved	-	Hardness-Dependent⁽³⁾	0.000333	<0.000010
		Calculated Hardness-Dependent ⁽³⁾ BCAAQ to protect AW (short-term max) $e[1.03 * \ln(Hss) - 5.274]$ ug/L H<455mg/L	Hardness exceeds 455mg/L	0.00157
		Calculated Hardness-Dependent BCAAQ to protect AW ⁽³⁾ (long-term max) $e[0.736 * \ln(Hss) - 4.943]$ ug/L H<285mg/L	Hardness exceeds 285mg/L	0.00043
Calcium (Ca)-Dissolved	-	up to 4, highly sensitive to acid inputs 4 to 8, moderately sensitive over 8 low sensitivity	352	84.5
Chromium (Cr)-Dissolved	-	-	Low	Low
Cobalt (Co)-Dissolved	-	-	<0.00050	<0.00050
Copper (Cu)-Dissolved	-	-	0.00291	<0.00010
Iron (Fe)-Dissolved	-	-	0.00238	0.00089
Lead (Pb)-Dissolved	-	0.35	<0.010	<0.010
Lithium, dissolved	-	-	<0.00020	<0.00020
Magnesium (Mg)-Dissolved	-	-	0.00019	0.00014
Manganese (Mn)-Dissolved	-	-	101	11.9
Mercury (Hg)-Dissolved	-	-	12.6	0.00946
Molybdenum (Mo)-Dissolved	-	-	0.000042	<0.000040
Nickel (Ni)-Dissolved	-	-	0.0007	0.00097
Phosphorus (P)-Dissolved	-	-	0.00421	<0.00040
Potassium (K)-Dissolved	-	-	<0.050	<0.050
Selenium (Se)-Dissolved	-	-	8.8	1
Silicon (Si)-Dissolved	-	-	<0.00050	<0.00050
Silver (Ag)-Dissolved	-	-	2.4	6
Sodium (Na)-Dissolved	-	-	<0.000050	<0.000050
Strontium (Sr)-dissolved	-	-	670	12.5
Sulfur (S)-Dissolved	-	-	1.8	0.242
Tellurium (Te)-Dissolved	-	-	275	51.5
Thallium (Tl)-Dissolved	-	-	<0.00050	<0.00050
Thorium (Th)-Dissolved	-	-	0.000029	<0.000020
Tin (Sn)-Dissolved	-	-	<0.00010	<0.00010
Titanium (Ti)-Dissolved	-	-	<0.00020	0.00037
Uranium (U)-Dissolved	-	-	<0.0050	<0.0050
Vanadium (V)-Dissolved	-	-	0.000135	0.00157
Zinc (Zn)-Dissolved	-	-	<0.0010	<0.0010
Zirconium (Zr)-Dissolved	-	-	0.0224	<0.0040
			<0.00010	<0.00010

Notes: Refer to Table Endnotes (attached)

Table 4: Analytical Results for Hydrocarbons and PAHs			SHA-LE-1	SHA-SW-1
Laboratory ID	BC DRINKING WATER QUALITY	BC FRESHWATER AQUATIC LIFE WATER QUALITY GUIDELINES	8090550-01	8092576-07
Sample ID			Leachate Post Treatment	SW1
Date Sampled/ Time			2018-09-05	2018-09-26
Hydrocarbons ug/L				
LEPH	-	-	<250	<250
HEPH	-	-	<250	<250
Polycyclic Aromatic				
Acenaphthene	-	6 (LONG TERM)	<0.050	<0.050
Acenaphthylene	-	-	<0.200	<0.200
Acridine	-	3 (LONG TERM), 0.05 (PHOTOTOXIC)	<0.050	<0.050
Anthracene	-	4 (LONG TERM), 0.1 (PHOTOTOXIC)	<0.010	<0.010
Benz(a)anthracene	0.01	0.1 (LONG TERM), 0.1 (PHOTOTOXIC)	<0.010	<0.010
Benzo(a)pyrene	-	0.01 (LONG TERM)	<0.010	<0.010
Benzo(b)fluoranthene	-	-	-	-
Benzo(b+j)fluoranthene	-	-	<0.050	<0.050
Benzo(g,h,i)perylene	-	-	<0.050	<0.050
Benzo(k)fluoranthene	-	-	<0.050	<0.050
2-Chloronaphthalene			<0.100	<0.100
Chrysene	-	-	<0.050	<0.050
Dibenz(a,h)anthracene	-	-	<0.010	<0.010
Fluoranthene	-	4 (LONG TERM), 0.2 (PHOTOTOXIC)	<0.030	<0.030
Fluorene	-	12 (LONG TERM)	<0.050	<0.050
Indeno(1,2,3-c,d)pyrene	-	-	<0.050	<0.050
1-Methylnaphthalene			<0.100	<0.100
2-Methylnaphthalene			<0.100	<0.100
Naphthalene	-	1 (LONG TERM)	<0.200	<0.200
Phenanthrene	-	0.3 (LONG TERM)	<0.100	<0.100
Pyrene	-	0.02 (PHOTOTOXIC)	<0.020	0.033
Quinoline	-	-	<0.050	<0.050

Notes: Refer to Table Endnotes (attached)

Analytical Table Footnotes: Leachate and 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)

Table 1: Analytical Results for Nutrients

Sample Location	CSR Standards ⁽¹⁾		MW-6	MW-3S	MW-3D	MW-2	SB-1	SB2
	As-built Well Depths		47m	23m	46m	43m	4.01m	3.28m
Sample ID			8092576-01	8092576-02	8092576-03	8092576-04	8092576-05	8092576-06
Date Sampled	Aquatic Life	Drinking Water	MW6	MW3S	MW3D	MW2	SB1	SB2
			2018-09-26	2018-09-26	2018-09-26	2018-09-26	2018-09-26	2018-09-26
Physical Tests								
Colour, True (TCU)	-	-	5.3	<5.0	<5.0	5.4	<5.0	<5.0
Conductivity (uS/cm)	-	-	1300	359	253	290	464	674
Hardness (as CaCO3) mg/L	-	-	530	136	96.3	117	196	262
pH (pH Units)	-	-	7.17	7.7	7.66	7.74	7.4	6.98
Total Suspended Solids mg/L			8.8	13.6	10.4	25.2	216	120
Total Dissolved Solids mg/L	-	-	-	-	-	-	-	-
Turbidity (NTU)	-	-	6.9	1.95	3.22	10.1	47.2	33.5
Anions and Nutrients mg/L								
Alkalinity, Total (as CaCO3)	-	-	626	128	106	126	83.7	127
Chloride (Cl)	1500	250	37.2	12.9	2.57	5.65	1.37	32
Fluoride (F)	2 (H < 50)	1.5						
	3 (H ≥ 50)		0.19	<0.10	0.11	0.1	<0.10	<0.10
Nitrate (as N)	400	10	0.174	<0.010	<0.010	<0.010	0.778	1.1
Nitrite (as N) ^(*) Cl <2 mg/L	0.2	3.2					<0.010	
Cl 2 - <4 mg/L	0.4				<0.010			
Cl 4 - <6 mg/L	0.6					<0.010		
Cl 6 - <8 mg/L	0.8							
Cl 8 - <10 mg/L	1							
Cl ≥ 10 mg/L	2							
Sulfate (SO4)	1000	500	<0.010	<0.010				<0.010
			87.7	41.5	22.5	18.3	151	168

Notes: Refer to Table Endnotes (attached)

Table 2: Analytical Results for Total Metals

Sample Location	CSR Standards ⁽¹⁾		MW-6	MW-3S	MW-3D	MW-2	SB-1	SB2
As-built Well Depths			47m	23m	46m	43m	4.01m	3.28m
Sample ID			8092576-01	8092576-02	8092576-03	8092576-04	8092576-05	8092576-06
Date Sampled	Aquatic Life	Drinking Water	MW6	MW3S	MW3D	MW2	7102628-08	SB2
			2018-09-26	2018-09-26	2018-09-26	2018-09-26	2018-09-26	2018-09-26
Physical Tests mg/L								
Hardness (as CaCO3)	-	-	530	136	96.3	117	196	262
Total Metals mg/L								
Aluminum (Al)-Total	-	-	0.122	0.0956	0.161	0.419	5.14	4.36
Antimony (Sb)-Total	-	-	0.00078	<0.00020	<0.00020	0.00024	0.0003	<0.00020
Arsenic (As)-Total	-	-	0.00511	0.00125	0.00153	0.00206	0.00064	0.00053
Barium (Ba)-Total	-	-	0.0823	0.0318	0.021	0.0299	0.0358	0.0291
Beryllium (Be)-Total	-	-	<0.00010	<0.00010	<0.00010	<0.00010	0.00011	<0.00010
Bismuth (Bi)- Total	-	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Boron (B)-Total	-	-	0.0752	0.0219	0.0233	0.024	0.0091	0.0525
Cadmium (Cd)-Total	-	-	0.000064	0.000212	0.0003	0.000063	0.000037	0.00002
Calcium (Ca)-Total	-	-	167	48.4	32.4	38.8	75.1	90.1
Chromium (Cr)-Total	-	-	0.00052	<0.00050	0.0005	0.00071	0.00517	0.00432
Cobalt (Co)-Total	-	-	0.00296	0.00075	0.00053	0.00071	0.00696	0.00374
Copper (Cu)-Total	-	-	0.00233	0.00057	0.00058	0.00406	0.0176	0.0146
Iron (Fe)-Total	-	-	3.17	0.17	0.27	0.819	5.07	4.44
Lead (Pb)-Total	-	-	0.00102	<0.00020	<0.00020	0.00074	0.00872	0.00148
Lithium (Li)-Total	-	-	0.0116	0.00027	0.00025	0.00025	0.00162	0.00163
Magnesium (Mg)-Total	-	-	35.4	7.71	5.76	7.73	8.2	15.3
Manganese (Mn)-Total	-	-	2.06	0.431	0.361	0.521	0.198	0.179
Mercury (Hg)-Total	-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum (Mo)-Total	-	-	0.00132	0.00645	0.00695	0.00412	0.00037	0.00076
Nickel (Ni)-Total	-	-	0.00683	0.00156	0.00159	0.00156	0.00604	0.00426
Phosphorus(P)-Total	-	-	<0.050	0.08	0.121	0.186	0.163	0.147
Potassium (K)-Total	-	-	3.27	0.94	0.59	0.7	0.79	1.95
Selenium (Se)-Total	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon (Si)-Total	-	-	11.8	6.4	6.4	7.2	9.3	11.8
Silver (Ag)-Total	-	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Sodium (Na)-Total	-	-	64.2	15.1	11.2	9.66	5.77	23
Strontium (Sr)-Total	-	-	0.583	0.232	0.196	0.166	0.184	0.298
Sulfur (S)-Total	-	-	22.1	13.9	7	5.4	48.7	56
Tellurium (Te)-Total	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium (Tl)-Total	-	-	0.000034	0.000041	0.000033	0.000031	<0.000020	<0.000020
Thorium (Th)-Total	-	-	<0.00010	<0.00010	0.00021	<0.00010	<0.00010	0.00025
Tin (Sn)-Total	-	-	0.00111	0.00023	0.00024	<0.00020	0.00038	<0.00020
Titanium (Ti)-Total	-	-	0.0053	<0.0050	<0.0050	0.0162	0.212	0.221
Uranium (U)-Total	-	-	0.00691	0.00117	0.000792	0.000821	0.000981	0.00118
Vanadium (V)-Total	-	-	<0.0010	<0.0010	<0.0010	0.0019	0.0131	0.0104
Zinc (Zn)-Total	-	-	0.0137	<0.0040	0.0046	0.0108	0.0185	0.0129
Zirconium (Zr)-Total	-	-	0.00013	0.00011	0.00018	0.00013	0.00012	0.00024

Notes: Refer to Table Endnotes (attached)

Table 3: Analytical Results for Dissolved Metals

Sample Location	CSR Standards ⁽¹⁾		MW-6	MW-3S	MW-3D	MW-2	SB-1	SB2
	As-built Well Depths		47m	23m	46m	43m	4.01m	3.28m
Sample ID			8092576-01	8092576-02	8092576-03	8092576-04	8092576-05	8092576-06
			MW6	MW3S	MW3D	MW2	7102628-08	SB2
Date Sampled	Aquatic Life	Drinking Water	2018-09-26	2018-09-26	2018-09-26	2018-09-26	2018-09-26	2018-09-26
Physical Tests mg/L								
Hardness (as CaCO3)	-	-	530	136	96.3	117	196	262
Dissolved Metals mg/L								
Aluminum (Al)-Dissolved	-	9.5	<0.0050	<0.0050	<0.0050	0.0051	0.0079	<0.0050
Antimony (Sb)-Dissolved	0.2	0.006	0.00027	<0.00020	<0.00020	<0.00020	0.00024	<0.00020
Arsenic (As)-Dissolved	0.05	0.01	0.00422	0.00117	0.0014	0.00194	<0.00050	<0.00050
Barium (Ba)-Dissolved	10	1	0.0785	0.029	0.0197	0.0285	0.0098	0.0106
Beryllium (Be)-Dissolved	0.053	-	<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
Boron (B)-Dissolved	50	5	0.0692	0.0173	0.0195	0.02	0.0058	0.0467
Cadmium (Cd)-Dissolved	0.0001 (H<30)	0.005						
	0.0003 (H=30-<90)							
	0.0005 (H=90-<150)		<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
	0.0006 (H=150-<210)							
Calcium (Ca)-Dissolved	-	-	157	43.1	29.8	35.3	68	83.1
Chromium (Cr)-Dissolved	0.01	0.05	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Colbalt (Co)-Dissolved	0.04	-	0.00197	0.00059	0.00038	0.00031	0.0002	<0.00010
Copper (Cu)-Dissolved	0.02 (H<50)	1						
	0.03 (H=50-<75)							
	0.04 (H=75-<100)				<0.00040			
	0.05 (H=100-<125)					<0.00040		
	0.06 (H=125-<150)				<0.00040			
	0.07 (H=150-<175)							
	0.08 (H=175-<200)							0.00067
0.09 (H>200)			<0.00040				0.00082	
Iron (Fe)-Dissolved	-	6.5	2.66	0.087	0.134	0.243	<0.010	<0.010
Lead (Pb)-Dissolved	0.04 (H<50)	0.01			<0.00020			
	0.05 (H=50-<100)					<0.00020	<0.00020	
	0.06 (H=100-<200)							
	0.11 (H=200-<300)						<0.00020	
	0.16 (H>300)				<0.00020			
Lithium (Li)-Dissolved	-	-	0.0111	<0.00010	<0.00010	<0.00010	<0.00010	0.00012
Magnesium (Mg)-Dissolved	-	100	33.7	6.92	5.27	6.98	6.3	13.2
Manganese (Mn)-Dissolved	-	0.55	1.96	0.389	0.331	0.473	0.00127	0.00117
Mercury (Hg)-Dissolved	0.001	0.001	<0.000040	<0.000040	<0.000040	<0.000040	<0.000040	<0.000040
Molybdenum (Mo)-Dissolved	10	0.25	0.00045	0.00579	0.00597	0.00366	0.00037	0.00066
Nickel (Ni)-Dissolved	0.25 (H<60)	-			0.00101	0.00046		
	0.65 (H=60-<120)							
	1.1 (H=120-<180)							
	1.5 (H>=180)		0.00179			0.00085	<0.00040	
Phosphorus(P)-Dissolved	-	-	<0.050	0.058	0.091	0.151	<0.050	<0.050
Potassium (K)-Dissolved	-	-	3.11	0.84	0.54	0.62	0.48	1.38
Selenium (Se)-Dissolved	0.01	0.01	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon (Si)-Dissolved	-	-	11.3	5.9	5.8	6.5	3.2	5.3
Silver (Ag)-Dissolved	0.0005 (H<=100)	-			<0.000050			
	0.015 (H>100)		<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	
Sodium (Na)-Dissolved	-	200	59.6	13.5	10.1	8.81	5.11	21.3
Strontium (Sr)-Dissolved	-	-	0.566	0.215	0.184	0.158	0.168	0.274
Sulfur (S)-Dissolved	-	-	21.1	13.1	6.9	4.6	47.7	54.7
Tellurium (Te)-Dissolved	-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium (Tl)-Dissolved	0.003	-	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Thorium (Th)-Dissolved	-	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin (Sn)-Dissolved	-	-	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Titanium (Ti)-Dissolved	1	-	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Uranium (U)-Dissolved	3	0.02	0.00673	0.00102	0.000607	0.000727	0.000597	0.000911
Vanadium (V)-Dissolved	-	-	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Zinc (Zn)-Dissolved	0.075 (H<90)	5			<0.0040			
	0.150 (H=90-<100)							
	0.900 (H=100-<200)			<0.0040		<0.0040	<0.0040	
	1.650 (H=200-<300)						<0.0040	
2.4 (H=300-<400)			<0.0040					
Zirconium (Zr)-Dissolved	-	-	0.00016	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010

Notes: Refer to Table Endnotes (attached)

Table 4: Analytical Results for Hydrocarbons and PAHs

Sample Location	CSR Standards ⁽¹⁾		MW-6	MW-3S	MW-3D	MW-2	SB-1	SB2
	As-built Well Depths		47m	23m	46m	43m	4.01m	3.28m
Sample ID			8092576-01	8092576-02	8092576-03	8092576-04	8092576-05	8092576-06
Date Sampled	Aquatic Life	Drinking Water	MW6	MW3S	MW3D	MW2	7102628-08	SB2
			2018-09-26	2018-09-26	2018-09-26	2018-09-26	2018-09-26	2018-09-26
Turbidity (NTU)	-	-	6.9	1.95	3.22	10.1	47.2	33.5
Hydrocarbons ug/L								
EPH10-19	5000	5000	<250	<250	<250	<250	<250	<250
EPH10-19 (SG)	5000	5000						
EPH19-32	-	-	<250	<250	<250	<250	<250	<250
EPH19-32 (SG)	-	-						
LEPH	500	-	<250	<250	<250	<250	<250	<250
HEPH	-	-	<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
Acenaphthylene	-	-	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
Acridine	0.5	-	<0.050	<0.050	<0.050	0.072	<0.050	<0.050
Anthracene	1	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benz(a)anthracene	1	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(a)pyrene	0.1	0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(b)fluoranthene	-	-	-	-	-	-	-	-
Benzo(b+j)fluoranthene	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(g,h,i)perylene	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(k)fluoranthene	-	-	<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
Chrysene	1	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibenz(a,h)anthracene	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Fluoranthene	2	-	<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
Indeno(1,2,3-c,d)pyrene	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1-Methylnaphthalene			<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
Naphthalene	10	-	<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
Pyrene	0.2	-	0.028	<0.020	<0.020	<0.020	<0.020	0.076
Quinoline	34	-	<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 and Seepage Blanket 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 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

CARO Analytical Services
FINAL Analytical Testing Report
Work Order: 8090550
Report Date: 2018-09-12 15:42:33

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	8090550-01			
CLIENT ID	LE-1			
DATE SAMPLED	2018-09-05			
DATE RECEIVED	2018-09-07			
MATRIX	Water			
General Method	Analyte	Units	MRL	
Anions	Chloride	mg/L	0.1	1460
Anions	Fluoride	mg/L	0.1	<10.0
Anions	Nitrate (as N)	mg/L	0.01	0.829
Anions	Nitrite (as N)	mg/L	0.01	<1.00
Anions	Sulfate	mg/L	1	767
General Parameters	Alkalinity, Total (as CaCO3)	mg/L	1	26.9
General Parameters	Alkalinity, Phenolphthalein (as CaCO3)	mg/L	1	<1.0
General Parameters	Alkalinity, Bicarbonate (as CaCO3)	mg/L	1	26.9
General Parameters	Alkalinity, Carbonate (as CaCO3)	mg/L	1	<1.0
General Parameters	Alkalinity, Hydroxide (as CaCO3)	mg/L	1	<1.0
General Parameters	Solids, Total Suspended	mg/L	2	<2.0
General Parameters	Turbidity	NTU	0.1	0.58
General Parameters	pH	pH units	0.1	7.28
General Parameters	Conductivity (EC)	uS/cm	2	5680
Calculated Parameters	Hardness, Total (as CaCO3)	mg/L	0.5	1300
Dissolved Metals	Aluminum, dissolved	mg/L	0.005	0.0112
Dissolved Metals	Antimony, dissolved	mg/L	0.0002	<0.00020
Dissolved Metals	Arsenic, dissolved	mg/L	0.0005	<0.00050
Dissolved Metals	Barium, dissolved	mg/L	0.005	0.0249
Dissolved Metals	Beryllium, dissolved	mg/L	0.0001	<0.00010
Dissolved Metals	Bismuth, dissolved	mg/L	0.0001	<0.00010
Dissolved Metals	Boron, dissolved	mg/L	0.005	0.118
Dissolved Metals	Cadmium, dissolved	mg/L	1E-05	0.000333
Dissolved Metals	Calcium, dissolved	mg/L	0.2	352
Dissolved Metals	Chromium, dissolved	mg/L	0.0005	<0.00050
Dissolved Metals	Cobalt, dissolved	mg/L	0.0001	0.00291
Dissolved Metals	Copper, dissolved	mg/L	0.0004	0.00238
Dissolved Metals	Iron, dissolved	mg/L	0.01	<0.010
Dissolved Metals	Lead, dissolved	mg/L	0.0002	<0.00020
Dissolved Metals	Lithium, dissolved	mg/L	0.0001	0.00019
Dissolved Metals	Magnesium, dissolved	mg/L	0.01	101
Dissolved Metals	Manganese, dissolved	mg/L	0.0002	12.6
Dissolved Metals	Mercury, dissolved	mg/L	4E-05	0.000042
Dissolved Metals	Molybdenum, dissolved	mg/L	0.0001	0.0007
Dissolved Metals	Nickel, dissolved	mg/L	0.0004	0.00421
Dissolved Metals	Phosphorus, dissolved	mg/L	0.05	<0.050

Dissolved Metals	Potassium, dissolved	mg/L	0.1	8.8
Dissolved Metals	Selenium, dissolved	mg/L	0.0005	<0.00050
Dissolved Metals	Silicon, dissolved	mg/L	1	2.4
Dissolved Metals	Silver, dissolved	mg/L	5E-05	<0.000050
Dissolved Metals	Sodium, dissolved	mg/L	0.1	670
Dissolved Metals	Strontium, dissolved	mg/L	0.001	1.8
Dissolved Metals	Sulfur, dissolved	mg/L	3	275
Dissolved Metals	Tellurium, dissolved	mg/L	0.0005	<0.00050
Dissolved Metals	Thallium, dissolved	mg/L	2E-05	0.000029
Dissolved Metals	Thorium, dissolved	mg/L	0.0001	<0.00010
Dissolved Metals	Tin, dissolved	mg/L	0.0002	<0.00020
Dissolved Metals	Titanium, dissolved	mg/L	0.005	<0.0050
Dissolved Metals	Tungsten, dissolved	mg/L	0.001	<0.0010
Dissolved Metals	Uranium, dissolved	mg/L	2E-05	0.000135
Dissolved Metals	Vanadium, dissolved	mg/L	0.001	<0.0010
Dissolved Metals	Zinc, dissolved	mg/L	0.004	0.0224
Dissolved Metals	Zirconium, dissolved	mg/L	0.0001	<0.00010
Total Metals	Aluminum, total	mg/L	0.005	0.0163
Total Metals	Antimony, total	mg/L	0.0002	<0.00020
Total Metals	Arsenic, total	mg/L	0.0005	<0.00050
Total Metals	Barium, total	mg/L	0.005	0.0242
Total Metals	Beryllium, total	mg/L	0.0001	<0.00010
Total Metals	Bismuth, total	mg/L	0.0001	<0.00010
Total Metals	Boron, total	mg/L	0.005	0.118
Total Metals	Cadmium, total	mg/L	1E-05	0.000325
Total Metals	Calcium, total	mg/L	0.2	353
Total Metals	Chromium, total	mg/L	0.0005	<0.00050
Total Metals	Cobalt, total	mg/L	0.0001	0.00294
Total Metals	Copper, total	mg/L	0.0004	0.00255
Total Metals	Iron, total	mg/L	0.01	<0.010
Total Metals	Lead, total	mg/L	0.0002	<0.00020
Total Metals	Lithium, total	mg/L	0.0001	0.0002
Total Metals	Magnesium, total	mg/L	0.01	103
Total Metals	Manganese, total	mg/L	0.0002	12.6
Total Metals	Mercury, total	mg/L	1E-05	<0.000010
Total Metals	Molybdenum, total	mg/L	0.0001	0.00069
Total Metals	Nickel, total	mg/L	0.0004	0.00421
Total Metals	Phosphorus, total	mg/L	0.05	<0.050
Total Metals	Potassium, total	mg/L	0.1	8.87
Total Metals	Selenium, total	mg/L	0.0005	<0.00050
Total Metals	Silicon, total	mg/L	1	2.4
Total Metals	Silver, total	mg/L	5E-05	<0.000050
Total Metals	Sodium, total	mg/L	0.1	674
Total Metals	Strontium, total	mg/L	0.001	1.76
Total Metals	Sulfur, total	mg/L	3	287
Total Metals	Tellurium, total	mg/L	0.0005	<0.00050
Total Metals	Thallium, total	mg/L	2E-05	0.000029
Total Metals	Thorium, total	mg/L	0.0001	<0.00010
Total Metals	Tin, total	mg/L	0.0002	<0.00020

Total Metals	Titanium, total	mg/L	0.005	<0.0050
Total Metals	Tungsten, total	mg/L	0.001	<0.0010
Total Metals	Uranium, total	mg/L	2E-05	0.000127
Total Metals	Vanadium, total	mg/L	0.001	<0.0010
Total Metals	Zinc, total	mg/L	0.004	0.0182
Total Metals	Zirconium, total	mg/L	0.0001	<0.00010
BCMOE Aggregate Hydrocarbons	EPHw10-19	ug/L	250	<250
BCMOE Aggregate Hydrocarbons	EPHw19-32	ug/L	250	<250
BCMOE Aggregate Hydrocarbons	LEPHw	ug/L	250	<250
BCMOE Aggregate Hydrocarbons	HEPHw	ug/L	250	<250
Polycyclic Aromatic Hydrocarbons (PAH)	Acenaphthene	ug/L	0.05	<0.050
Polycyclic Aromatic Hydrocarbons (PAH)	Acenaphthylene	ug/L	0.2	<0.200
Polycyclic Aromatic Hydrocarbons (PAH)	Acridine	ug/L	0.05	<0.050
Polycyclic Aromatic Hydrocarbons (PAH)	Anthracene	ug/L	0.01	<0.010
Polycyclic Aromatic Hydrocarbons (PAH)	Benz(a)anthracene	ug/L	0.01	<0.010
Polycyclic Aromatic Hydrocarbons (PAH)	Benzo(a)pyrene	ug/L	0.01	<0.010
Polycyclic Aromatic Hydrocarbons (PAH)	Benzo(b+j)fluoranthene	ug/L	0.05	<0.050
Polycyclic Aromatic Hydrocarbons (PAH)	Benzo(g,h,i)perylene	ug/L	0.05	<0.050
Polycyclic Aromatic Hydrocarbons (PAH)	Benzo(k)fluoranthene	ug/L	0.05	<0.050
Polycyclic Aromatic Hydrocarbons (PAH)	2-Chloronaphthalene	ug/L	0.1	<0.100
Polycyclic Aromatic Hydrocarbons (PAH)	Chrysene	ug/L	0.05	<0.050
Polycyclic Aromatic Hydrocarbons (PAH)	Dibenz(a,h)anthracene	ug/L	0.01	<0.010
Polycyclic Aromatic Hydrocarbons (PAH)	Fluoranthene	ug/L	0.03	<0.030
Polycyclic Aromatic Hydrocarbons (PAH)	Fluorene	ug/L	0.05	<0.050
Polycyclic Aromatic Hydrocarbons (PAH)	Indeno(1,2,3-cd)pyrene	ug/L	0.05	<0.050
Polycyclic Aromatic Hydrocarbons (PAH)	1-Methylnaphthalene	ug/L	0.1	<0.100
Polycyclic Aromatic Hydrocarbons (PAH)	2-Methylnaphthalene	ug/L	0.1	<0.100
Polycyclic Aromatic Hydrocarbons (PAH)	Naphthalene	ug/L	0.2	<0.200
Polycyclic Aromatic Hydrocarbons (PAH)	Phenanthrene	ug/L	0.1	<0.100
Polycyclic Aromatic Hydrocarbons (PAH)	Pyrene	ug/L	0.02	<0.020
Polycyclic Aromatic Hydrocarbons (PAH)	Quinoline	ug/L	0.05	<0.050

Polycyclic Aromatic Hydrocarbons (PAH)	Benzo(k)fluoranthene	ug/L	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Polycyclic Aromatic Hydrocarbons (PAH)	2-Chloronaphthalene	ug/L	0.1	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Polycyclic Aromatic Hydrocarbons (PAH)	Chrysene	ug/L	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Polycyclic Aromatic Hydrocarbons (PAH)	Dibenz(a,h)anthracene	ug/L	0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Polycyclic Aromatic Hydrocarbons (PAH)	Fluoranthene	ug/L	0.03	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Polycyclic Aromatic Hydrocarbons (PAH)	Fluorene	ug/L	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Polycyclic Aromatic Hydrocarbons (PAH)	Indeno(1,2,3-cd)pyrene	ug/L	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Polycyclic Aromatic Hydrocarbons (PAH)	1-Methylnaphthalene	ug/L	0.1	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Polycyclic Aromatic Hydrocarbons (PAH)	2-Methylnaphthalene	ug/L	0.1	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Polycyclic Aromatic Hydrocarbons (PAH)	Naphthalene	ug/L	0.2	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
Polycyclic Aromatic Hydrocarbons (PAH)	Phenanthrene	ug/L	0.1	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Polycyclic Aromatic Hydrocarbons (PAH)	Pyrene	ug/L	0.02	0.028	<0.020	<0.020	<0.020	<0.020	0.076	0.033
Polycyclic Aromatic Hydrocarbons (PAH)	Quinoline	ug/L	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Total Metals	Aluminum, total	mg/L	0.005	0.122	0.0956	0.161	0.419	5.14	4.36	0.0398
Total Metals	Antimony, total	mg/L	0.0002	0.00078	<0.00020	<0.00020	0.00024	0.0003	<0.00020	<0.00020
Total Metals	Arsenic, total	mg/L	0.0005	0.00511	0.00125	0.00153	0.00206	0.00064	0.00053	<0.00050
Total Metals	Barium, total	mg/L	0.005	0.0823	0.0318	0.021	0.0299	0.0358	0.0291	0.0201
Total Metals	Beryllium, total	mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	0.00011	<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
Total Metals	Boron, total	mg/L	0.005	0.0752	0.0219	0.0233	0.024	0.0091	0.0525	0.0207
Total Metals	Cadmium, total	mg/L	1E-05	0.000064	0.000212	0.0003	0.00063	0.00037	0.00002	<0.000010
Total Metals	Calcium, total	mg/L	0.2	167	48.4	32.4	38.8	75.1	90.1	90.4
Total Metals	Chromium, total	mg/L	0.0005	0.00052	<0.00050	0.0005	0.00071	0.00517	0.00432	<0.00050
Total Metals	Cobalt, total	mg/L	0.0001	0.00296	0.00075	0.00053	0.00071	0.00696	0.00374	0.00015
Total Metals	Copper, total	mg/L	0.0004	0.00233	0.00057	0.00058	0.00406	0.0176	0.0146	0.00133
Total Metals	Iron, total	mg/L	0.01	3.17	0.17	0.27	0.819	5.07	4.44	0.031
Total Metals	Lead, total	mg/L	0.0002	0.00102	<0.00020	<0.00020	0.00074	0.00872	0.00148	<0.00020
Total Metals	Lithium, total	mg/L	0.0001	0.0116	0.00027	0.00025	0.00025	0.00162	0.00163	0.00027
Total Metals	Magnesium, total	mg/L	0.01	35.4	7.71	5.76	7.73	8.2	15.3	12.7
Total Metals	Manganese, total	mg/L	0.0002	2.06	0.431	0.361	0.521	0.198	0.179	0.0417
Total Metals	Mercury, total	mg/L	1E-05	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Total Metals	Molybdenum, total	mg/L	0.0001	0.00132	0.00645	0.00695	0.00412	0.00037	0.00076	0.00103
Total Metals	Nickel, total	mg/L	0.0004	0.00683	0.00156	0.00159	0.00156	0.00604	0.00426	0.00055
Total Metals	Phosphorus, total	mg/L	0.05	<0.050	0.08	0.121	0.186	0.163	0.147	<0.050
Total Metals	Potassium, total	mg/L	0.1	3.27	0.94	0.59	0.7	0.79	1.95	1.05
Total Metals	Selenium, total	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.0005
Total Metals	Silicon, total	mg/L	1	11.8	6.4	6.4	7.2	9.3	11.8	6.1
Total Metals	Silver, total	mg/L	5E-05	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Total Metals	Sodium, total	mg/L	0.1	64.2	15.1	11.2	9.66	5.77	23	13.5
Total Metals	Strontium, total	mg/L	0.001	0.583	0.232	0.196	0.166	0.184	0.298	0.255
Total Metals	Sulfur, total	mg/L	3	22.1	13.9	7	5.4	48.7	56	53.1
Total Metals	Tellurium, total	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Total Metals	Thallium, total	mg/L	2E-05	0.000034	0.000041	0.000033	0.000031	<0.000020	<0.000020	<0.000020
Total Metals	Thorium, total	mg/L	0.0001	<0.00010	<0.00010	0.00021	<0.00010	<0.00010	0.00025	<0.00010
Total Metals	Tin, total	mg/L	0.0002	0.00111	0.00023	0.00024	<0.00020	0.00038	<0.00020	<0.00020
Total Metals	Titanium, total	mg/L	0.005	0.0053	<0.0050	<0.0050	0.0162	0.212	0.221	<0.0050
Total Metals	Tungsten, total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Metals	Uranium, total	mg/L	2E-05	0.00691	0.00117	0.000792	0.000821	0.000981	0.00118	0.00172
Total Metals	Vanadium, total	mg/L	0.001	<0.0010	<0.0010	<0.0010	0.0019	0.0131	0.0104	0.001
Total Metals	Zinc, total	mg/L	0.004	0.0137	<0.0040	0.0046	0.0108	0.0185	0.0129	<0.0040
Total Metals	Zirconium, total	mg/L	0.0001	0.00013	0.00011	0.00018	0.00013	0.00012	0.00024	<0.00010



CERTIFICATE OF ANALYSIS

REPORTED TO	Allterra Construction 2158 Millstream Road Victoria, BC V9B 6H4	WORK ORDER	8090550
ATTENTION	Rahim Gaidhar	RECEIVED / TEMP REPORTED	2018-09-07 11:27 / 14°C 2018-09-12 15:42
PO NUMBER	P15-06 SIRM	COC NUMBER	September 5 2018
PROJECT	P17-932		
PROJECT INFO			

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.

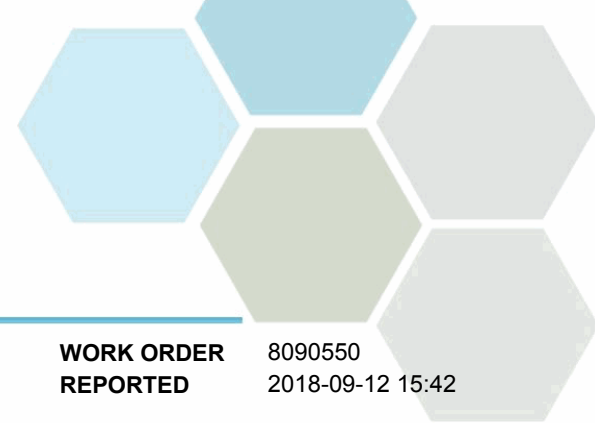
If you have any questions or concerns, please contact me at bshaw@caro.ca

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

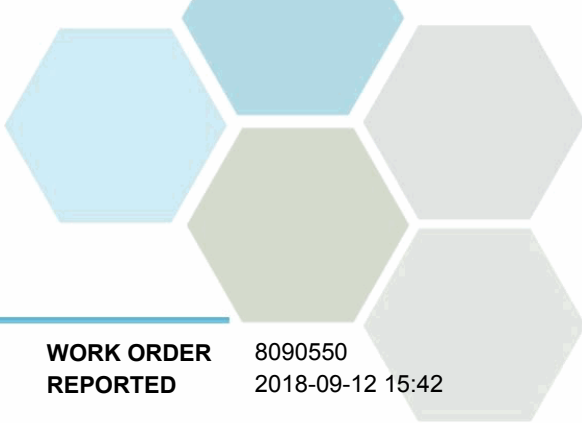


TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8090550
2018-09-12 15:42

Analyte	Result	RL	Units	Analyzed	Qualifier
LE-1 (8090550-01) Matrix: Water Sampled: 2018-09-05 17:00					
Anions					
Chloride	1460	0.10	mg/L	2018-09-08	
Fluoride	< 10.0	0.10	mg/L	2018-09-08	RA1
Nitrate (as N)	0.829	0.010	mg/L	2018-09-08	
Nitrite (as N)	< 1.00	0.010	mg/L	2018-09-08	RA1
Sulfate	767	1.0	mg/L	2018-09-08	
General Parameters					
Alkalinity, Total (as CaCO3)	26.9	1.0	mg/L	2018-09-10	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2018-09-10	
Alkalinity, Bicarbonate (as CaCO3)	26.9	1.0	mg/L	2018-09-10	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2018-09-10	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2018-09-10	
Conductivity (EC)	5680	2.0	µS/cm	2018-09-11	
pH	7.28	0.10	pH units	2018-09-10	HT2
Solids, Total Suspended	< 2.0	2.0	mg/L	2018-09-11	
Turbidity	0.58	0.10	NTU	2018-09-08	
Calculated Parameters					
Hardness, Total (as CaCO3)	1300	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	0.0112	0.0050	mg/L	2018-09-09	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2018-09-09	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2018-09-09	
Barium, dissolved	0.0249	0.0050	mg/L	2018-09-09	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2018-09-09	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2018-09-09	
Boron, dissolved	0.118	0.0050	mg/L	2018-09-09	
Cadmium, dissolved	0.000333	0.000010	mg/L	2018-09-09	
Calcium, dissolved	352	0.20	mg/L	2018-09-09	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2018-09-09	
Cobalt, dissolved	0.00291	0.00010	mg/L	2018-09-09	
Copper, dissolved	0.00238	0.00040	mg/L	2018-09-09	
Iron, dissolved	< 0.010	0.010	mg/L	2018-09-09	
Lead, dissolved	< 0.00020	0.00020	mg/L	2018-09-09	
Lithium, dissolved	0.00019	0.00010	mg/L	2018-09-09	
Magnesium, dissolved	101	0.010	mg/L	2018-09-09	
Manganese, dissolved	12.6	0.00020	mg/L	2018-09-10	
Mercury, dissolved	0.000042	0.000040	mg/L	2018-09-09	
Molybdenum, dissolved	0.00070	0.00010	mg/L	2018-09-09	
Nickel, dissolved	0.00421	0.00040	mg/L	2018-09-09	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2018-09-09	
Potassium, dissolved	8.80	0.10	mg/L	2018-09-09	

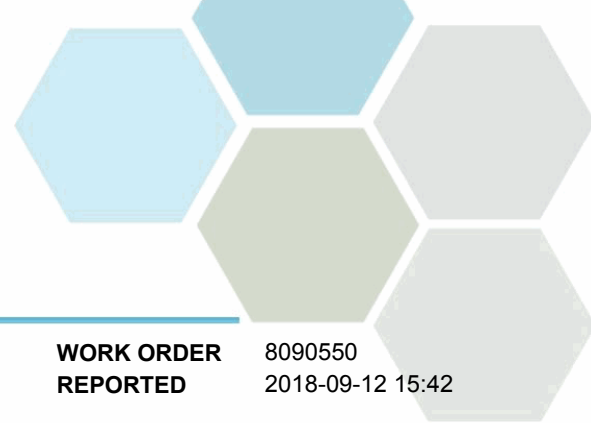


TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8090550
2018-09-12 15:42

Analyte	Result	RL	Units	Analyzed	Qualifier
LE-1 (8090550-01) Matrix: Water Sampled: 2018-09-05 17:00, Continued					
<i>Dissolved Metals, Continued</i>					
Selenium, dissolved	< 0.00050	0.00050	mg/L	2018-09-09	
Silicon, dissolved	2.4	1.0	mg/L	2018-09-09	
Silver, dissolved	< 0.000050	0.000050	mg/L	2018-09-09	
Sodium, dissolved	670	0.10	mg/L	2018-09-09	
Strontium, dissolved	1.80	0.0010	mg/L	2018-09-09	
Sulfur, dissolved	275	3.0	mg/L	2018-09-09	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2018-09-09	
Thallium, dissolved	0.000029	0.000020	mg/L	2018-09-09	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2018-09-09	
Tin, dissolved	< 0.00020	0.00020	mg/L	2018-09-09	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2018-09-09	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2018-09-09	
Uranium, dissolved	0.000135	0.000020	mg/L	2018-09-09	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2018-09-09	
Zinc, dissolved	0.0224	0.0040	mg/L	2018-09-09	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2018-09-09	
<i>Total Metals</i>					
Aluminum, total	0.0163	0.0050	mg/L	2018-09-10	
Antimony, total	< 0.00020	0.00020	mg/L	2018-09-10	
Arsenic, total	< 0.00050	0.00050	mg/L	2018-09-10	
Barium, total	0.0242	0.0050	mg/L	2018-09-10	
Beryllium, total	< 0.00010	0.00010	mg/L	2018-09-10	
Bismuth, total	< 0.00010	0.00010	mg/L	2018-09-10	
Boron, total	0.118	0.0050	mg/L	2018-09-10	
Cadmium, total	0.000325	0.000010	mg/L	2018-09-10	
Calcium, total	353	0.20	mg/L	2018-09-10	
Chromium, total	< 0.00050	0.00050	mg/L	2018-09-10	
Cobalt, total	0.00294	0.00010	mg/L	2018-09-10	
Copper, total	0.00255	0.00040	mg/L	2018-09-10	
Iron, total	< 0.010	0.010	mg/L	2018-09-10	
Lead, total	< 0.00020	0.00020	mg/L	2018-09-10	
Lithium, total	0.00020	0.00010	mg/L	2018-09-10	
Magnesium, total	103	0.010	mg/L	2018-09-10	
Manganese, total	12.6	0.00020	mg/L	2018-09-10	
Mercury, total	< 0.000010	0.000010	mg/L	2018-09-10	
Molybdenum, total	0.00069	0.00010	mg/L	2018-09-10	
Nickel, total	0.00421	0.00040	mg/L	2018-09-10	
Phosphorus, total	< 0.050	0.050	mg/L	2018-09-10	
Potassium, total	8.87	0.10	mg/L	2018-09-10	
Selenium, total	< 0.00050	0.00050	mg/L	2018-09-10	
Silicon, total	2.4	1.0	mg/L	2018-09-10	
Silver, total	< 0.000050	0.000050	mg/L	2018-09-10	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8090550
2018-09-12 15:42

Analyte	Result	RL	Units	Analyzed	Qualifier
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LE-1 (8090550-01) | Matrix: Water | Sampled: 2018-09-05 17:00, Continued

Total Metals, Continued

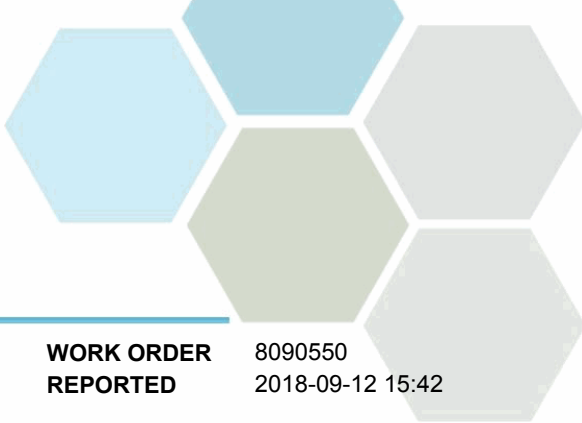
Sodium, total	674	0.10	mg/L	2018-09-10	
Strontium, total	1.76	0.0010	mg/L	2018-09-10	
Sulfur, total	287	3.0	mg/L	2018-09-10	
Tellurium, total	< 0.00050	0.00050	mg/L	2018-09-10	
Thallium, total	0.000029	0.000020	mg/L	2018-09-10	
Thorium, total	< 0.00010	0.00010	mg/L	2018-09-10	
Tin, total	< 0.00020	0.00020	mg/L	2018-09-10	
Titanium, total	< 0.0050	0.0050	mg/L	2018-09-10	
Tungsten, total	< 0.0010	0.0010	mg/L	2018-09-10	
Uranium, total	0.000127	0.000020	mg/L	2018-09-10	
Vanadium, total	< 0.0010	0.0010	mg/L	2018-09-10	
Zinc, total	0.0182	0.0040	mg/L	2018-09-10	
Zirconium, total	< 0.00010	0.00010	mg/L	2018-09-10	

BCMOE Aggregate Hydrocarbons

EPHw10-19	< 250	250	µg/L	2018-09-11	
EPHw19-32	< 250	250	µg/L	2018-09-11	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	82	60-140	%	2018-09-11	

Polycyclic Aromatic Hydrocarbons (PAH)

Acenaphthene	< 0.050	0.050	µg/L	2018-09-10	
Acenaphthylene	< 0.200	0.200	µg/L	2018-09-10	
Acridine	< 0.050	0.050	µg/L	2018-09-10	
Anthracene	< 0.010	0.010	µg/L	2018-09-10	
Benz(a)anthracene	< 0.010	0.010	µg/L	2018-09-10	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2018-09-10	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2018-09-10	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2018-09-10	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2018-09-10	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2018-09-10	
Chrysene	< 0.050	0.050	µg/L	2018-09-10	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2018-09-10	
Fluoranthene	< 0.030	0.030	µg/L	2018-09-10	
Fluorene	< 0.050	0.050	µg/L	2018-09-10	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2018-09-10	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2018-09-10	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2018-09-10	
Naphthalene	< 0.200	0.200	µg/L	2018-09-10	
Phenanthrene	< 0.100	0.100	µg/L	2018-09-10	
Pyrene	< 0.020	0.020	µg/L	2018-09-10	
Quinoline	< 0.050	0.050	µg/L	2018-09-10	



TEST RESULTS

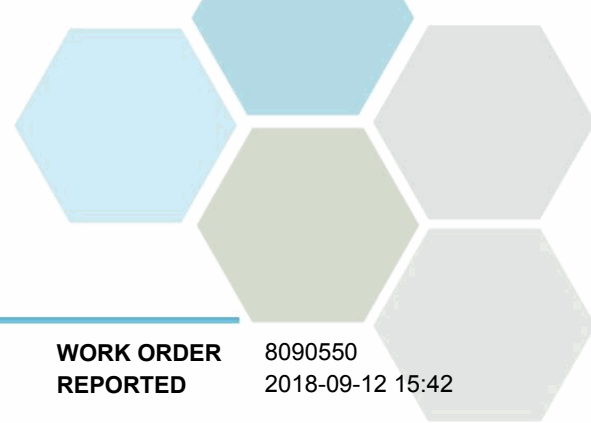
REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8090550
2018-09-12 15:42

Analyte	Result	RL	Units	Analyzed	Qualifier
LE-1 (8090550-01) Matrix: Water Sampled: 2018-09-05 17:00, Continued					
<i>Polycyclic Aromatic Hydrocarbons (PAH), Continued</i>					
Surrogate: Acridine-d9	80	50-140	%	2018-09-10	
Surrogate: Naphthalene-d8	90	50-140	%	2018-09-10	
Surrogate: Perylene-d12	34	50-140	%	2018-09-10	S02

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.
- S02 Surrogate recovery outside of control limits. Data accepted based on acceptable recovery of other surrogates.



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8090550
2018-09-12 15:42

Analysis Description	Method Ref.	Technique	Location
Alkalinity in Water	SM 2320 B* (2011)	Titration with H2SO4	Kelowna
Anions in Water	SM 4110 B (2011)	Ion Chromatography	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 [diss Ca] + 4.118 [diss Mg]	N/A
HEPHw in Water	BCMOE LEPH/HEPH	Calculation	N/A
LEPHw in Water	BCMOE LEPH/HEPH	Calculation	N/A
Mercury, total in Water	EPA 245.7*	BrCl2 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	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	Richmond
Turbidity in Water	SM 2130 B (2011)	Nephelometry	Richmond

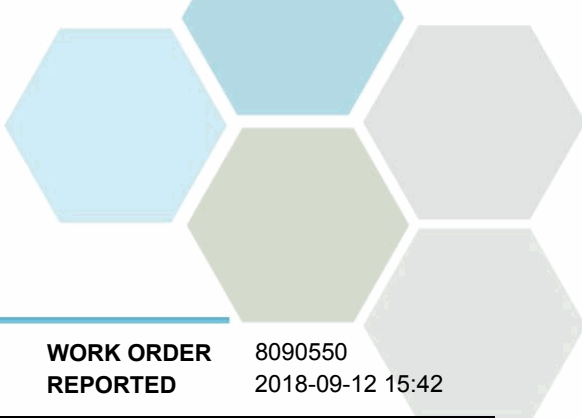
Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

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
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

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8090550
2018-09-12 15:42

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 B810484

Blank (B810484-BLK1)			Prepared: 2018-09-08, Analyzed: 2018-09-08						
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							

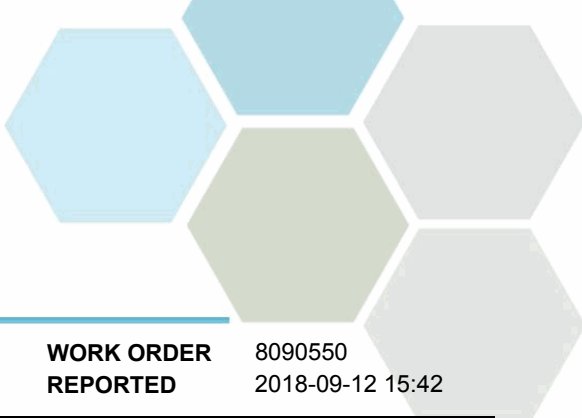
Blank (B810484-BLK2)			Prepared: 2018-09-08, Analyzed: 2018-09-08						
Chloride	< 0.10	0.10 mg/L							
Fluoride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
Sulfate	< 1.0	1.0 mg/L							

LCS (B810484-BS1)			Prepared: 2018-09-08, Analyzed: 2018-09-08						
Chloride	16.3	0.10 mg/L	16.0		102	90-110			
Fluoride	4.26	0.10 mg/L	4.00		106	88-108			
Nitrate (as N)	4.21	0.010 mg/L	4.00		105	93-108			
Nitrite (as N)	2.05	0.010 mg/L	2.00		102	85-114			
Sulfate	17.0	1.0 mg/L	16.0		106	91-109			

LCS (B810484-BS2)			Prepared: 2018-09-08, Analyzed: 2018-09-08						
Chloride	16.4	0.10 mg/L	16.0		103	90-110			
Fluoride	4.17	0.10 mg/L	4.00		104	88-108			
Nitrate (as N)	4.17	0.010 mg/L	4.00		104	93-108			
Nitrite (as N)	2.00	0.010 mg/L	2.00		100	85-114			
Sulfate	16.6	1.0 mg/L	16.0		104	91-109			

BCMOE Aggregate Hydrocarbons, Batch B810497

Blank (B810497-BLK1)			Prepared: 2018-09-09, Analyzed: 2018-09-11						
EPHw10-19	< 250	250 µg/L							
EPHw19-32	< 250	250 µg/L							
Surrogate: 2-Methylnonane (EPH/F2-4)	277	µg/L	444		62	60-140			



APPENDIX 2: QUALITY CONTROL RESULTS

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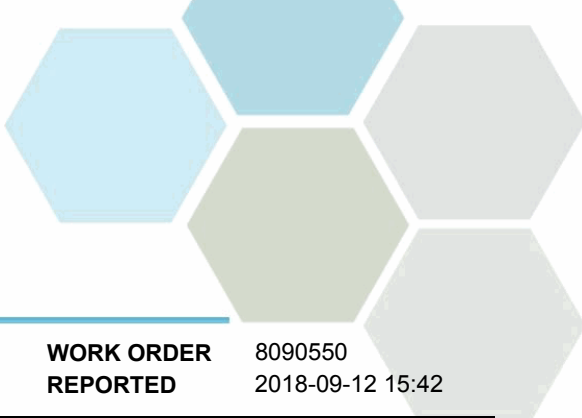
WORK ORDER REPORTED 8090550
2018-09-12 15:42

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
BCMOE Aggregate Hydrocarbons, Batch B810497, Continued									
LCS (B810497-BS2)					Prepared: 2018-09-09, Analyzed: 2018-09-11				
EPHw10-19	15000	250 µg/L	15400		97	70-130			
EPHw19-32	21100	250 µg/L	22200		95	70-130			
Surrogate: 2-Methylnonane (EPH/F2-4)	372	µg/L	444		84	60-140			

Dissolved Metals, Batch B810490

Blank (B810490-BLK1)			Prepared: 2018-09-09, Analyzed: 2018-09-09						
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							
Mercury, dissolved	< 0.000040	0.000040 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							
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 (B810490-BS1)			Prepared: 2018-09-09, Analyzed: 2018-09-09						
Aluminum, dissolved	0.0228	0.0050 mg/L	0.0200		114	80-120			
Antimony, dissolved	0.0190	0.00020 mg/L	0.0200		95	80-120			
Arsenic, dissolved	0.0208	0.00050 mg/L	0.0200		104	80-120			
Barium, dissolved	0.0202	0.0050 mg/L	0.0200		101	80-120			
Beryllium, dissolved	0.0207	0.00010 mg/L	0.0200		103	80-120			
Bismuth, dissolved	0.0198	0.00010 mg/L	0.0200		99	80-120			
Boron, dissolved	0.0188	0.0050 mg/L	0.0200		94	80-120			
Cadmium, dissolved	0.0209	0.000010 mg/L	0.0200		105	80-120			



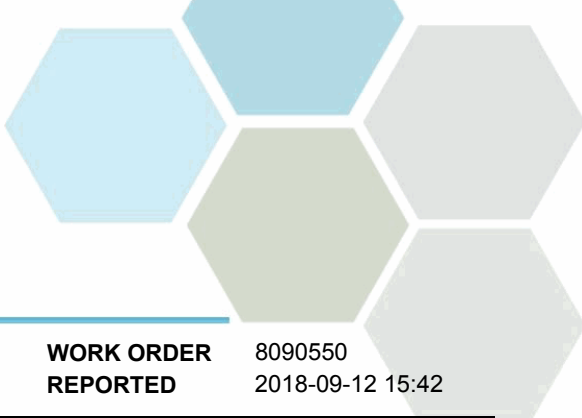
APPENDIX 2: QUALITY CONTROL RESULTS

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P17-932

WORK ORDER REPORTED 8090550
2018-09-12 15:42

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B810490, Continued									
LCS (B810490-BS1), Continued					Prepared: 2018-09-09, Analyzed: 2018-09-09				
Calcium, dissolved	1.98	0.20 mg/L	2.00		99	80-120			
Chromium, dissolved	0.0214	0.00050 mg/L	0.0200		107	80-120			
Cobalt, dissolved	0.0218	0.00010 mg/L	0.0200		109	80-120			
Copper, dissolved	0.0223	0.00040 mg/L	0.0200		112	80-120			
Iron, dissolved	2.04	0.010 mg/L	2.00		102	80-120			
Lead, dissolved	0.0209	0.00020 mg/L	0.0200		105	80-120			
Lithium, dissolved	0.0204	0.00010 mg/L	0.0200		102	80-120			
Magnesium, dissolved	2.15	0.010 mg/L	2.00		107	80-120			
Manganese, dissolved	0.0209	0.00020 mg/L	0.0200		105	80-120			
Mercury, dissolved	0.000817	0.000040 mg/L	0.00100		82	80-120			
Molybdenum, dissolved	0.0201	0.00010 mg/L	0.0200		100	80-120			
Nickel, dissolved	0.0214	0.00040 mg/L	0.0200		107	80-120			
Phosphorus, dissolved	2.05	0.050 mg/L	2.00		103	80-120			
Potassium, dissolved	2.08	0.10 mg/L	2.00		104	80-120			
Selenium, dissolved	0.0227	0.00050 mg/L	0.0200		114	80-120			
Silicon, dissolved	1.8	1.0 mg/L	2.00		89	80-120			
Silver, dissolved	0.0208	0.000050 mg/L	0.0200		104	80-120			
Sodium, dissolved	2.22	0.10 mg/L	2.00		111	80-120			
Strontium, dissolved	0.0205	0.0010 mg/L	0.0200		103	80-120			
Sulfur, dissolved	4.8	3.0 mg/L	5.00		97	80-120			
Tellurium, dissolved	0.0217	0.00050 mg/L	0.0200		108	80-120			
Thallium, dissolved	0.0209	0.000020 mg/L	0.0200		104	80-120			
Thorium, dissolved	0.0200	0.00010 mg/L	0.0200		100	80-120			
Tin, dissolved	0.0209	0.00020 mg/L	0.0200		105	80-120			
Titanium, dissolved	0.0214	0.0050 mg/L	0.0200		107	80-120			
Tungsten, dissolved	0.0193	0.0010 mg/L	0.0200		96	80-120			
Uranium, dissolved	0.0202	0.000020 mg/L	0.0200		101	80-120			
Vanadium, dissolved	0.0211	0.0010 mg/L	0.0200		105	80-120			
Zinc, dissolved	0.0235	0.0040 mg/L	0.0200		117	80-120			
Zirconium, dissolved	0.0215	0.00010 mg/L	0.0200		107	80-120			

Reference (B810490-SRM1)					Prepared: 2018-09-09, Analyzed: 2018-09-09				
Aluminum, dissolved	0.220	0.0050 mg/L	0.233		95	79-114			
Antimony, dissolved	0.0431	0.00020 mg/L	0.0430		100	89-123			
Arsenic, dissolved	0.439	0.00050 mg/L	0.438		100	87-113			
Barium, dissolved	3.10	0.0050 mg/L	3.35		93	85-114			
Beryllium, dissolved	0.204	0.00010 mg/L	0.213		96	79-122			
Boron, dissolved	1.56	0.0050 mg/L	1.74		90	79-117			
Cadmium, dissolved	0.221	0.000010 mg/L	0.224		99	89-112			
Calcium, dissolved	7.48	0.20 mg/L	7.69		97	85-120			
Chromium, dissolved	0.455	0.00050 mg/L	0.437		104	87-113			
Cobalt, dissolved	0.131	0.00010 mg/L	0.128		102	90-117			
Copper, dissolved	0.858	0.00040 mg/L	0.844		102	90-115			
Iron, dissolved	1.26	0.010 mg/L	1.29		98	86-112			
Lead, dissolved	0.111	0.00020 mg/L	0.112		99	90-113			
Lithium, dissolved	0.0955	0.00010 mg/L	0.104		92	77-127			
Magnesium, dissolved	6.82	0.010 mg/L	6.92		99	84-116			
Manganese, dissolved	0.332	0.00020 mg/L	0.345		96	85-113			
Molybdenum, dissolved	0.415	0.00010 mg/L	0.426		97	87-112			
Nickel, dissolved	0.872	0.00040 mg/L	0.840		104	90-114			
Phosphorus, dissolved	0.498	0.050 mg/L	0.495		101	74-119			
Potassium, dissolved	2.95	0.10 mg/L	3.19		93	78-119			
Selenium, dissolved	0.0373	0.00050 mg/L	0.0331		113	89-123			
Sodium, dissolved	19.0	0.10 mg/L	19.1		99	81-117			
Strontium, dissolved	0.921	0.0010 mg/L	0.916		100	82-111			
Thallium, dissolved	0.0389	0.000020 mg/L	0.0393		99	90-113			



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 B810490, Continued

Reference (B810490-SRM1), Continued

Prepared: 2018-09-09, Analyzed: 2018-09-09

Uranium, dissolved	0.243	0.000020 mg/L	0.266		91	87-113			
Vanadium, dissolved	0.885	0.0010 mg/L	0.869		102	85-110			
Zinc, dissolved	0.919	0.0040 mg/L	0.881		104	88-114			

General Parameters, Batch B810473

Blank (B810473-BLK1)

Prepared: 2018-09-08, Analyzed: 2018-09-08

Turbidity	< 0.10	0.10 NTU							
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Duplicate (B810473-DUP1)

Source: 8090550-01

Prepared: 2018-09-08, Analyzed: 2018-09-08

Turbidity	0.50	0.10 NTU		0.58			15	18	
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General Parameters, Batch B810551

Duplicate (B810551-DUP1)

Source: 8090550-01

Prepared: 2018-09-10, Analyzed: 2018-09-10

pH	7.27	0.10 pH units		7.28			< 1	4	
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Reference (B810551-SRM1)

Prepared: 2018-09-10, Analyzed: 2018-09-10

pH	6.17	0.10 pH units	6.20		100	97.5-102.5			
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General Parameters, Batch B810575

Blank (B810575-BLK1)

Prepared: 2018-09-10, Analyzed: 2018-09-10

Alkalinity, Total (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0 mg/L							

Blank (B810575-BLK2)

Prepared: 2018-09-11, Analyzed: 2018-09-11

Alkalinity, Total (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0 mg/L							

Blank (B810575-BLK3)

Prepared: 2018-09-11, Analyzed: 2018-09-11

Alkalinity, Total (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0 mg/L							

LCS (B810575-BS1)

Prepared: 2018-09-10, Analyzed: 2018-09-10

Alkalinity, Total (as CaCO3)	96.9	1.0 mg/L	100		97	92-106			
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LCS (B810575-BS2)

Prepared: 2018-09-11, Analyzed: 2018-09-11

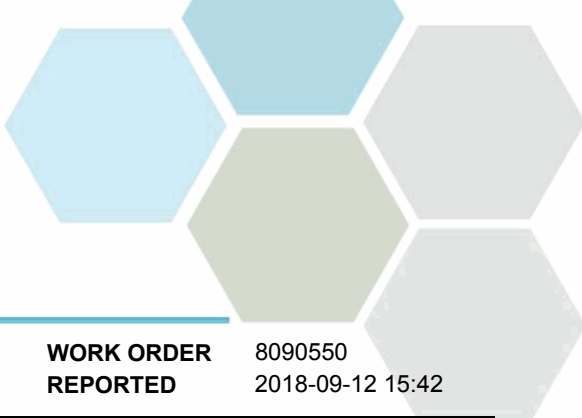
Alkalinity, Total (as CaCO3)	95.4	1.0 mg/L	100		95	92-106			
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LCS (B810575-BS3)

Prepared: 2018-09-11, Analyzed: 2018-09-11

Alkalinity, Total (as CaCO3)	100	1.0 mg/L	100		100	92-106			
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General Parameters, Batch B810624

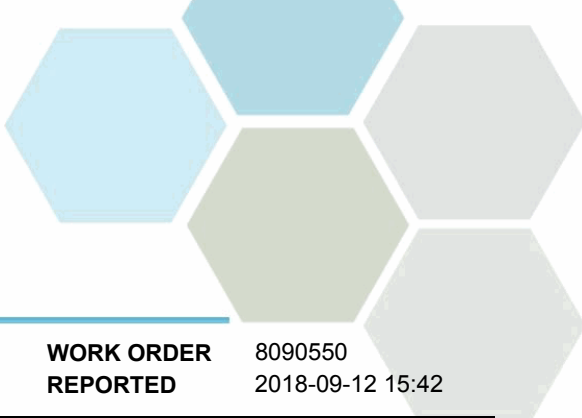


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8090550
2018-09-12 15:42

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B810624, Continued									
Blank (B810624-BLK1)			Prepared: 2018-09-11, Analyzed: 2018-09-11						
Conductivity (EC)	< 2.0	2.0 µS/cm							
LCS (B810624-BS1)			Prepared: 2018-09-11, Analyzed: 2018-09-11						
Conductivity (EC)	148	2.0 µS/cm	147		100	90-110			
Reference (B810624-SRM1)			Prepared: 2018-09-11, Analyzed: 2018-09-11						
Conductivity (EC)	1010	2.0 µS/cm	1000		101	95-105			
General Parameters, Batch B810628									
Blank (B810628-BLK1)			Prepared: 2018-09-11, Analyzed: 2018-09-11						
Solids, Total Suspended	< 2.0	2.0 mg/L							
LCS (B810628-BS1)			Prepared: 2018-09-11, Analyzed: 2018-09-11						
Solids, Total Suspended	97.0	10.0 mg/L	100		97	83-107			
Polycyclic Aromatic Hydrocarbons (PAH), Batch B810497									
Blank (B810497-BLK1)			Prepared: 2018-09-09, Analyzed: 2018-09-09						
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							
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	3.22	µg/L	4.44		72	50-140			
Surrogate: Naphthalene-d8	3.91	µg/L	4.44		88	50-140			
Surrogate: Perylene-d12	1.70	µg/L	4.44		38	50-140			S02
LCS (B810497-BS1)			Prepared: 2018-09-09, Analyzed: 2018-09-09						
Acenaphthene	4.00	0.050 µg/L	4.40		91	58-125			
Acenaphthylene	4.17	0.200 µg/L	4.40		95	54-128			
Acridine	3.56	0.050 µg/L	4.44		80	50-112			
Anthracene	3.69	0.010 µg/L	4.44		83	66-125			
Benz(a)anthracene	4.89	0.010 µg/L	4.44		110	59-123			
Benzo(a)pyrene	4.24	0.010 µg/L	4.40		96	62-116			
Benzo(b+j)fluoranthene	8.35	0.050 µg/L	8.89		94	69-121			
Benzo(g,h,i)perylene	4.30	0.050 µg/L	4.40		98	58-129			
Benzo(k)fluoranthene	3.69	0.050 µg/L	4.44		83	67-128			
2-Chloronaphthalene	3.80	0.100 µg/L	4.44		86	50-140			



APPENDIX 2: QUALITY CONTROL RESULTS

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WORK ORDER REPORTED 8090550
2018-09-12 15:42

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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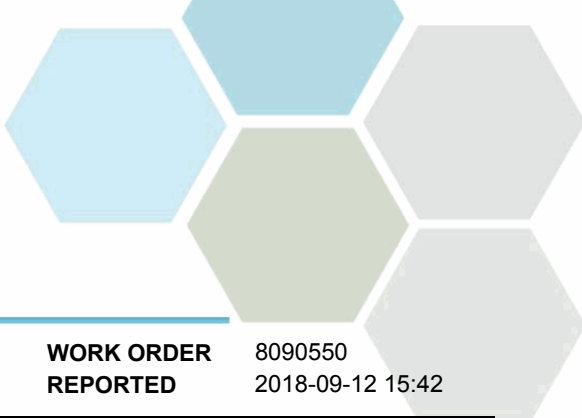
Polycyclic Aromatic Hydrocarbons (PAH), Batch B810497, Continued

LCS (B810497-BS1), Continued				Prepared: 2018-09-09, Analyzed: 2018-09-09					
Chrysene	4.35	0.050 µg/L	4.42		98	58-125			
Dibenz(a,h)anthracene	4.51	0.010 µg/L	4.42		102	58-126			
Fluoranthene	3.68	0.030 µg/L	4.36		85	67-133			
Fluorene	3.96	0.050 µg/L	4.40		90	55-122			
Indeno(1,2,3-cd)pyrene	4.01	0.050 µg/L	4.44		90	62-126			
1-Methylnaphthalene	3.99	0.100 µg/L	4.38		91	53-125			
2-Methylnaphthalene	4.00	0.100 µg/L	4.36		92	52-122			
Naphthalene	4.08	0.200 µg/L	4.44		92	50-130			
Phenanthrene	3.84	0.100 µg/L	4.40		87	67-127			
Pyrene	3.64	0.020 µg/L	4.44		82	68-133			
Quinoline	5.00	0.050 µg/L	4.44		112	51-140			
Surrogate: Acridine-d9	4.04	µg/L	4.44		91	50-140			
Surrogate: Naphthalene-d8	4.12	µg/L	4.44		93	50-140			
Surrogate: Perylene-d12	1.97	µg/L	4.44		44	50-140			S02

LCS Dup (B810497-BSD1)				Prepared: 2018-09-09, Analyzed: 2018-09-09					
Acenaphthene	4.02	0.050 µg/L	4.40		91	58-125	< 1	16	
Acenaphthylene	4.24	0.200 µg/L	4.40		96	54-128	2	16	
Acridine	2.97	0.050 µg/L	4.44		67	50-112	18	26	
Anthracene	3.74	0.010 µg/L	4.44		84	66-125	1	14	
Benz(a)anthracene	4.72	0.010 µg/L	4.44		106	59-123	3	23	
Benzo(a)pyrene	4.12	0.010 µg/L	4.40		94	62-116	3	16	
Benzo(b+j)fluoranthene	8.22	0.050 µg/L	8.89		93	69-121	1	14	
Benzo(g,h,i)perylene	4.14	0.050 µg/L	4.40		94	58-129	4	25	
Benzo(k)fluoranthene	3.70	0.050 µg/L	4.44		83	67-128	< 1	18	
2-Chloronaphthalene	3.81	0.100 µg/L	4.44		86	50-140	< 1	30	
Chrysene	4.25	0.050 µg/L	4.42		96	58-125	2	24	
Dibenz(a,h)anthracene	4.16	0.010 µg/L	4.42		94	58-126	8	23	
Fluoranthene	3.60	0.030 µg/L	4.36		83	67-133	2	18	
Fluorene	4.04	0.050 µg/L	4.40		92	55-122	2	16	
Indeno(1,2,3-cd)pyrene	3.89	0.050 µg/L	4.44		87	62-126	3	22	
1-Methylnaphthalene	4.04	0.100 µg/L	4.38		92	53-125	1	16	
2-Methylnaphthalene	4.04	0.100 µg/L	4.36		93	52-122	< 1	17	
Naphthalene	4.07	0.200 µg/L	4.44		92	50-130	< 1	18	
Phenanthrene	3.75	0.100 µg/L	4.40		85	67-127	2	14	
Pyrene	3.56	0.020 µg/L	4.44		80	68-133	2	18	
Quinoline	5.21	0.050 µg/L	4.44		117	51-140	4	12	
Surrogate: Acridine-d9	3.41	µg/L	4.44		77	50-140			
Surrogate: Naphthalene-d8	4.06	µg/L	4.44		91	50-140			
Surrogate: Perylene-d12	1.87	µg/L	4.44		42	50-140			S02

Total Metals, Batch B810509

Blank (B810509-BLK1)				Prepared: 2018-09-09, Analyzed: 2018-09-10					
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							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8090550
2018-09-12 15:42

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Total Metals, Batch B810509, Continued

Blank (B810509-BLK1), Continued

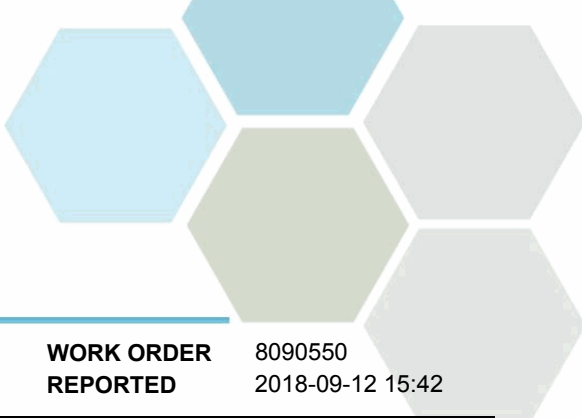
Prepared: 2018-09-09, Analyzed: 2018-09-10

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 (B810509-BS1)

Prepared: 2018-09-09, Analyzed: 2018-09-10

Aluminum, total	0.0229	0.0050 mg/L	0.0200		115	80-120			
Antimony, total	0.0193	0.00020 mg/L	0.0200		97	80-120			
Arsenic, total	0.0203	0.00050 mg/L	0.0200		101	80-120			
Barium, total	0.0202	0.0050 mg/L	0.0200		101	80-120			
Beryllium, total	0.0220	0.00010 mg/L	0.0200		110	80-120			
Bismuth, total	0.0205	0.00010 mg/L	0.0200		102	80-120			
Boron, total	0.0188	0.0050 mg/L	0.0200		94	80-120			
Cadmium, total	0.0210	0.000010 mg/L	0.0200		105	80-120			
Calcium, total	1.96	0.20 mg/L	2.00		98	80-120			
Chromium, total	0.0207	0.00050 mg/L	0.0200		104	80-120			
Cobalt, total	0.0207	0.00010 mg/L	0.0200		104	80-120			
Copper, total	0.0216	0.00040 mg/L	0.0200		108	80-120			
Iron, total	1.93	0.010 mg/L	2.00		96	80-120			
Lead, total	0.0208	0.00020 mg/L	0.0200		104	80-120			
Lithium, total	0.0216	0.00010 mg/L	0.0200		108	80-120			
Magnesium, total	2.03	0.010 mg/L	2.00		102	80-120			
Manganese, total	0.0204	0.00020 mg/L	0.0200		102	80-120			
Molybdenum, total	0.0195	0.00010 mg/L	0.0200		97	80-120			
Nickel, total	0.0208	0.00040 mg/L	0.0200		104	80-120			
Phosphorus, total	2.05	0.050 mg/L	2.00		102	80-120			
Potassium, total	1.96	0.10 mg/L	2.00		98	80-120			
Selenium, total	0.0222	0.00050 mg/L	0.0200		111	80-120			
Silicon, total	1.7	1.0 mg/L	2.00		87	80-120			
Silver, total	0.0197	0.000050 mg/L	0.0200		98	80-120			
Sodium, total	1.97	0.10 mg/L	2.00		99	80-120			
Strontium, total	0.0204	0.0010 mg/L	0.0200		102	80-120			
Sulfur, total	5.0	3.0 mg/L	5.00		100	80-120			
Tellurium, total	0.0210	0.00050 mg/L	0.0200		105	80-120			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8090550
2018-09-12 15:42

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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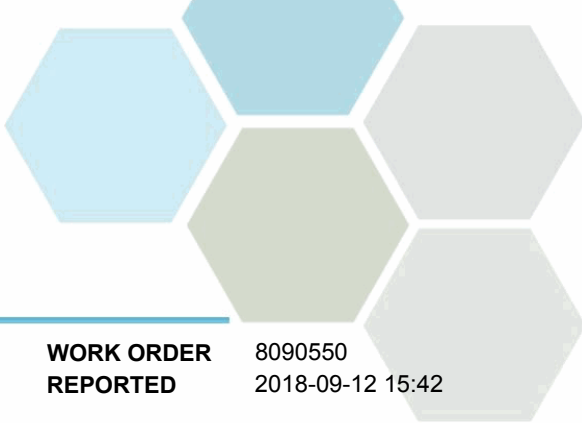
Total Metals, Batch B8I0509, Continued

LCS (B8I0509-BS1), Continued			Prepared: 2018-09-09, Analyzed: 2018-09-10						
Thallium, total	0.0207	0.000020 mg/L	0.0200		103	80-120			
Thorium, total	0.0197	0.00010 mg/L	0.0200		98	80-120			
Tin, total	0.0203	0.00020 mg/L	0.0200		101	80-120			
Titanium, total	0.0207	0.0050 mg/L	0.0200		103	80-120			
Tungsten, total	0.0194	0.0010 mg/L	0.0200		97	80-120			
Uranium, total	0.0199	0.000020 mg/L	0.0200		99	80-120			
Vanadium, total	0.0204	0.0010 mg/L	0.0200		102	80-120			
Zinc, total	0.0199	0.0040 mg/L	0.0200		99	80-120			
Zirconium, total	0.0207	0.00010 mg/L	0.0200		104	80-120			

Reference (B8I0509-SRM1)			Prepared: 2018-09-09, Analyzed: 2018-09-10						
Aluminum, total	0.305	0.0050 mg/L	0.303		101	82-114			
Antimony, total	0.0511	0.00020 mg/L	0.0511		100	88-115			
Arsenic, total	0.125	0.00050 mg/L	0.118		106	88-111			
Barium, total	0.823	0.0050 mg/L	0.823		100	83-110			
Beryllium, total	0.0539	0.00010 mg/L	0.0496		109	80-119			
Boron, total	3.34	0.0050 mg/L	3.45		97	80-118			
Cadmium, total	0.0528	0.000010 mg/L	0.0495		107	90-110			
Calcium, total	11.3	0.20 mg/L	11.6		97	85-113			
Chromium, total	0.272	0.00050 mg/L	0.250		109	88-111			
Cobalt, total	0.0414	0.00010 mg/L	0.0377		110	90-114			
Copper, total	0.537	0.00040 mg/L	0.486		111	90-117			
Iron, total	0.497	0.010 mg/L	0.488		102	90-116			
Lead, total	0.213	0.00020 mg/L	0.204		104	90-110			
Lithium, total	0.427	0.00010 mg/L	0.403		106	79-118			
Magnesium, total	3.89	0.010 mg/L	3.79		103	88-116			
Manganese, total	0.112	0.00020 mg/L	0.109		102	88-108			
Molybdenum, total	0.205	0.00010 mg/L	0.198		104	88-110			
Nickel, total	0.265	0.00040 mg/L	0.249		106	90-112			
Phosphorus, total	0.215	0.050 mg/L	0.227		95	72-118			
Potassium, total	7.40	0.10 mg/L	7.21		103	87-116			
Selenium, total	0.139	0.00050 mg/L	0.121		115	90-122			
Sodium, total	7.80	0.10 mg/L	7.54		103	86-118			
Strontium, total	0.400	0.0010 mg/L	0.375		107	86-110			
Thallium, total	0.0854	0.000020 mg/L	0.0805		106	90-113			
Uranium, total	0.0304	0.000020 mg/L	0.0306		99	88-112			
Vanadium, total	0.413	0.0010 mg/L	0.386		107	87-110			
Zinc, total	2.49	0.0040 mg/L	2.49		100	90-113			

Total Metals, Batch B8I0549

Blank (B8I0549-BLK1)			Prepared: 2018-09-10, Analyzed: 2018-09-10						
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B8I0549-BLK2)			Prepared: 2018-09-10, Analyzed: 2018-09-10						
Mercury, total	< 0.000010	0.000010 mg/L							
Reference (B8I0549-SRM1)			Prepared: 2018-09-10, Analyzed: 2018-09-10						
Mercury, total	0.00430	0.000010 mg/L	0.00489		88	80-120			
Reference (B8I0549-SRM2)			Prepared: 2018-09-10, Analyzed: 2018-09-10						
Mercury, total	0.00459	0.000010 mg/L	0.00489		94	80-120			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO Allterra Construction
PROJECT P17-932

WORK ORDER 8090550
REPORTED 2018-09-12 15:42

QC Qualifiers:

S02 Surrogate recovery outside of control limits. Data accepted based on acceptable recovery of other surrogates.

Client information	Project information	Laboratory information	COC information
Allterra Construction 2158 Millstream Road Victoria, BC V9B 6H4 Phone: (250) 508-0726 Fax:	Number: [none] Sample count: 1 TAT: 3	CARO Analytical Services #110 - 4011 Viking Way Richmond, BC V6V 2K9 Phone: (604) 279-1499 Fax: (604) 279-1599	Number: September 5 2018 Shipped via: Harbour Air Tracking #: SDG:

# 1	LE-1 09/05/2018 17:00 Grab / Water	Analyses	Containers
		Alkalinity, all (KEL) TAT: 3 Anions in Water by IC, 5 Analytes (KEL) TAT: 3 Conductivity in Water (RMD) TAT: 3 L/HEPH in Water (RMD) TAT: 3 Mercury, diss ICPMS, Low (RMD) TAT: 3 Mercury, total CVAFS Reg & Low (RMD) TAT: 3 Metals, dissolved, All, Low (RMD) TAT: 3 Metals, total, All, Low (RMD) TAT: 3 pH in Water (RMD) TAT: 3 Solids, Total Suspended (RMD) TAT: 3 Turbidity (RMD) TAT: 3	C03_250 mL Glass (EPH/PAH) (1) C05_125 mL Plastic (Metals) (1) C06_40 mL Vial (Mercury) (1) C10_125 mL Plastic (H2SO4) (1) C11_1 L Plastic (General) (1) S05_125 mL Plastic (Metals-F) (1) S06_40 mL Vial (Mercury-F) (1)

Relinquished by	Date/Time	Accepted by	Date/Time



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 8092576

RECEIVED / TEMP 2018-09-28 11:40 / 11°C

REPORTED 2018-10-10 12:14

COC NUMBER September 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.

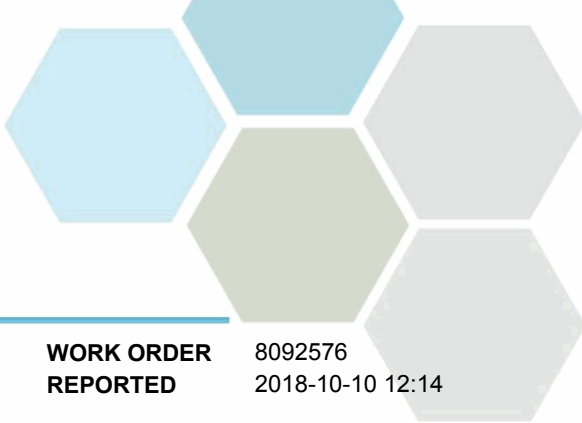
If you have any questions or concerns, please contact me at bshaw@caro.ca

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 8092576
2018-10-10 12:14

Analyte	Result	RL	Units	Analyzed	Qualifier
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MW6 (8092576-01) | Matrix: Water | Sampled: 2018-09-26 12:15

Anions

Chloride	37.2	0.10	mg/L	2018-09-29	
Fluoride	0.19	0.10	mg/L	2018-09-29	
Nitrate (as N)	0.174	0.010	mg/L	2018-09-29	
Nitrite (as N)	< 0.010	0.010	mg/L	2018-09-29	
Sulfate	87.7	1.0	mg/L	2018-09-29	

BCMOE Aggregate Hydrocarbons

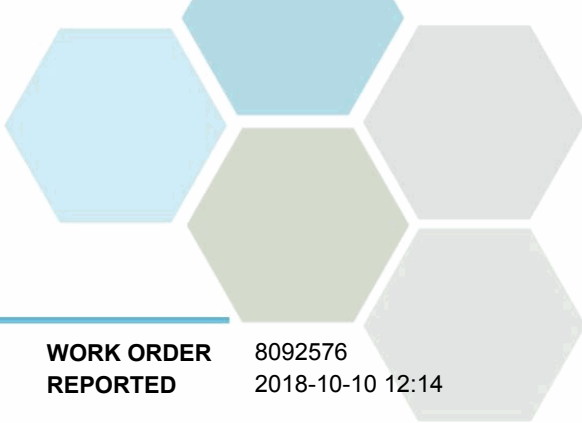
EPHw10-19	< 250	250	µg/L	2018-10-04	
EPHw19-32	< 250	250	µg/L	2018-10-04	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	98	60-140	%	2018-10-04	

Calculated Parameters

Hardness, Total (as CaCO3)	530	0.500	mg/L	N/A	
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Dissolved Metals

Aluminum, dissolved	< 0.0050	0.0050	mg/L	2018-10-09	
Antimony, dissolved	0.00027	0.00020	mg/L	2018-10-09	
Arsenic, dissolved	0.00422	0.00050	mg/L	2018-10-09	
Barium, dissolved	0.0785	0.0050	mg/L	2018-10-09	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
Boron, dissolved	0.0692	0.0050	mg/L	2018-10-09	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2018-10-09	
Calcium, dissolved	157	0.20	mg/L	2018-10-09	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2018-10-09	
Cobalt, dissolved	0.00197	0.00010	mg/L	2018-10-09	
Copper, dissolved	< 0.00040	0.00040	mg/L	2018-10-09	
Iron, dissolved	2.66	0.010	mg/L	2018-10-09	
Lead, dissolved	< 0.00020	0.00020	mg/L	2018-10-09	
Lithium, dissolved	0.0111	0.00010	mg/L	2018-10-09	
Magnesium, dissolved	33.7	0.010	mg/L	2018-10-09	
Manganese, dissolved	1.96	0.00020	mg/L	2018-10-09	
Mercury, dissolved	< 0.000040	0.000040	mg/L	2018-10-09	CT5
Molybdenum, dissolved	0.00045	0.00010	mg/L	2018-10-09	
Nickel, dissolved	0.00179	0.00040	mg/L	2018-10-09	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2018-10-09	
Potassium, dissolved	3.11	0.10	mg/L	2018-10-09	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2018-10-09	
Silicon, dissolved	11.3	1.0	mg/L	2018-10-09	
Silver, dissolved	< 0.000050	0.000050	mg/L	2018-10-09	
Sodium, dissolved	59.6	0.10	mg/L	2018-10-09	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8092576
2018-10-10 12:14

Analyte	Result	RL	Units	Analyzed	Qualifier
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MW6 (8092576-01) | Matrix: Water | Sampled: 2018-09-26 12:15, Continued

Dissolved Metals, Continued

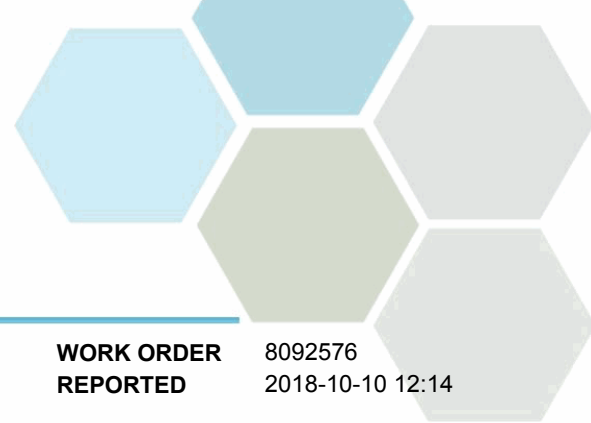
Strontium, dissolved	0.566	0.0010	mg/L	2018-10-09	
Sulfur, dissolved	21.1	3.0	mg/L	2018-10-09	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2018-10-09	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2018-10-09	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
Tin, dissolved	< 0.00020	0.00020	mg/L	2018-10-09	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2018-10-09	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2018-10-09	
Uranium, dissolved	0.00673	0.000020	mg/L	2018-10-09	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2018-10-09	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2018-10-09	
Zirconium, dissolved	0.00016	0.00010	mg/L	2018-10-09	

General Parameters

Alkalinity, Total (as CaCO3)	626	1.0	mg/L	2018-10-02	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2018-10-02	
Alkalinity, Bicarbonate (as CaCO3)	626	1.0	mg/L	2018-10-02	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2018-10-02	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2018-10-02	
Colour, True	5.3	5.0	CU	2018-09-29	
Conductivity (EC)	1300	2.0	µS/cm	2018-10-04	
pH	7.17	0.10	pH units	2018-10-03	HT2
Solids, Total Suspended	8.8	2.0	mg/L	2018-10-03	
Turbidity	6.90	0.10	NTU	2018-09-29	

Polycyclic Aromatic Hydrocarbons (PAH)

Acenaphthene	< 0.050	0.050	µg/L	2018-10-06	
Acenaphthylene	< 0.200	0.200	µg/L	2018-10-06	
Acridine	< 0.050	0.050	µg/L	2018-10-06	
Anthracene	< 0.010	0.010	µg/L	2018-10-06	
Benz(a)anthracene	< 0.010	0.010	µg/L	2018-10-06	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2018-10-06	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2018-10-06	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2018-10-06	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2018-10-06	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2018-10-06	
Chrysene	< 0.050	0.050	µg/L	2018-10-06	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2018-10-06	
Fluoranthene	< 0.030	0.030	µg/L	2018-10-06	
Fluorene	< 0.050	0.050	µg/L	2018-10-06	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2018-10-06	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2018-10-06	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2018-10-06	

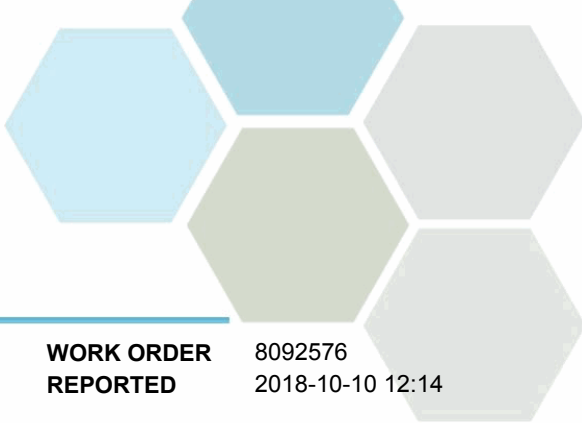


TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8092576
2018-10-10 12:14

Analyte	Result	RL	Units	Analyzed	Qualifier
MW6 (8092576-01) Matrix: Water Sampled: 2018-09-26 12:15, Continued					
<i>Polycyclic Aromatic Hydrocarbons (PAH), Continued</i>					
Naphthalene	< 0.200	0.200	µg/L	2018-10-06	
Phenanthrene	< 0.100	0.100	µg/L	2018-10-06	
Pyrene	0.028	0.020	µg/L	2018-10-06	
Quinoline	< 0.050	0.050	µg/L	2018-10-06	
Surrogate: Acridine-d9	89	50-140	%	2018-10-06	
Surrogate: Naphthalene-d8	105	50-140	%	2018-10-06	
Surrogate: Perylene-d12	25	50-140	%	2018-10-06	S02
Total Metals					
Aluminum, total	0.122	0.0050	mg/L	2018-10-09	
Antimony, total	0.00078	0.00020	mg/L	2018-10-09	
Arsenic, total	0.00511	0.00050	mg/L	2018-10-09	
Barium, total	0.0823	0.0050	mg/L	2018-10-09	
Beryllium, total	< 0.00010	0.00010	mg/L	2018-10-09	
Bismuth, total	< 0.00010	0.00010	mg/L	2018-10-09	
Boron, total	0.0752	0.0050	mg/L	2018-10-09	
Cadmium, total	0.000064	0.000010	mg/L	2018-10-09	
Calcium, total	167	0.20	mg/L	2018-10-09	
Chromium, total	0.00052	0.00050	mg/L	2018-10-09	
Cobalt, total	0.00296	0.00010	mg/L	2018-10-09	
Copper, total	0.00233	0.00040	mg/L	2018-10-09	
Iron, total	3.17	0.010	mg/L	2018-10-09	
Lead, total	0.00102	0.00020	mg/L	2018-10-09	
Lithium, total	0.0116	0.00010	mg/L	2018-10-09	
Magnesium, total	35.4	0.010	mg/L	2018-10-09	
Manganese, total	2.06	0.00020	mg/L	2018-10-09	
Mercury, total	< 0.000010	0.000010	mg/L	2018-10-01	
Molybdenum, total	0.00132	0.00010	mg/L	2018-10-09	
Nickel, total	0.00683	0.00040	mg/L	2018-10-09	
Phosphorus, total	< 0.050	0.050	mg/L	2018-10-09	
Potassium, total	3.27	0.10	mg/L	2018-10-09	
Selenium, total	< 0.00050	0.00050	mg/L	2018-10-09	
Silicon, total	11.8	1.0	mg/L	2018-10-09	
Silver, total	< 0.000050	0.000050	mg/L	2018-10-09	
Sodium, total	64.2	0.10	mg/L	2018-10-09	
Strontium, total	0.583	0.0010	mg/L	2018-10-09	
Sulfur, total	22.1	3.0	mg/L	2018-10-09	
Tellurium, total	< 0.00050	0.00050	mg/L	2018-10-09	
Thallium, total	0.000034	0.000020	mg/L	2018-10-09	
Thorium, total	< 0.00010	0.00010	mg/L	2018-10-09	
Tin, total	0.00111	0.00020	mg/L	2018-10-09	
Titanium, total	0.0053	0.0050	mg/L	2018-10-09	
Tungsten, total	< 0.0010	0.0010	mg/L	2018-10-09	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8092576
2018-10-10 12:14

Analyte	Result	RL	Units	Analyzed	Qualifier
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MW6 (8092576-01) | Matrix: Water | Sampled: 2018-09-26 12:15, Continued

Total Metals, Continued

Uranium, total	0.00691	0.000020	mg/L	2018-10-09	
Vanadium, total	< 0.0010	0.0010	mg/L	2018-10-09	
Zinc, total	0.0137	0.0040	mg/L	2018-10-09	
Zirconium, total	0.00013	0.00010	mg/L	2018-10-09	

MW3S (8092576-02) | Matrix: Water | Sampled: 2018-09-26 13:00

Anions

Chloride	12.9	0.10	mg/L	2018-09-29	
Fluoride	< 0.10	0.10	mg/L	2018-09-29	
Nitrate (as N)	< 0.010	0.010	mg/L	2018-09-29	
Nitrite (as N)	< 0.010	0.010	mg/L	2018-09-29	
Sulfate	41.5	1.0	mg/L	2018-09-29	

BCMOE Aggregate Hydrocarbons

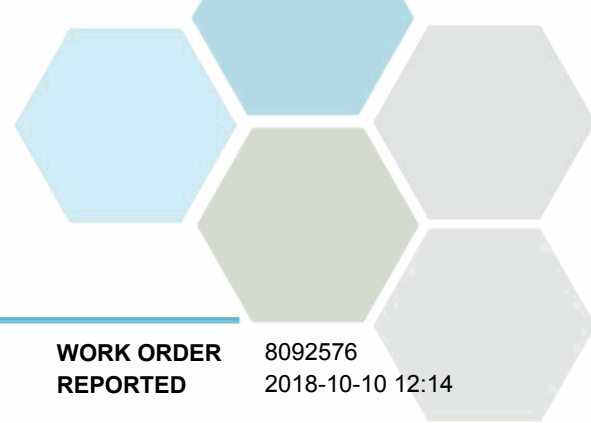
EPHw10-19	< 250	250	µg/L	2018-10-04	
EPHw19-32	< 250	250	µg/L	2018-10-04	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	97	60-140	%	2018-10-04	

Calculated Parameters

Hardness, Total (as CaCO3)	136	0.500	mg/L	N/A	
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Dissolved Metals

Aluminum, dissolved	< 0.0050	0.0050	mg/L	2018-10-09	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2018-10-09	
Arsenic, dissolved	0.00117	0.00050	mg/L	2018-10-09	
Barium, dissolved	0.0290	0.0050	mg/L	2018-10-09	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
Boron, dissolved	0.0173	0.0050	mg/L	2018-10-09	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2018-10-09	
Calcium, dissolved	43.1	0.20	mg/L	2018-10-09	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2018-10-09	
Cobalt, dissolved	0.00059	0.00010	mg/L	2018-10-09	
Copper, dissolved	< 0.00040	0.00040	mg/L	2018-10-09	
Iron, dissolved	0.087	0.010	mg/L	2018-10-09	
Lead, dissolved	< 0.00020	0.00020	mg/L	2018-10-09	
Lithium, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
Magnesium, dissolved	6.92	0.010	mg/L	2018-10-09	
Manganese, dissolved	0.389	0.00020	mg/L	2018-10-09	
Mercury, dissolved	< 0.000040	0.000040	mg/L	2018-10-09	CT5



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8092576
2018-10-10 12:14

Analyte	Result	RL	Units	Analyzed	Qualifier
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MW3S (8092576-02) | Matrix: Water | Sampled: 2018-09-26 13:00, Continued

Dissolved Metals, Continued

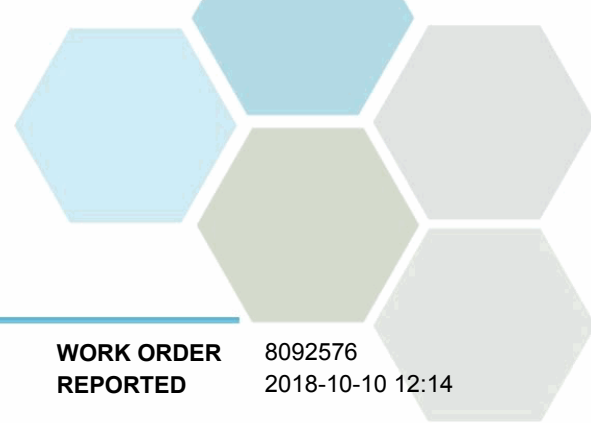
Molybdenum, dissolved	0.00579	0.00010	mg/L	2018-10-09	
Nickel, dissolved	0.00112	0.00040	mg/L	2018-10-09	
Phosphorus, dissolved	0.058	0.050	mg/L	2018-10-09	
Potassium, dissolved	0.84	0.10	mg/L	2018-10-09	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2018-10-09	
Silicon, dissolved	5.9	1.0	mg/L	2018-10-09	
Silver, dissolved	< 0.000050	0.000050	mg/L	2018-10-09	
Sodium, dissolved	13.5	0.10	mg/L	2018-10-09	
Strontium, dissolved	0.215	0.0010	mg/L	2018-10-09	
Sulfur, dissolved	13.1	3.0	mg/L	2018-10-09	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2018-10-09	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2018-10-09	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
Tin, dissolved	< 0.00020	0.00020	mg/L	2018-10-09	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2018-10-09	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2018-10-09	
Uranium, dissolved	0.00102	0.000020	mg/L	2018-10-09	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2018-10-09	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2018-10-09	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	

General Parameters

Alkalinity, Total (as CaCO3)	128	1.0	mg/L	2018-10-02	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2018-10-02	
Alkalinity, Bicarbonate (as CaCO3)	128	1.0	mg/L	2018-10-02	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2018-10-02	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2018-10-02	
Colour, True	< 5.0	5.0	CU	2018-09-29	
Conductivity (EC)	359	2.0	µS/cm	2018-10-04	
pH	7.70	0.10	pH units	2018-10-03	HT2
Solids, Total Suspended	13.6	2.0	mg/L	2018-10-03	
Turbidity	1.95	0.10	NTU	2018-09-29	

Polycyclic Aromatic Hydrocarbons (PAH)

Acenaphthene	< 0.050	0.050	µg/L	2018-10-06	
Acenaphthylene	< 0.200	0.200	µg/L	2018-10-06	
Acridine	< 0.050	0.050	µg/L	2018-10-06	
Anthracene	< 0.010	0.010	µg/L	2018-10-06	
Benz(a)anthracene	< 0.010	0.010	µg/L	2018-10-06	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2018-10-06	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2018-10-06	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2018-10-06	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2018-10-06	



TEST RESULTS

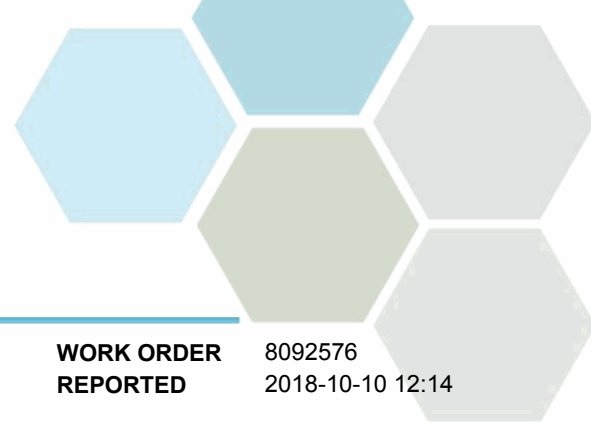
REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8092576
2018-10-10 12:14

Analyte	Result	RL	Units	Analyzed	Qualifier
MW3S (8092576-02) Matrix: Water Sampled: 2018-09-26 13:00, Continued					
<i>Polycyclic Aromatic Hydrocarbons (PAH), Continued</i>					
2-Chloronaphthalene	< 0.100	0.100	µg/L	2018-10-06	
Chrysene	< 0.050	0.050	µg/L	2018-10-06	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2018-10-06	
Fluoranthene	< 0.030	0.030	µg/L	2018-10-06	
Fluorene	< 0.050	0.050	µg/L	2018-10-06	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2018-10-06	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2018-10-06	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2018-10-06	
Naphthalene	< 0.200	0.200	µg/L	2018-10-06	
Phenanthrene	< 0.100	0.100	µg/L	2018-10-06	
Pyrene	< 0.020	0.020	µg/L	2018-10-06	
Quinoline	< 0.050	0.050	µg/L	2018-10-06	
Surrogate: Acridine-d9	65	50-140	%	2018-10-06	
Surrogate: Naphthalene-d8	74	50-140	%	2018-10-06	
Surrogate: Perylene-d12	33	50-140	%	2018-10-06	S02

Total Metals

Aluminum, total	0.0956	0.0050	mg/L	2018-10-09	
Antimony, total	< 0.00020	0.00020	mg/L	2018-10-09	
Arsenic, total	0.00125	0.00050	mg/L	2018-10-09	
Barium, total	0.0318	0.0050	mg/L	2018-10-09	
Beryllium, total	< 0.00010	0.00010	mg/L	2018-10-09	
Bismuth, total	< 0.00010	0.00010	mg/L	2018-10-09	
Boron, total	0.0219	0.0050	mg/L	2018-10-09	
Cadmium, total	0.000212	0.000010	mg/L	2018-10-09	
Calcium, total	48.4	0.20	mg/L	2018-10-09	
Chromium, total	< 0.00050	0.00050	mg/L	2018-10-09	
Cobalt, total	0.00075	0.00010	mg/L	2018-10-09	
Copper, total	0.00057	0.00040	mg/L	2018-10-09	
Iron, total	0.170	0.010	mg/L	2018-10-09	
Lead, total	< 0.00020	0.00020	mg/L	2018-10-09	
Lithium, total	0.00027	0.00010	mg/L	2018-10-09	
Magnesium, total	7.71	0.010	mg/L	2018-10-09	
Manganese, total	0.431	0.00020	mg/L	2018-10-09	
Mercury, total	< 0.000010	0.000010	mg/L	2018-10-01	
Molybdenum, total	0.00645	0.00010	mg/L	2018-10-09	
Nickel, total	0.00156	0.00040	mg/L	2018-10-09	
Phosphorus, total	0.080	0.050	mg/L	2018-10-09	
Potassium, total	0.94	0.10	mg/L	2018-10-09	
Selenium, total	< 0.00050	0.00050	mg/L	2018-10-09	
Silicon, total	6.4	1.0	mg/L	2018-10-09	
Silver, total	< 0.000050	0.000050	mg/L	2018-10-09	
Sodium, total	15.1	0.10	mg/L	2018-10-09	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8092576
2018-10-10 12:14

Analyte	Result	RL	Units	Analyzed	Qualifier
MW3S (8092576-02) Matrix: Water Sampled: 2018-09-26 13:00, Continued					
<i>Total Metals, Continued</i>					
Strontium, total	0.232	0.0010	mg/L	2018-10-09	
Sulfur, total	13.9	3.0	mg/L	2018-10-09	
Tellurium, total	< 0.00050	0.00050	mg/L	2018-10-09	
Thallium, total	0.000041	0.000020	mg/L	2018-10-09	
Thorium, total	< 0.00010	0.00010	mg/L	2018-10-09	
Tin, total	0.00023	0.00020	mg/L	2018-10-09	
Titanium, total	< 0.0050	0.0050	mg/L	2018-10-09	
Tungsten, total	< 0.0010	0.0010	mg/L	2018-10-09	
Uranium, total	0.00117	0.000020	mg/L	2018-10-09	
Vanadium, total	< 0.0010	0.0010	mg/L	2018-10-09	
Zinc, total	< 0.0040	0.0040	mg/L	2018-10-09	
Zirconium, total	0.00011	0.00010	mg/L	2018-10-09	

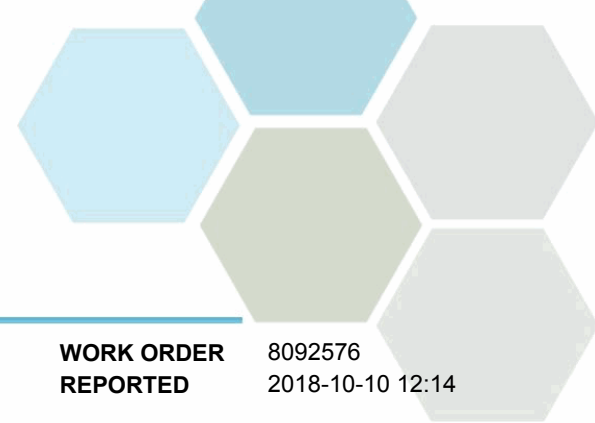
MW3D (8092576-03) | Matrix: Water | Sampled: 2018-09-26 13:30

<i>Anions</i>					
Chloride	2.57	0.10	mg/L	2018-09-29	
Fluoride	0.11	0.10	mg/L	2018-09-29	
Nitrate (as N)	< 0.010	0.010	mg/L	2018-09-29	
Nitrite (as N)	< 0.010	0.010	mg/L	2018-09-29	
Sulfate	22.5	1.0	mg/L	2018-09-29	

<i>BCMOE Aggregate Hydrocarbons</i>					
EPHw10-19	< 250	250	µg/L	2018-10-04	
EPHw19-32	< 250	250	µg/L	2018-10-04	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	74	60-140	%	2018-10-04	

<i>Calculated Parameters</i>					
Hardness, Total (as CaCO3)	96.3	0.500	mg/L	N/A	

<i>Dissolved Metals</i>					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2018-10-09	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2018-10-09	
Arsenic, dissolved	0.00140	0.00050	mg/L	2018-10-09	
Barium, dissolved	0.0197	0.0050	mg/L	2018-10-09	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
Boron, dissolved	0.0195	0.0050	mg/L	2018-10-09	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2018-10-09	
Calcium, dissolved	29.8	0.20	mg/L	2018-10-09	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2018-10-09	

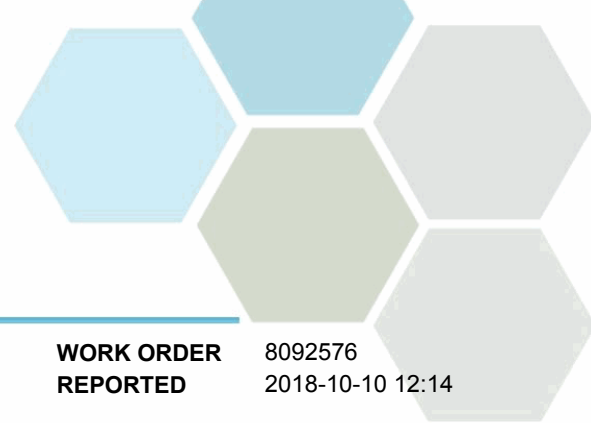


TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8092576
2018-10-10 12:14

Analyte	Result	RL	Units	Analyzed	Qualifier
MW3D (8092576-03) Matrix: Water Sampled: 2018-09-26 13:30, Continued					
<i>Dissolved Metals, Continued</i>					
Cobalt, dissolved	0.00038	0.00010	mg/L	2018-10-09	
Copper, dissolved	< 0.00040	0.00040	mg/L	2018-10-09	
Iron, dissolved	0.134	0.010	mg/L	2018-10-09	
Lead, dissolved	< 0.00020	0.00020	mg/L	2018-10-09	
Lithium, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
Magnesium, dissolved	5.27	0.010	mg/L	2018-10-09	
Manganese, dissolved	0.331	0.00020	mg/L	2018-10-09	
Mercury, dissolved	< 0.000040	0.000040	mg/L	2018-10-09	CT5
Molybdenum, dissolved	0.00597	0.00010	mg/L	2018-10-09	
Nickel, dissolved	0.00101	0.00040	mg/L	2018-10-09	
Phosphorus, dissolved	0.091	0.050	mg/L	2018-10-09	
Potassium, dissolved	0.54	0.10	mg/L	2018-10-09	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2018-10-09	
Silicon, dissolved	5.8	1.0	mg/L	2018-10-09	
Silver, dissolved	< 0.000050	0.000050	mg/L	2018-10-09	
Sodium, dissolved	10.1	0.10	mg/L	2018-10-09	
Strontium, dissolved	0.184	0.0010	mg/L	2018-10-09	
Sulfur, dissolved	6.9	3.0	mg/L	2018-10-09	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2018-10-09	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2018-10-09	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
Tin, dissolved	< 0.00020	0.00020	mg/L	2018-10-09	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2018-10-09	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2018-10-09	
Uranium, dissolved	0.000607	0.000020	mg/L	2018-10-09	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2018-10-09	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2018-10-09	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
<i>General Parameters</i>					
Alkalinity, Total (as CaCO3)	106	1.0	mg/L	2018-10-02	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2018-10-02	
Alkalinity, Bicarbonate (as CaCO3)	106	1.0	mg/L	2018-10-02	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2018-10-02	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2018-10-02	
Colour, True	< 5.0	5.0	CU	2018-09-29	
Conductivity (EC)	253	2.0	µS/cm	2018-10-04	
pH	7.66	0.10	pH units	2018-10-03	HT2
Solids, Total Suspended	10.4	2.0	mg/L	2018-10-03	
Turbidity	3.22	0.10	NTU	2018-09-29	
<i>Polycyclic Aromatic Hydrocarbons (PAH)</i>					
Acenaphthene	< 0.050	0.050	µg/L	2018-10-06	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8092576
2018-10-10 12:14

Analyte	Result	RL	Units	Analyzed	Qualifier
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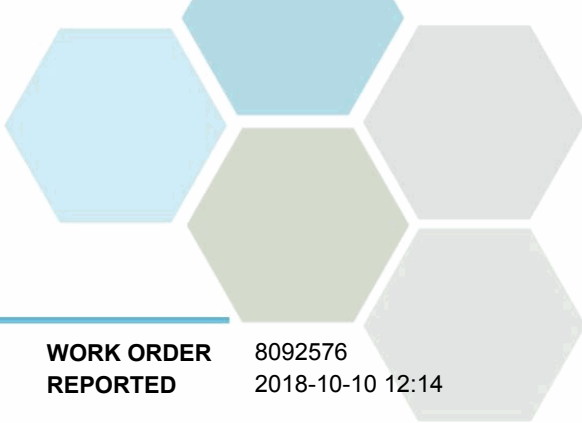
MW3D (8092576-03) | Matrix: Water | Sampled: 2018-09-26 13:30, Continued

Polycyclic Aromatic Hydrocarbons (PAH), Continued

Acenaphthylene	< 0.200	0.200	µg/L	2018-10-06	
Acridine	< 0.050	0.050	µg/L	2018-10-06	
Anthracene	< 0.010	0.010	µg/L	2018-10-06	
Benz(a)anthracene	< 0.010	0.010	µg/L	2018-10-06	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2018-10-06	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2018-10-06	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2018-10-06	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2018-10-06	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2018-10-06	
Chrysene	< 0.050	0.050	µg/L	2018-10-06	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2018-10-06	
Fluoranthene	< 0.030	0.030	µg/L	2018-10-06	
Fluorene	< 0.050	0.050	µg/L	2018-10-06	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2018-10-06	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2018-10-06	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2018-10-06	
Naphthalene	< 0.200	0.200	µg/L	2018-10-06	
Phenanthrene	< 0.100	0.100	µg/L	2018-10-06	
Pyrene	< 0.020	0.020	µg/L	2018-10-06	
Quinoline	< 0.050	0.050	µg/L	2018-10-06	
Surrogate: Acridine-d9	93	50-140	%	2018-10-06	
Surrogate: Naphthalene-d8	111	50-140	%	2018-10-06	
Surrogate: Perylene-d12	47	50-140	%	2018-10-06	S02

Total Metals

Aluminum, total	0.161	0.0050	mg/L	2018-10-09	
Antimony, total	< 0.00020	0.00020	mg/L	2018-10-09	
Arsenic, total	0.00153	0.00050	mg/L	2018-10-09	
Barium, total	0.0210	0.0050	mg/L	2018-10-09	
Beryllium, total	< 0.00010	0.00010	mg/L	2018-10-09	
Bismuth, total	< 0.00010	0.00010	mg/L	2018-10-09	
Boron, total	0.0233	0.0050	mg/L	2018-10-09	
Cadmium, total	0.000300	0.000010	mg/L	2018-10-09	
Calcium, total	32.4	0.20	mg/L	2018-10-09	
Chromium, total	0.00050	0.00050	mg/L	2018-10-09	
Cobalt, total	0.00053	0.00010	mg/L	2018-10-09	
Copper, total	0.00058	0.00040	mg/L	2018-10-09	
Iron, total	0.270	0.010	mg/L	2018-10-09	
Lead, total	< 0.00020	0.00020	mg/L	2018-10-09	
Lithium, total	0.00025	0.00010	mg/L	2018-10-09	
Magnesium, total	5.76	0.010	mg/L	2018-10-09	
Manganese, total	0.361	0.00020	mg/L	2018-10-09	
Mercury, total	< 0.000010	0.000010	mg/L	2018-10-01	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8092576
2018-10-10 12:14

Analyte	Result	RL	Units	Analyzed	Qualifier
MW3D (8092576-03) Matrix: Water Sampled: 2018-09-26 13:30, Continued					
<i>Total Metals, Continued</i>					
Molybdenum, total	0.00695	0.00010	mg/L	2018-10-09	
Nickel, total	0.00159	0.00040	mg/L	2018-10-09	
Phosphorus, total	0.121	0.050	mg/L	2018-10-09	
Potassium, total	0.59	0.10	mg/L	2018-10-09	
Selenium, total	< 0.00050	0.00050	mg/L	2018-10-09	
Silicon, total	6.4	1.0	mg/L	2018-10-09	
Silver, total	< 0.000050	0.000050	mg/L	2018-10-09	
Sodium, total	11.2	0.10	mg/L	2018-10-09	
Strontium, total	0.196	0.0010	mg/L	2018-10-09	
Sulfur, total	7.0	3.0	mg/L	2018-10-09	
Tellurium, total	< 0.00050	0.00050	mg/L	2018-10-09	
Thallium, total	0.000033	0.000020	mg/L	2018-10-09	
Thorium, total	0.00021	0.00010	mg/L	2018-10-09	
Tin, total	0.00024	0.00020	mg/L	2018-10-09	
Titanium, total	< 0.0050	0.0050	mg/L	2018-10-09	
Tungsten, total	< 0.0010	0.0010	mg/L	2018-10-09	
Uranium, total	0.000792	0.000020	mg/L	2018-10-09	
Vanadium, total	< 0.0010	0.0010	mg/L	2018-10-09	
Zinc, total	0.0046	0.0040	mg/L	2018-10-09	
Zirconium, total	0.00018	0.00010	mg/L	2018-10-09	

MW2 (8092576-04) | Matrix: Water | Sampled: 2018-09-26 14:30

Anions

Chloride	5.65	0.10	mg/L	2018-09-29	
Fluoride	0.10	0.10	mg/L	2018-09-29	
Nitrate (as N)	< 0.010	0.010	mg/L	2018-09-29	
Nitrite (as N)	< 0.010	0.010	mg/L	2018-09-29	
Sulfate	18.3	1.0	mg/L	2018-09-29	

BCMOE Aggregate Hydrocarbons

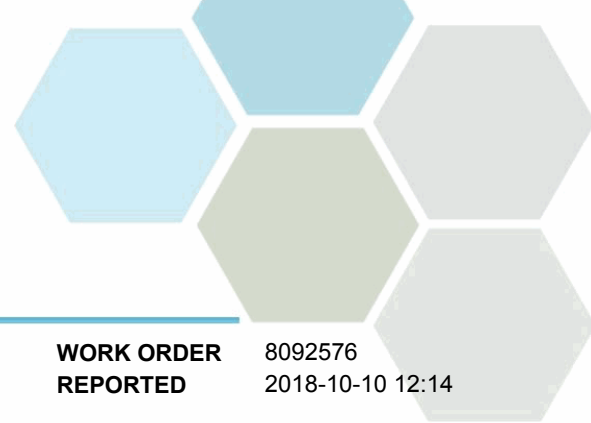
EPHw10-19	< 250	250	µg/L	2018-10-04	
EPHw19-32	< 250	250	µg/L	2018-10-04	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	91	60-140	%	2018-10-04	

Calculated Parameters

Hardness, Total (as CaCO3)	117	0.500	mg/L	N/A	
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Dissolved Metals

Aluminum, dissolved	0.0051	0.0050	mg/L	2018-10-09	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2018-10-09	



TEST RESULTS

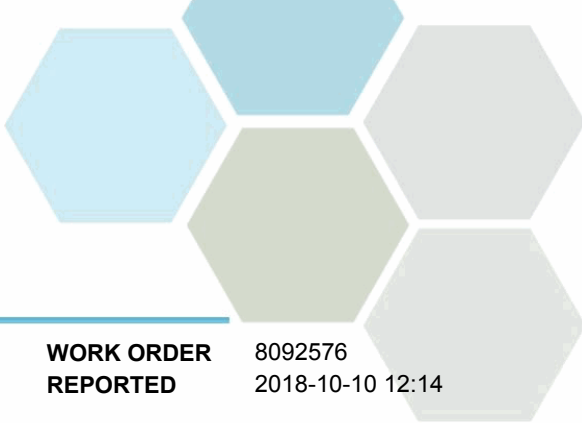
REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8092576
2018-10-10 12:14

Analyte	Result	RL	Units	Analyzed	Qualifier
MW2 (8092576-04) Matrix: Water Sampled: 2018-09-26 14:30, Continued					
<i>Dissolved Metals, Continued</i>					
Arsenic, dissolved	0.00194	0.00050	mg/L	2018-10-09	
Barium, dissolved	0.0285	0.0050	mg/L	2018-10-09	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
Boron, dissolved	0.0200	0.0050	mg/L	2018-10-09	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2018-10-09	
Calcium, dissolved	35.3	0.20	mg/L	2018-10-09	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2018-10-09	
Cobalt, dissolved	0.00031	0.00010	mg/L	2018-10-09	
Copper, dissolved	< 0.00040	0.00040	mg/L	2018-10-09	
Iron, dissolved	0.243	0.010	mg/L	2018-10-09	
Lead, dissolved	< 0.00020	0.00020	mg/L	2018-10-09	
Lithium, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
Magnesium, dissolved	6.98	0.010	mg/L	2018-10-09	
Manganese, dissolved	0.473	0.00020	mg/L	2018-10-09	
Mercury, dissolved	< 0.000040	0.000040	mg/L	2018-10-09	CT5
Molybdenum, dissolved	0.00366	0.00010	mg/L	2018-10-09	
Nickel, dissolved	0.00046	0.00040	mg/L	2018-10-09	
Phosphorus, dissolved	0.151	0.050	mg/L	2018-10-09	
Potassium, dissolved	0.62	0.10	mg/L	2018-10-09	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2018-10-09	
Silicon, dissolved	6.5	1.0	mg/L	2018-10-09	
Silver, dissolved	< 0.000050	0.000050	mg/L	2018-10-09	
Sodium, dissolved	8.81	0.10	mg/L	2018-10-09	
Strontium, dissolved	0.158	0.0010	mg/L	2018-10-09	
Sulfur, dissolved	4.6	3.0	mg/L	2018-10-09	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2018-10-09	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2018-10-09	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
Tin, dissolved	< 0.00020	0.00020	mg/L	2018-10-09	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2018-10-09	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2018-10-09	
Uranium, dissolved	0.000727	0.000020	mg/L	2018-10-09	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2018-10-09	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2018-10-09	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	

General Parameters

Alkalinity, Total (as CaCO3)	126	1.0	mg/L	2018-10-02	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2018-10-02	
Alkalinity, Bicarbonate (as CaCO3)	126	1.0	mg/L	2018-10-02	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2018-10-02	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2018-10-02	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8092576
2018-10-10 12:14

Analyte	Result	RL	Units	Analyzed	Qualifier
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MW2 (8092576-04) | Matrix: Water | Sampled: 2018-09-26 14:30, Continued

General Parameters, Continued

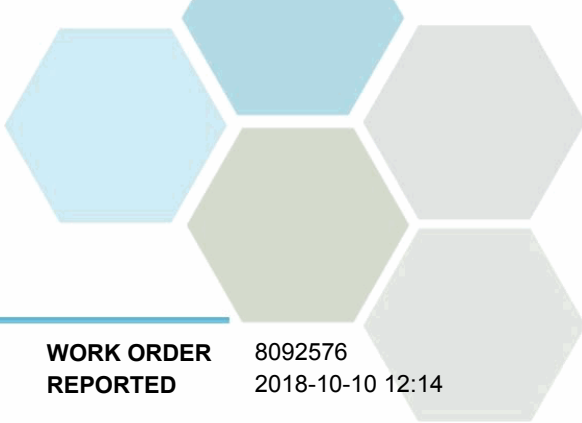
Colour, True	5.4	5.0	CU	2018-09-29	
Conductivity (EC)	290	2.0	µS/cm	2018-10-04	
pH	7.74	0.10	pH units	2018-10-03	HT2
Solids, Total Suspended	25.2	2.0	mg/L	2018-10-03	
Turbidity	10.1	0.10	NTU	2018-09-29	

Polycyclic Aromatic Hydrocarbons (PAH)

Acenaphthene	< 0.050	0.050	µg/L	2018-10-06	
Acenaphthylene	< 0.200	0.200	µg/L	2018-10-06	
Acridine	0.072	0.050	µg/L	2018-10-06	
Anthracene	< 0.010	0.010	µg/L	2018-10-06	
Benz(a)anthracene	< 0.010	0.010	µg/L	2018-10-06	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2018-10-06	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2018-10-06	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2018-10-06	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2018-10-06	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2018-10-06	
Chrysene	< 0.050	0.050	µg/L	2018-10-06	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2018-10-06	
Fluoranthene	< 0.030	0.030	µg/L	2018-10-06	
Fluorene	< 0.050	0.050	µg/L	2018-10-06	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2018-10-06	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2018-10-06	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2018-10-06	
Naphthalene	< 0.200	0.200	µg/L	2018-10-06	
Phenanthrene	< 0.100	0.100	µg/L	2018-10-06	
Pyrene	< 0.020	0.020	µg/L	2018-10-06	
Quinoline	< 0.050	0.050	µg/L	2018-10-06	
Surrogate: Acridine-d9	52	50-140	%	2018-10-06	
Surrogate: Naphthalene-d8	63	50-140	%	2018-10-06	
Surrogate: Perylene-d12	26	50-140	%	2018-10-06	S02

Total Metals

Aluminum, total	0.419	0.0050	mg/L	2018-10-09	
Antimony, total	0.00024	0.00020	mg/L	2018-10-09	
Arsenic, total	0.00206	0.00050	mg/L	2018-10-09	
Barium, total	0.0299	0.0050	mg/L	2018-10-09	
Beryllium, total	< 0.00010	0.00010	mg/L	2018-10-09	
Bismuth, total	< 0.00010	0.00010	mg/L	2018-10-09	
Boron, total	0.0240	0.0050	mg/L	2018-10-09	
Cadmium, total	0.000063	0.000010	mg/L	2018-10-09	
Calcium, total	38.8	0.20	mg/L	2018-10-09	
Chromium, total	0.00071	0.00050	mg/L	2018-10-09	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8092576
2018-10-10 12:14

Analyte	Result	RL	Units	Analyzed	Qualifier
MW2 (8092576-04) Matrix: Water Sampled: 2018-09-26 14:30, Continued					
<i>Total Metals, Continued</i>					
Cobalt, total	0.00071	0.00010	mg/L	2018-10-09	
Copper, total	0.00406	0.00040	mg/L	2018-10-09	
Iron, total	0.819	0.010	mg/L	2018-10-09	
Lead, total	0.00074	0.00020	mg/L	2018-10-09	
Lithium, total	0.00025	0.00010	mg/L	2018-10-09	
Magnesium, total	7.73	0.010	mg/L	2018-10-09	
Manganese, total	0.521	0.00020	mg/L	2018-10-09	
Mercury, total	< 0.000010	0.000010	mg/L	2018-10-01	
Molybdenum, total	0.00412	0.00010	mg/L	2018-10-09	
Nickel, total	0.00156	0.00040	mg/L	2018-10-09	
Phosphorus, total	0.186	0.050	mg/L	2018-10-09	
Potassium, total	0.70	0.10	mg/L	2018-10-09	
Selenium, total	< 0.00050	0.00050	mg/L	2018-10-09	
Silicon, total	7.2	1.0	mg/L	2018-10-09	
Silver, total	< 0.000050	0.000050	mg/L	2018-10-09	
Sodium, total	9.66	0.10	mg/L	2018-10-09	
Strontium, total	0.166	0.0010	mg/L	2018-10-09	
Sulfur, total	5.4	3.0	mg/L	2018-10-09	
Tellurium, total	< 0.00050	0.00050	mg/L	2018-10-09	
Thallium, total	0.000031	0.000020	mg/L	2018-10-09	
Thorium, total	< 0.00010	0.00010	mg/L	2018-10-09	
Tin, total	< 0.00020	0.00020	mg/L	2018-10-09	
Titanium, total	0.0162	0.0050	mg/L	2018-10-09	
Tungsten, total	< 0.0010	0.0010	mg/L	2018-10-09	
Uranium, total	0.000821	0.000020	mg/L	2018-10-09	
Vanadium, total	0.0019	0.0010	mg/L	2018-10-09	
Zinc, total	0.0108	0.0040	mg/L	2018-10-09	
Zirconium, total	0.00013	0.00010	mg/L	2018-10-09	

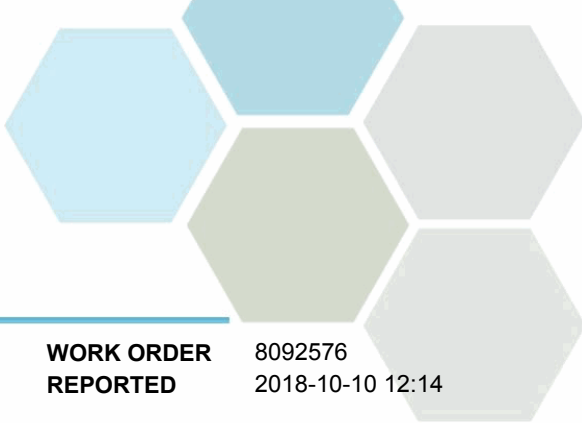
SB1 (8092576-05) | Matrix: Water | Sampled: 2018-09-26 11:10

Anions

Chloride	1.37	0.10	mg/L	2018-09-30	
Fluoride	< 0.10	0.10	mg/L	2018-09-30	
Nitrate (as N)	0.778	0.010	mg/L	2018-09-30	
Nitrite (as N)	< 0.010	0.010	mg/L	2018-09-30	
Sulfate	151	1.0	mg/L	2018-09-29	

BCMOE Aggregate Hydrocarbons

EPHw10-19	< 250	250	µg/L	2018-10-04	
EPHw19-32	< 250	250	µg/L	2018-10-04	
LEPHw	< 250	250	µg/L	N/A	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8092576
2018-10-10 12:14

Analyte	Result	RL	Units	Analyzed	Qualifier
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SB1 (8092576-05) | Matrix: Water | Sampled: 2018-09-26 11:10, Continued

BCMOE Aggregate Hydrocarbons, Continued

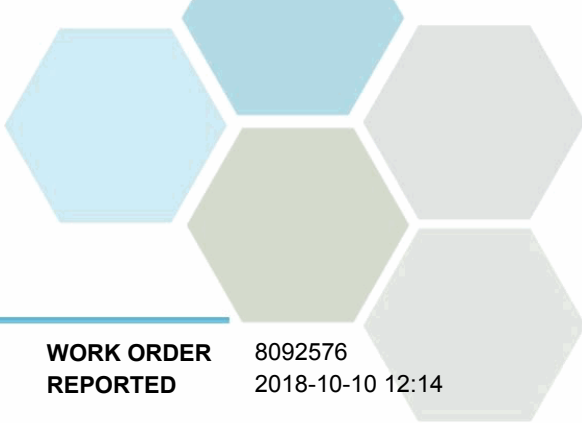
HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	93	60-140	%	2018-10-04	

Calculated Parameters

Hardness, Total (as CaCO3)	196	0.500	mg/L	N/A	
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Dissolved Metals

Aluminum, dissolved	0.0079	0.0050	mg/L	2018-10-09	
Antimony, dissolved	0.00024	0.00020	mg/L	2018-10-09	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2018-10-09	
Barium, dissolved	0.0098	0.0050	mg/L	2018-10-09	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
Boron, dissolved	0.0058	0.0050	mg/L	2018-10-09	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2018-10-09	
Calcium, dissolved	68.0	0.20	mg/L	2018-10-09	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2018-10-09	
Cobalt, dissolved	0.00020	0.00010	mg/L	2018-10-09	
Copper, dissolved	0.00067	0.00040	mg/L	2018-10-09	
Iron, dissolved	< 0.010	0.010	mg/L	2018-10-09	
Lead, dissolved	< 0.00020	0.00020	mg/L	2018-10-09	
Lithium, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
Magnesium, dissolved	6.30	0.010	mg/L	2018-10-09	
Manganese, dissolved	0.00127	0.00020	mg/L	2018-10-09	
Mercury, dissolved	< 0.000040	0.000040	mg/L	2018-10-09	CT5
Molybdenum, dissolved	0.00037	0.00010	mg/L	2018-10-09	
Nickel, dissolved	0.00085	0.00040	mg/L	2018-10-09	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2018-10-09	
Potassium, dissolved	0.48	0.10	mg/L	2018-10-09	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2018-10-09	
Silicon, dissolved	3.2	1.0	mg/L	2018-10-09	
Silver, dissolved	< 0.000050	0.000050	mg/L	2018-10-09	
Sodium, dissolved	5.11	0.10	mg/L	2018-10-09	
Strontium, dissolved	0.168	0.0010	mg/L	2018-10-09	
Sulfur, dissolved	47.7	3.0	mg/L	2018-10-09	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2018-10-09	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2018-10-09	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
Tin, dissolved	< 0.00020	0.00020	mg/L	2018-10-09	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2018-10-09	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2018-10-09	
Uranium, dissolved	0.000597	0.000020	mg/L	2018-10-09	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2018-10-09	

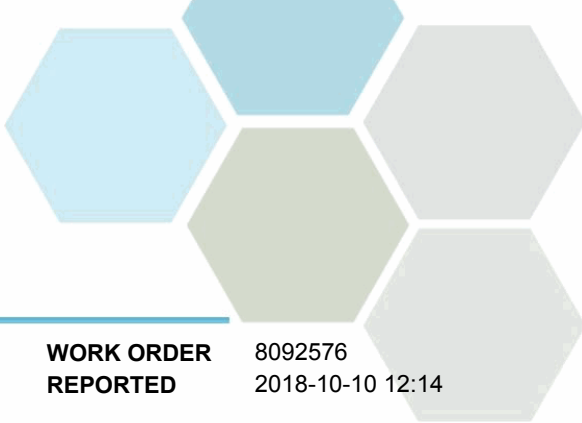


TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8092576
2018-10-10 12:14

Analyte	Result	RL	Units	Analyzed	Qualifier
SB1 (8092576-05) Matrix: Water Sampled: 2018-09-26 11:10, Continued					
<i>Dissolved Metals, Continued</i>					
Zinc, dissolved	< 0.0040	0.0040	mg/L	2018-10-09	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
<i>General Parameters</i>					
Alkalinity, Total (as CaCO3)	83.7	1.0	mg/L	2018-10-02	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2018-10-02	
Alkalinity, Bicarbonate (as CaCO3)	83.7	1.0	mg/L	2018-10-02	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2018-10-02	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2018-10-02	
Colour, True	< 5.0	5.0	CU	2018-09-29	
Conductivity (EC)	464	2.0	µS/cm	2018-10-04	
pH	7.40	0.10	pH units	2018-10-03	HT2
Solids, Total Suspended	216	2.0	mg/L	2018-10-03	
Turbidity	47.2	0.10	NTU	2018-09-29	
<i>Polycyclic Aromatic Hydrocarbons (PAH)</i>					
Acenaphthene	< 0.050	0.050	µg/L	2018-10-06	
Acenaphthylene	< 0.200	0.200	µg/L	2018-10-06	
Acridine	< 0.050	0.050	µg/L	2018-10-06	
Anthracene	< 0.010	0.010	µg/L	2018-10-06	
Benz(a)anthracene	< 0.010	0.010	µg/L	2018-10-06	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2018-10-06	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2018-10-06	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2018-10-06	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2018-10-06	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2018-10-06	
Chrysene	< 0.050	0.050	µg/L	2018-10-06	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2018-10-06	
Fluoranthene	< 0.030	0.030	µg/L	2018-10-06	
Fluorene	< 0.050	0.050	µg/L	2018-10-06	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2018-10-06	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2018-10-06	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2018-10-06	
Naphthalene	< 0.200	0.200	µg/L	2018-10-06	
Phenanthrene	< 0.100	0.100	µg/L	2018-10-06	
Pyrene	< 0.020	0.020	µg/L	2018-10-06	
Quinoline	< 0.050	0.050	µg/L	2018-10-06	
Surrogate: Acridine-d9	83	50-140	%	2018-10-06	
Surrogate: Naphthalene-d8	103	50-140	%	2018-10-06	
Surrogate: Perylene-d12	49	50-140	%	2018-10-06	S02
<i>Total Metals</i>					
Aluminum, total	5.14	0.0050	mg/L	2018-10-09	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
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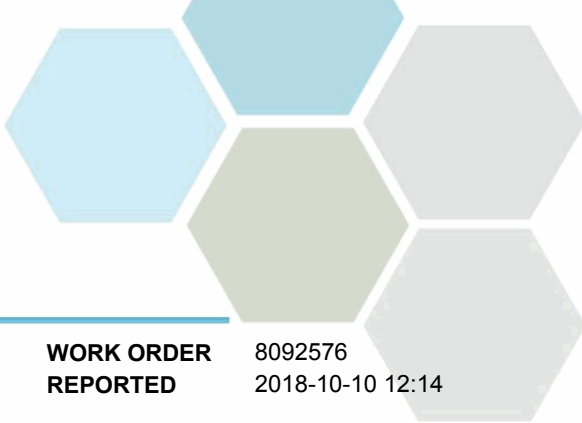
WORK ORDER REPORTED 8092576
2018-10-10 12:14

Analyte	Result	RL	Units	Analyzed	Qualifier
SB1 (8092576-05) Matrix: Water Sampled: 2018-09-26 11:10, Continued					
<i>Total Metals, Continued</i>					
Antimony, total	0.00030	0.00020	mg/L	2018-10-09	
Arsenic, total	0.00064	0.00050	mg/L	2018-10-09	
Barium, total	0.0358	0.0050	mg/L	2018-10-09	
Beryllium, total	0.00011	0.00010	mg/L	2018-10-09	
Bismuth, total	< 0.00010	0.00010	mg/L	2018-10-09	
Boron, total	0.0091	0.0050	mg/L	2018-10-09	
Cadmium, total	0.000037	0.000010	mg/L	2018-10-09	
Calcium, total	75.1	0.20	mg/L	2018-10-09	
Chromium, total	0.00517	0.00050	mg/L	2018-10-09	
Cobalt, total	0.00696	0.00010	mg/L	2018-10-09	
Copper, total	0.0176	0.00040	mg/L	2018-10-09	
Iron, total	5.07	0.010	mg/L	2018-10-09	
Lead, total	0.00872	0.00020	mg/L	2018-10-09	
Lithium, total	0.00162	0.00010	mg/L	2018-10-09	
Magnesium, total	8.20	0.010	mg/L	2018-10-09	
Manganese, total	0.198	0.00020	mg/L	2018-10-09	
Mercury, total	< 0.000010	0.000010	mg/L	2018-10-01	
Molybdenum, total	0.00037	0.00010	mg/L	2018-10-09	
Nickel, total	0.00604	0.00040	mg/L	2018-10-09	
Phosphorus, total	0.163	0.050	mg/L	2018-10-09	
Potassium, total	0.79	0.10	mg/L	2018-10-09	
Selenium, total	< 0.00050	0.00050	mg/L	2018-10-09	
Silicon, total	9.3	1.0	mg/L	2018-10-09	
Silver, total	< 0.000050	0.000050	mg/L	2018-10-09	
Sodium, total	5.77	0.10	mg/L	2018-10-09	
Strontium, total	0.184	0.0010	mg/L	2018-10-09	
Sulfur, total	48.7	3.0	mg/L	2018-10-09	
Tellurium, total	< 0.00050	0.00050	mg/L	2018-10-09	
Thallium, total	< 0.000020	0.000020	mg/L	2018-10-09	
Thorium, total	< 0.00010	0.00010	mg/L	2018-10-09	
Tin, total	0.00038	0.00020	mg/L	2018-10-09	
Titanium, total	0.212	0.0050	mg/L	2018-10-09	
Tungsten, total	< 0.0010	0.0010	mg/L	2018-10-09	
Uranium, total	0.000981	0.000020	mg/L	2018-10-09	
Vanadium, total	0.0131	0.0010	mg/L	2018-10-09	
Zinc, total	0.0185	0.0040	mg/L	2018-10-09	
Zirconium, total	0.00012	0.00010	mg/L	2018-10-09	

SB2 (8092576-06) | Matrix: Water | Sampled: 2018-09-26 10:50

Anions

Chloride	32.0	0.10	mg/L	2018-09-30	
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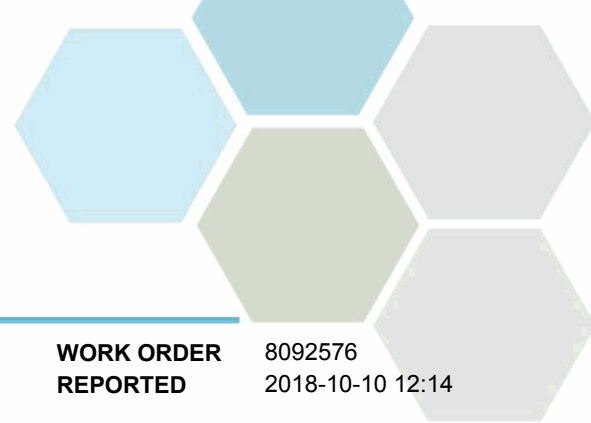


TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8092576
2018-10-10 12:14

Analyte	Result	RL	Units	Analyzed	Qualifier
SB2 (8092576-06) Matrix: Water Sampled: 2018-09-26 10:50, Continued					
<i>Anions, Continued</i>					
Fluoride	< 0.10	0.10	mg/L	2018-09-30	
Nitrate (as N)	1.10	0.010	mg/L	2018-09-30	
Nitrite (as N)	< 0.010	0.010	mg/L	2018-09-30	
Sulfate	168	1.0	mg/L	2018-09-30	
<i>BCMOE Aggregate Hydrocarbons</i>					
EPHw10-19	< 250	250	µg/L	2018-10-04	
EPHw19-32	< 250	250	µg/L	2018-10-04	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	82	60-140	%	2018-10-04	
<i>Calculated Parameters</i>					
Hardness, Total (as CaCO3)	262	0.500	mg/L	N/A	
<i>Dissolved Metals</i>					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2018-10-09	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2018-10-09	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2018-10-09	
Barium, dissolved	0.0106	0.0050	mg/L	2018-10-09	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
Boron, dissolved	0.0467	0.0050	mg/L	2018-10-09	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2018-10-09	
Calcium, dissolved	83.1	0.20	mg/L	2018-10-09	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2018-10-09	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
Copper, dissolved	0.00082	0.00040	mg/L	2018-10-09	
Iron, dissolved	< 0.010	0.010	mg/L	2018-10-09	
Lead, dissolved	< 0.00020	0.00020	mg/L	2018-10-09	
Lithium, dissolved	0.00012	0.00010	mg/L	2018-10-09	
Magnesium, dissolved	13.2	0.010	mg/L	2018-10-09	
Manganese, dissolved	0.00117	0.00020	mg/L	2018-10-09	
Mercury, dissolved	< 0.000040	0.000040	mg/L	2018-10-09	CT5
Molybdenum, dissolved	0.00066	0.00010	mg/L	2018-10-09	
Nickel, dissolved	< 0.00040	0.00040	mg/L	2018-10-09	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2018-10-09	
Potassium, dissolved	1.38	0.10	mg/L	2018-10-09	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2018-10-09	
Silicon, dissolved	5.3	1.0	mg/L	2018-10-09	
Silver, dissolved	< 0.000050	0.000050	mg/L	2018-10-09	
Sodium, dissolved	21.3	0.10	mg/L	2018-10-09	
Strontium, dissolved	0.274	0.0010	mg/L	2018-10-09	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8092576
2018-10-10 12:14

Analyte	Result	RL	Units	Analyzed	Qualifier
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SB2 (8092576-06) | Matrix: Water | Sampled: 2018-09-26 10:50, Continued

Dissolved Metals, Continued

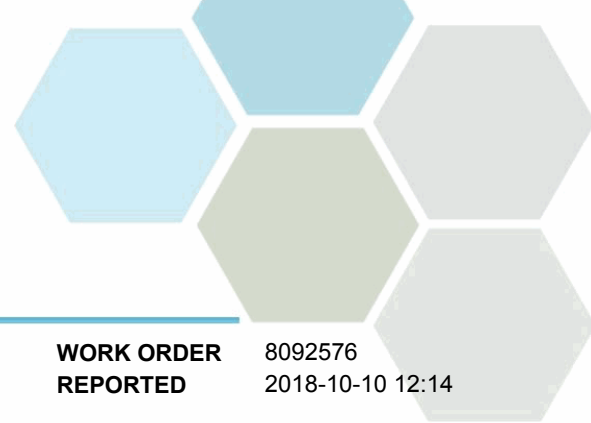
Sulfur, dissolved	54.7	3.0	mg/L	2018-10-09	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2018-10-09	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2018-10-09	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
Tin, dissolved	< 0.00020	0.00020	mg/L	2018-10-09	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2018-10-09	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2018-10-09	
Uranium, dissolved	0.000911	0.000020	mg/L	2018-10-09	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2018-10-09	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2018-10-09	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	

General Parameters

Alkalinity, Total (as CaCO3)	127	1.0	mg/L	2018-10-02	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2018-10-02	
Alkalinity, Bicarbonate (as CaCO3)	127	1.0	mg/L	2018-10-02	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2018-10-02	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2018-10-02	
Colour, True	< 5.0	5.0	CU	2018-09-29	
Conductivity (EC)	674	2.0	µS/cm	2018-10-04	
pH	6.98	0.10	pH units	2018-10-03	HT2
Solids, Total Suspended	120	2.0	mg/L	2018-10-03	
Turbidity	33.5	0.10	NTU	2018-09-29	

Polycyclic Aromatic Hydrocarbons (PAH)

Acenaphthene	< 0.050	0.050	µg/L	2018-10-06	
Acenaphthylene	< 0.200	0.200	µg/L	2018-10-06	
Acridine	< 0.050	0.050	µg/L	2018-10-06	
Anthracene	< 0.010	0.010	µg/L	2018-10-06	
Benz(a)anthracene	< 0.010	0.010	µg/L	2018-10-06	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2018-10-06	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2018-10-06	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2018-10-06	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2018-10-06	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2018-10-06	
Chrysene	< 0.050	0.050	µg/L	2018-10-06	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2018-10-06	
Fluoranthene	< 0.030	0.030	µg/L	2018-10-06	
Fluorene	< 0.050	0.050	µg/L	2018-10-06	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2018-10-06	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2018-10-06	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2018-10-06	
Naphthalene	< 0.200	0.200	µg/L	2018-10-06	

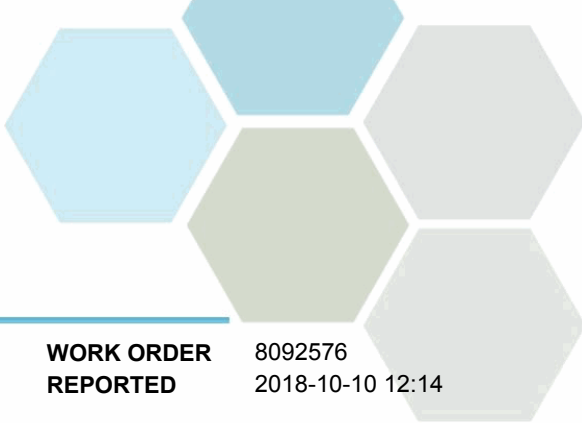


TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8092576
2018-10-10 12:14

Analyte	Result	RL	Units	Analyzed	Qualifier
SB2 (8092576-06) Matrix: Water Sampled: 2018-09-26 10:50, Continued					
<i>Polycyclic Aromatic Hydrocarbons (PAH), Continued</i>					
Phenanthrene	< 0.100	0.100	µg/L	2018-10-06	
Pyrene	0.076	0.020	µg/L	2018-10-06	
Quinoline	< 0.050	0.050	µg/L	2018-10-06	
Surrogate: Acridine-d9	69	50-140	%	2018-10-06	
Surrogate: Naphthalene-d8	123	50-140	%	2018-10-06	
Surrogate: Perylene-d12	58	50-140	%	2018-10-06	
Total Metals					
Aluminum, total	4.36	0.0050	mg/L	2018-10-09	
Antimony, total	< 0.00020	0.00020	mg/L	2018-10-09	
Arsenic, total	0.00053	0.00050	mg/L	2018-10-09	
Barium, total	0.0291	0.0050	mg/L	2018-10-09	
Beryllium, total	< 0.00010	0.00010	mg/L	2018-10-09	
Bismuth, total	< 0.00010	0.00010	mg/L	2018-10-09	
Boron, total	0.0525	0.0050	mg/L	2018-10-09	
Cadmium, total	0.000020	0.000010	mg/L	2018-10-09	
Calcium, total	90.1	0.20	mg/L	2018-10-09	
Chromium, total	0.00432	0.00050	mg/L	2018-10-09	
Cobalt, total	0.00374	0.00010	mg/L	2018-10-09	
Copper, total	0.0146	0.00040	mg/L	2018-10-09	
Iron, total	4.44	0.010	mg/L	2018-10-09	
Lead, total	0.00148	0.00020	mg/L	2018-10-09	
Lithium, total	0.00163	0.00010	mg/L	2018-10-09	
Magnesium, total	15.3	0.010	mg/L	2018-10-09	
Manganese, total	0.179	0.00020	mg/L	2018-10-09	
Mercury, total	< 0.000010	0.000010	mg/L	2018-10-01	
Molybdenum, total	0.00076	0.00010	mg/L	2018-10-09	
Nickel, total	0.00426	0.00040	mg/L	2018-10-09	
Phosphorus, total	0.147	0.050	mg/L	2018-10-09	
Potassium, total	1.95	0.10	mg/L	2018-10-09	
Selenium, total	< 0.00050	0.00050	mg/L	2018-10-09	
Silicon, total	11.8	1.0	mg/L	2018-10-09	
Silver, total	< 0.000050	0.000050	mg/L	2018-10-09	
Sodium, total	23.0	0.10	mg/L	2018-10-09	
Strontium, total	0.298	0.0010	mg/L	2018-10-09	
Sulfur, total	56.0	3.0	mg/L	2018-10-09	
Tellurium, total	< 0.00050	0.00050	mg/L	2018-10-09	
Thallium, total	< 0.000020	0.000020	mg/L	2018-10-09	
Thorium, total	0.00025	0.00010	mg/L	2018-10-09	
Tin, total	< 0.00020	0.00020	mg/L	2018-10-09	
Titanium, total	0.221	0.0050	mg/L	2018-10-09	
Tungsten, total	< 0.0010	0.0010	mg/L	2018-10-09	
Uranium, total	0.00118	0.000020	mg/L	2018-10-09	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
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WORK ORDER REPORTED 8092576
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Analyte	Result	RL	Units	Analyzed	Qualifier
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SB2 (8092576-06) | Matrix: Water | Sampled: 2018-09-26 10:50, Continued

Total Metals, Continued

Vanadium, total	0.0104	0.0010	mg/L	2018-10-09	
Zinc, total	0.0129	0.0040	mg/L	2018-10-09	
Zirconium, total	0.00024	0.00010	mg/L	2018-10-09	

SW1 (8092576-07) | Matrix: Water | Sampled: 2018-09-26 14:15

Anions

Chloride	23.9	0.10	mg/L	2018-09-30	
Fluoride	< 0.10	0.10	mg/L	2018-09-30	
Nitrate (as N)	0.694	0.010	mg/L	2018-09-30	
Nitrite (as N)	< 0.010	0.010	mg/L	2018-09-30	
Sulfate	164	1.0	mg/L	2018-09-30	

BCMOE Aggregate Hydrocarbons

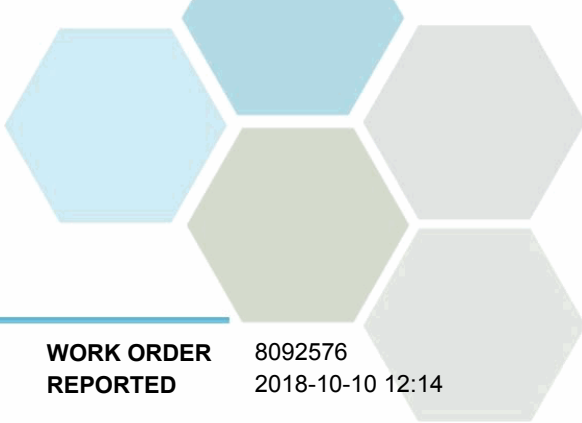
EPHw10-19	< 250	250	µg/L	2018-10-04	
EPHw19-32	< 250	250	µg/L	2018-10-04	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	89	60-140	%	2018-10-04	

Calculated Parameters

Chromium, Trivalent	< 0.00100	0.00100	mg/L	N/A	
Hardness, Total (as CaCO3)	260	0.500	mg/L	N/A	

Dissolved Metals

Aluminum, dissolved	< 0.0050	0.0050	mg/L	2018-10-09	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2018-10-09	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2018-10-09	
Barium, dissolved	0.0189	0.0050	mg/L	2018-10-09	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
Boron, dissolved	0.0175	0.0050	mg/L	2018-10-09	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2018-10-09	
Calcium, dissolved	84.5	0.20	mg/L	2018-10-09	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2018-10-09	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
Copper, dissolved	0.00089	0.00040	mg/L	2018-10-09	
Iron, dissolved	< 0.010	0.010	mg/L	2018-10-09	
Lead, dissolved	< 0.00020	0.00020	mg/L	2018-10-09	
Lithium, dissolved	0.00014	0.00010	mg/L	2018-10-09	
Magnesium, dissolved	11.9	0.010	mg/L	2018-10-09	
Manganese, dissolved	0.00946	0.00020	mg/L	2018-10-09	
Mercury, dissolved	< 0.000040	0.000040	mg/L	2018-10-09	CT5



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
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WORK ORDER REPORTED 8092576
2018-10-10 12:14

Analyte	Result	RL	Units	Analyzed	Qualifier
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SW1 (8092576-07) | Matrix: Water | Sampled: 2018-09-26 14:15, Continued

Dissolved Metals, Continued

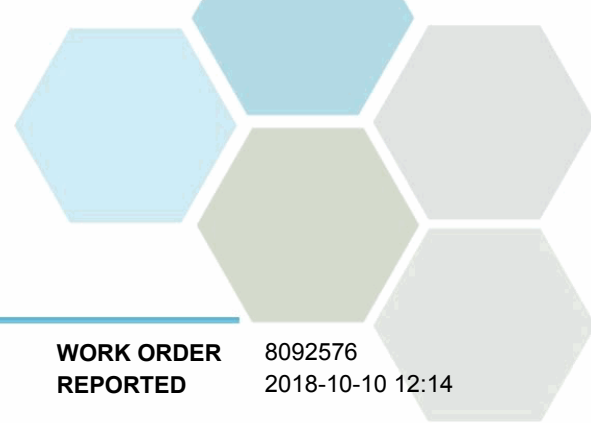
Molybdenum, dissolved	0.00097	0.00010	mg/L	2018-10-09	
Nickel, dissolved	< 0.00040	0.00040	mg/L	2018-10-09	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2018-10-09	
Potassium, dissolved	1.00	0.10	mg/L	2018-10-09	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2018-10-09	
Silicon, dissolved	6.0	1.0	mg/L	2018-10-09	
Silver, dissolved	< 0.000050	0.000050	mg/L	2018-10-09	
Sodium, dissolved	12.5	0.10	mg/L	2018-10-09	
Strontium, dissolved	0.242	0.0010	mg/L	2018-10-09	
Sulfur, dissolved	51.5	3.0	mg/L	2018-10-09	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2018-10-09	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2018-10-09	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	
Tin, dissolved	0.00037	0.00020	mg/L	2018-10-09	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2018-10-09	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2018-10-09	
Uranium, dissolved	0.00157	0.000020	mg/L	2018-10-09	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2018-10-09	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2018-10-09	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2018-10-09	

General Parameters

Alkalinity, Total (as CaCO3)	127	1.0	mg/L	2018-10-02	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2018-10-02	
Alkalinity, Bicarbonate (as CaCO3)	127	1.0	mg/L	2018-10-02	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2018-10-02	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2018-10-02	
Chromium, Hexavalent	< 0.0010	0.0010	mg/L	2018-10-02	
Colour, True	< 5.0	5.0	CU	2018-09-29	
Conductivity (EC)	617	2.0	µS/cm	2018-10-04	
pH	7.35	0.10	pH units	2018-10-03	HT2
Solids, Total Suspended	< 2.0	2.0	mg/L	2018-10-03	
Turbidity	< 0.10	0.10	NTU	2018-09-29	

Polycyclic Aromatic Hydrocarbons (PAH)

Acenaphthene	< 0.050	0.050	µg/L	2018-10-06	
Acenaphthylene	< 0.200	0.200	µg/L	2018-10-06	
Acridine	< 0.050	0.050	µg/L	2018-10-06	
Anthracene	< 0.010	0.010	µg/L	2018-10-06	
Benz(a)anthracene	< 0.010	0.010	µg/L	2018-10-06	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2018-10-06	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2018-10-06	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2018-10-06	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8092576
2018-10-10 12:14

Analyte	Result	RL	Units	Analyzed	Qualifier
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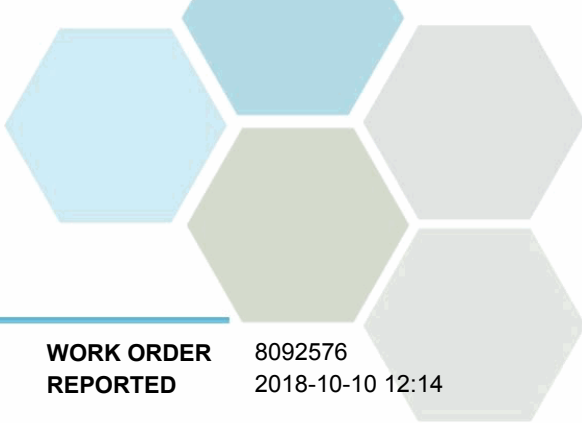
SW1 (8092576-07) | Matrix: Water | Sampled: 2018-09-26 14:15, Continued

Polycyclic Aromatic Hydrocarbons (PAH), Continued

Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2018-10-06	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2018-10-06	
Chrysene	< 0.050	0.050	µg/L	2018-10-06	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2018-10-06	
Fluoranthene	< 0.030	0.030	µg/L	2018-10-06	
Fluorene	< 0.050	0.050	µg/L	2018-10-06	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2018-10-06	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2018-10-06	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2018-10-06	
Naphthalene	< 0.200	0.200	µg/L	2018-10-06	
Phenanthrene	< 0.100	0.100	µg/L	2018-10-06	
Pyrene	0.033	0.020	µg/L	2018-10-06	
Quinoline	< 0.050	0.050	µg/L	2018-10-06	
Surrogate: Acridine-d9	49	50-140	%	2018-10-06	S02
Surrogate: Naphthalene-d8	66	50-140	%	2018-10-06	
Surrogate: Perylene-d12	34	50-140	%	2018-10-06	S02

Total Metals

Aluminum, total	0.0398	0.0050	mg/L	2018-10-09	
Antimony, total	< 0.00020	0.00020	mg/L	2018-10-09	
Arsenic, total	< 0.00050	0.00050	mg/L	2018-10-09	
Barium, total	0.0201	0.0050	mg/L	2018-10-09	
Beryllium, total	< 0.00010	0.00010	mg/L	2018-10-09	
Bismuth, total	< 0.00010	0.00010	mg/L	2018-10-09	
Boron, total	0.0207	0.0050	mg/L	2018-10-09	
Cadmium, total	< 0.000010	0.000010	mg/L	2018-10-09	
Calcium, total	90.4	0.20	mg/L	2018-10-09	
Chromium, total	< 0.00050	0.00050	mg/L	2018-10-09	
Cobalt, total	0.00015	0.00010	mg/L	2018-10-09	
Copper, total	0.00133	0.00040	mg/L	2018-10-09	
Iron, total	0.031	0.010	mg/L	2018-10-09	
Lead, total	< 0.00020	0.00020	mg/L	2018-10-09	
Lithium, total	0.00027	0.00010	mg/L	2018-10-09	
Magnesium, total	12.7	0.010	mg/L	2018-10-09	
Manganese, total	0.0417	0.00020	mg/L	2018-10-09	
Mercury, total	< 0.000010	0.000010	mg/L	2018-10-01	
Molybdenum, total	0.00103	0.00010	mg/L	2018-10-09	
Nickel, total	0.00055	0.00040	mg/L	2018-10-09	
Phosphorus, total	< 0.050	0.050	mg/L	2018-10-09	
Potassium, total	1.05	0.10	mg/L	2018-10-09	
Selenium, total	0.00050	0.00050	mg/L	2018-10-09	
Silicon, total	6.1	1.0	mg/L	2018-10-09	
Silver, total	< 0.000050	0.000050	mg/L	2018-10-09	



TEST RESULTS

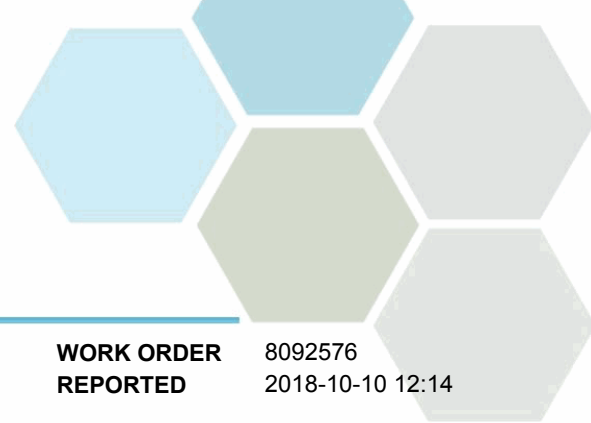
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Analyte	Result	RL	Units	Analyzed	Qualifier
SW1 (8092576-07) Matrix: Water Sampled: 2018-09-26 14:15, Continued					
<i>Total Metals, Continued</i>					
Sodium, total	13.5	0.10	mg/L	2018-10-09	
Strontium, total	0.255	0.0010	mg/L	2018-10-09	
Sulfur, total	53.1	3.0	mg/L	2018-10-09	
Tellurium, total	< 0.00050	0.00050	mg/L	2018-10-09	
Thallium, total	< 0.000020	0.000020	mg/L	2018-10-09	
Thorium, total	< 0.00010	0.00010	mg/L	2018-10-09	
Tin, total	< 0.00020	0.00020	mg/L	2018-10-09	
Titanium, total	< 0.0050	0.0050	mg/L	2018-10-09	
Tungsten, total	< 0.0010	0.0010	mg/L	2018-10-09	
Uranium, total	0.00172	0.000020	mg/L	2018-10-09	
Vanadium, total	0.0010	0.0010	mg/L	2018-10-09	
Zinc, total	< 0.0040	0.0040	mg/L	2018-10-09	
Zirconium, total	< 0.00010	0.00010	mg/L	2018-10-09	

Sample Qualifiers:

- CT5 This sample has been incorrectly preserved for Mercury analysis
- HT1 The sample was prepared and/or analyzed past the recommended holding time.
- HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.
- S02 Surrogate recovery outside of control limits. Data accepted based on acceptable recovery of other surrogates.



APPENDIX 1: SUPPORTING INFORMATION

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Analysis Description	Method Ref.	Technique	Location
Alkalinity in Water	SM 2320 B* (2011)	Titration with H2SO4	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, total in Water	EPA 245.7*	BrCl2 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	HNO3+HCl Hot Block Digestion / Inductively Coupled Plasma-Mass Spectroscopy (ICP-MS)	Richmond
Turbidity in Water	SM 2130 B (2011)	Nephelometry	Richmond

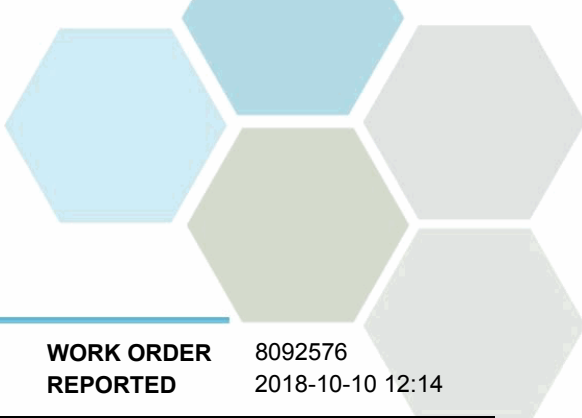
Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

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 B8I2216

Blank (B8I2216-BLK1)			Prepared: 2018-09-29, Analyzed: 2018-09-29						
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							

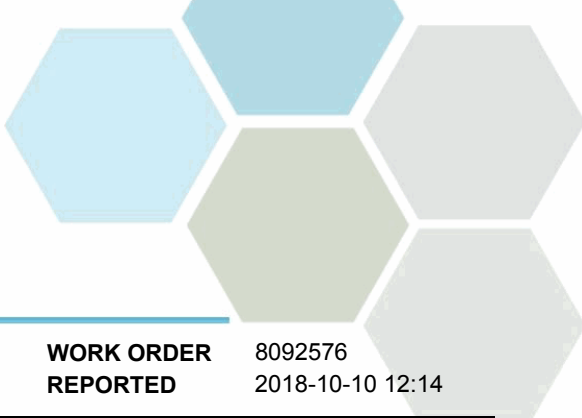
Blank (B8I2216-BLK2)			Prepared: 2018-09-30, Analyzed: 2018-09-30						
Chloride	< 0.10	0.10 mg/L							
Fluoride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
Sulfate	< 1.0	1.0 mg/L							

LCS (B8I2216-BS1)			Prepared: 2018-09-29, Analyzed: 2018-09-29						
Chloride	16.0	0.10 mg/L	16.0		100	90-110			
Fluoride	4.01	0.10 mg/L	4.00		100	88-108			
Nitrate (as N)	4.31	0.010 mg/L	4.00		108	93-108			
Nitrite (as N)	2.11	0.010 mg/L	2.00		105	85-114			
Sulfate	16.6	1.0 mg/L	16.0		104	91-109			

LCS (B8I2216-BS2)			Prepared: 2018-09-30, Analyzed: 2018-09-30						
Chloride	15.8	0.10 mg/L	16.0		99	90-110			
Fluoride	3.98	0.10 mg/L	4.00		100	88-108			
Nitrate (as N)	4.15	0.010 mg/L	4.00		104	93-108			
Nitrite (as N)	2.09	0.010 mg/L	2.00		105	85-114			
Sulfate	16.8	1.0 mg/L	16.0		105	91-109			

BCMOE Aggregate Hydrocarbons, Batch B8J0111

Blank (B8J0111-BLK1)			Prepared: 2018-10-02, Analyzed: 2018-10-04						
EPHw10-19	< 250	250 µg/L							
EPHw19-32	< 250	250 µg/L							
Surrogate: 2-Methylnonane (EPH/F2-4)	355	µg/L	444		80	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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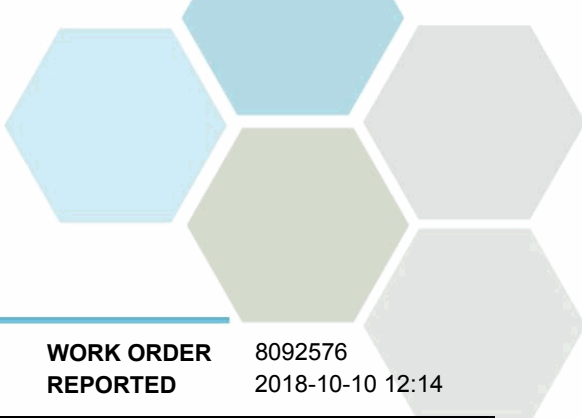
BCMOE Aggregate Hydrocarbons, Batch B8J0111, Continued

LCS (B8J0111-BS2)			Prepared: 2018-10-02, Analyzed: 2018-10-04						
EPHw10-19	13200	250 µg/L	15400	86	70-130				
EPHw19-32	18000	250 µg/L	22200	81	70-130				
Surrogate: 2-Methylnonane (EPH/F2-4)	329	µg/L	444	74	60-140				

Dissolved Metals, Batch B8J0248

Blank (B8J0248-BLK1)			Prepared: 2018-10-09, Analyzed: 2018-10-09						
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							
Mercury, dissolved	< 0.000040	0.000040 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							
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							

Blank (B8J0248-BLK2)			Prepared: 2018-10-09, Analyzed: 2018-10-09						
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							



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 B8J0248, Continued

Blank (B8J0248-BLK2), Continued

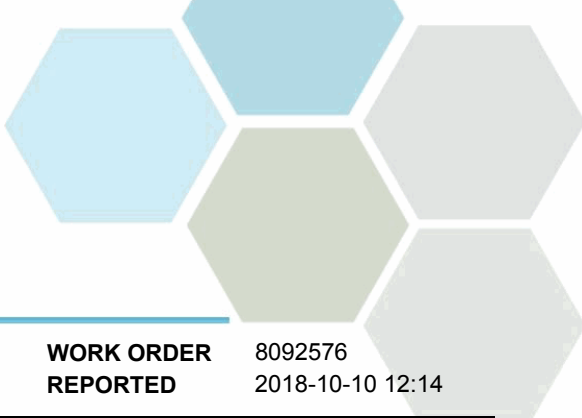
Prepared: 2018-10-09, Analyzed: 2018-10-09

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							
Mercury, dissolved	< 0.000040	0.000040 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							
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							

Blank (B8J0248-BLK3)

Prepared: 2018-10-09, Analyzed: 2018-10-09

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							
Mercury, dissolved	< 0.000040	0.000040 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							



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 B8J0248, Continued

Blank (B8J0248-BLK3), Continued

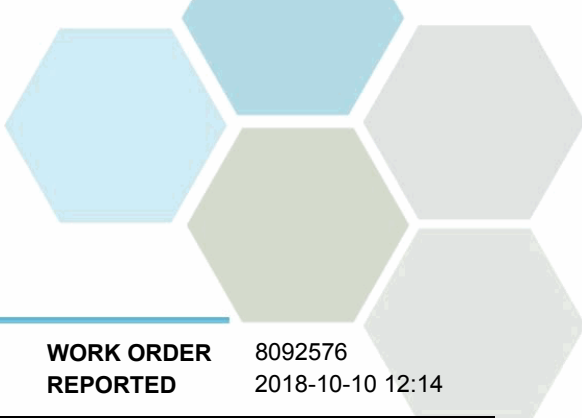
Prepared: 2018-10-09, Analyzed: 2018-10-09

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
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

Blank (B8J0248-BLK4)

Prepared: 2018-10-09, Analyzed: 2018-10-09

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
Mercury, dissolved	< 0.000040	0.000040 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
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



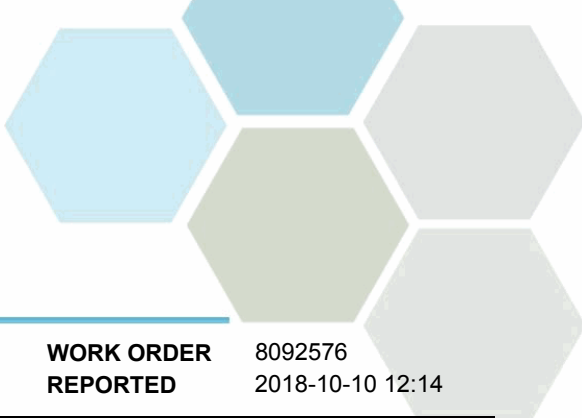
APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8092576
2018-10-10 12:14

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B8J0248, Continued									
LCS (B8J0248-BS1)					Prepared: 2018-10-09, Analyzed: 2018-10-09				
Aluminum, dissolved	0.0225	0.0050 mg/L	0.0200		112	80-120			
Antimony, dissolved	0.0181	0.00020 mg/L	0.0200		90	80-120			
Arsenic, dissolved	0.0191	0.00050 mg/L	0.0200		95	80-120			
Barium, dissolved	0.0190	0.0050 mg/L	0.0200		95	80-120			
Beryllium, dissolved	0.0197	0.00010 mg/L	0.0200		98	80-120			
Bismuth, dissolved	0.0205	0.00010 mg/L	0.0200		102	80-120			
Boron, dissolved	0.0200	0.0050 mg/L	0.0200		100	80-120			
Cadmium, dissolved	0.0198	0.000010 mg/L	0.0200		99	80-120			
Calcium, dissolved	1.78	0.20 mg/L	2.00		89	80-120			
Chromium, dissolved	0.0182	0.00050 mg/L	0.0200		91	80-120			
Cobalt, dissolved	0.0192	0.00010 mg/L	0.0200		96	80-120			
Copper, dissolved	0.0199	0.00040 mg/L	0.0200		100	80-120			
Iron, dissolved	1.75	0.010 mg/L	2.00		88	80-120			
Lead, dissolved	0.0202	0.00020 mg/L	0.0200		101	80-120			
Lithium, dissolved	0.0207	0.00010 mg/L	0.0200		103	80-120			
Magnesium, dissolved	1.97	0.010 mg/L	2.00		99	80-120			
Manganese, dissolved	0.0194	0.00020 mg/L	0.0200		97	80-120			
Mercury, dissolved	0.000843	0.000040 mg/L	0.00100		84	80-120			
Molybdenum, dissolved	0.0179	0.00010 mg/L	0.0200		90	80-120			
Nickel, dissolved	0.0192	0.00040 mg/L	0.0200		96	80-120			
Phosphorus, dissolved	2.00	0.050 mg/L	2.00		100	80-120			
Potassium, dissolved	1.75	0.10 mg/L	2.00		87	80-120			
Selenium, dissolved	0.0204	0.00050 mg/L	0.0200		102	80-120			
Silicon, dissolved	1.9	1.0 mg/L	2.00		97	80-120			
Silver, dissolved	0.0198	0.000050 mg/L	0.0200		99	80-120			
Sodium, dissolved	1.90	0.10 mg/L	2.00		95	80-120			
Strontium, dissolved	0.0182	0.0010 mg/L	0.0200		91	80-120			
Sulfur, dissolved	4.1	3.0 mg/L	5.00		81	80-120			
Tellurium, dissolved	0.0201	0.00050 mg/L	0.0200		101	80-120			
Thallium, dissolved	0.0203	0.000020 mg/L	0.0200		102	80-120			
Thorium, dissolved	0.0186	0.00010 mg/L	0.0200		93	80-120			
Tin, dissolved	0.0192	0.00020 mg/L	0.0200		96	80-120			
Titanium, dissolved	0.0190	0.0050 mg/L	0.0200		95	80-120			
Tungsten, dissolved	0.0184	0.0010 mg/L	0.0200		92	80-120			
Uranium, dissolved	0.0194	0.000020 mg/L	0.0200		97	80-120			
Vanadium, dissolved	0.0179	0.0010 mg/L	0.0200		90	80-120			
Zinc, dissolved	0.0214	0.0040 mg/L	0.0200		107	80-120			
Zirconium, dissolved	0.0197	0.00010 mg/L	0.0200		99	80-120			

LCS (B8J0248-BS2)					Prepared: 2018-10-09, Analyzed: 2018-10-09				
Aluminum, dissolved	0.0219	0.0050 mg/L	0.0200		109	80-120			
Antimony, dissolved	0.0179	0.00020 mg/L	0.0200		89	80-120			
Arsenic, dissolved	0.0192	0.00050 mg/L	0.0200		96	80-120			
Barium, dissolved	0.0186	0.0050 mg/L	0.0200		93	80-120			
Beryllium, dissolved	0.0190	0.00010 mg/L	0.0200		95	80-120			
Bismuth, dissolved	0.0204	0.00010 mg/L	0.0200		102	80-120			
Boron, dissolved	0.0198	0.0050 mg/L	0.0200		99	80-120			
Cadmium, dissolved	0.0198	0.000010 mg/L	0.0200		99	80-120			
Calcium, dissolved	1.78	0.20 mg/L	2.00		89	80-120			
Chromium, dissolved	0.0185	0.00050 mg/L	0.0200		92	80-120			
Cobalt, dissolved	0.0194	0.00010 mg/L	0.0200		97	80-120			
Copper, dissolved	0.0200	0.00040 mg/L	0.0200		100	80-120			
Iron, dissolved	1.76	0.010 mg/L	2.00		88	80-120			
Lead, dissolved	0.0201	0.00020 mg/L	0.0200		101	80-120			
Lithium, dissolved	0.0205	0.00010 mg/L	0.0200		102	80-120			
Magnesium, dissolved	2.02	0.010 mg/L	2.00		101	80-120			

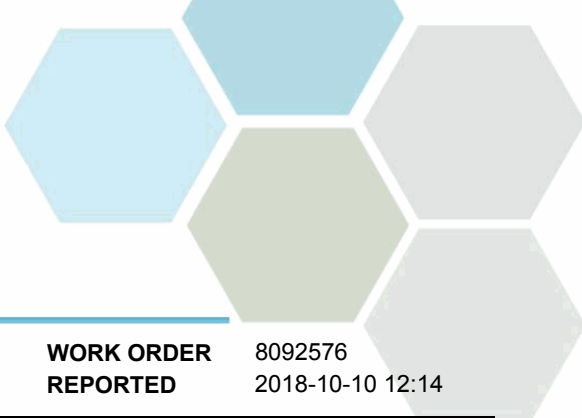


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8092576
2018-10-10 12:14

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B8J0248, Continued									
LCS (B8J0248-BS2), Continued					Prepared: 2018-10-09, Analyzed: 2018-10-09				
Manganese, dissolved	0.0194	0.00020 mg/L	0.0200		97	80-120			
Mercury, dissolved	0.000816	0.000040 mg/L	0.00100		82	80-120			
Molybdenum, dissolved	0.0179	0.00010 mg/L	0.0200		90	80-120			
Nickel, dissolved	0.0195	0.00040 mg/L	0.0200		97	80-120			
Phosphorus, dissolved	1.99	0.050 mg/L	2.00		100	80-120			
Potassium, dissolved	1.79	0.10 mg/L	2.00		89	80-120			
Selenium, dissolved	0.0200	0.00050 mg/L	0.0200		100	80-120			
Silicon, dissolved	1.9	1.0 mg/L	2.00		97	80-120			
Silver, dissolved	0.0197	0.000050 mg/L	0.0200		99	80-120			
Sodium, dissolved	1.90	0.10 mg/L	2.00		95	80-120			
Strontium, dissolved	0.0183	0.0010 mg/L	0.0200		92	80-120			
Sulfur, dissolved	4.0	3.0 mg/L	5.00		80	80-120			
Tellurium, dissolved	0.0199	0.00050 mg/L	0.0200		99	80-120			
Thallium, dissolved	0.0204	0.000020 mg/L	0.0200		102	80-120			
Thorium, dissolved	0.0186	0.00010 mg/L	0.0200		93	80-120			
Tin, dissolved	0.0190	0.00020 mg/L	0.0200		95	80-120			
Titanium, dissolved	0.0195	0.0050 mg/L	0.0200		98	80-120			
Tungsten, dissolved	0.0176	0.0010 mg/L	0.0200		88	80-120			
Uranium, dissolved	0.0192	0.000020 mg/L	0.0200		96	80-120			
Vanadium, dissolved	0.0181	0.0010 mg/L	0.0200		90	80-120			
Zinc, dissolved	0.0216	0.0040 mg/L	0.0200		108	80-120			
Zirconium, dissolved	0.0196	0.00010 mg/L	0.0200		98	80-120			
Reference (B8J0248-SRM1)					Prepared: 2018-10-09, Analyzed: 2018-10-09				
Aluminum, dissolved	0.237	0.0050 mg/L	0.233		102	79-114			
Antimony, dissolved	0.0434	0.00020 mg/L	0.0430		101	89-123			
Arsenic, dissolved	0.443	0.00050 mg/L	0.438		101	87-113			
Barium, dissolved	3.12	0.0050 mg/L	3.35		93	85-114			
Beryllium, dissolved	0.214	0.00010 mg/L	0.213		100	79-122			
Boron, dissolved	1.72	0.0050 mg/L	1.74		99	79-117			
Cadmium, dissolved	0.229	0.000010 mg/L	0.224		102	89-112			
Calcium, dissolved	7.22	0.20 mg/L	7.69		94	85-120			
Chromium, dissolved	0.415	0.00050 mg/L	0.437		95	87-113			
Cobalt, dissolved	0.126	0.00010 mg/L	0.128		98	90-117			
Copper, dissolved	0.833	0.00040 mg/L	0.844		99	90-115			
Iron, dissolved	1.17	0.010 mg/L	1.29		91	86-112			
Lead, dissolved	0.112	0.00020 mg/L	0.112		100	90-113			
Lithium, dissolved	0.102	0.00010 mg/L	0.104		98	77-127			
Magnesium, dissolved	6.55	0.010 mg/L	6.92		95	84-116			
Manganese, dissolved	0.335	0.00020 mg/L	0.345		97	85-113			
Molybdenum, dissolved	0.396	0.00010 mg/L	0.426		93	87-112			
Nickel, dissolved	0.839	0.00040 mg/L	0.840		100	90-114			
Phosphorus, dissolved	0.507	0.050 mg/L	0.495		102	74-119			
Potassium, dissolved	2.80	0.10 mg/L	3.19		88	78-119			
Selenium, dissolved	0.0356	0.00050 mg/L	0.0331		107	89-123			
Sodium, dissolved	17.4	0.10 mg/L	19.1		91	81-117			
Strontium, dissolved	0.881	0.0010 mg/L	0.916		96	82-111			
Thallium, dissolved	0.0395	0.000020 mg/L	0.0393		100	90-113			
Uranium, dissolved	0.243	0.000020 mg/L	0.266		91	87-113			
Vanadium, dissolved	0.807	0.0010 mg/L	0.869		93	85-110			
Zinc, dissolved	0.928	0.0040 mg/L	0.881		105	88-114			
Reference (B8J0248-SRM2)					Prepared: 2018-10-09, Analyzed: 2018-10-09				
Aluminum, dissolved	0.234	0.0050 mg/L	0.233		100	79-114			
Antimony, dissolved	0.0417	0.00020 mg/L	0.0430		97	89-123			
Arsenic, dissolved	0.437	0.00050 mg/L	0.438		100	87-113			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
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WORK ORDER REPORTED 8092576
2018-10-10 12:14

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B8J0248, Continued									
Reference (B8J0248-SRM2), Continued					Prepared: 2018-10-09, Analyzed: 2018-10-09				
Barium, dissolved	3.03	0.0050 mg/L	3.35		90	85-114			
Beryllium, dissolved	0.207	0.00010 mg/L	0.213		97	79-122			
Boron, dissolved	1.72	0.0050 mg/L	1.74		99	79-117			
Cadmium, dissolved	0.223	0.000010 mg/L	0.224		99	89-112			
Calcium, dissolved	7.30	0.20 mg/L	7.69		95	85-120			
Chromium, dissolved	0.415	0.00050 mg/L	0.437		95	87-113			
Cobalt, dissolved	0.124	0.00010 mg/L	0.128		97	90-117			
Copper, dissolved	0.824	0.00040 mg/L	0.844		98	90-115			
Iron, dissolved	1.14	0.010 mg/L	1.29		88	86-112			
Lead, dissolved	0.110	0.00020 mg/L	0.112		98	90-113			
Lithium, dissolved	0.0996	0.00010 mg/L	0.104		96	77-127			
Magnesium, dissolved	6.52	0.010 mg/L	6.92		94	84-116			
Manganese, dissolved	0.326	0.00020 mg/L	0.345		95	85-113			
Molybdenum, dissolved	0.390	0.00010 mg/L	0.426		92	87-112			
Nickel, dissolved	0.843	0.00040 mg/L	0.840		100	90-114			
Phosphorus, dissolved	0.521	0.050 mg/L	0.495		105	74-119			
Potassium, dissolved	2.77	0.10 mg/L	3.19		87	78-119			
Selenium, dissolved	0.0359	0.00050 mg/L	0.0331		109	89-123			
Sodium, dissolved	17.5	0.10 mg/L	19.1		92	81-117			
Strontium, dissolved	0.861	0.0010 mg/L	0.916		94	82-111			
Thallium, dissolved	0.0393	0.000020 mg/L	0.0393		100	90-113			
Uranium, dissolved	0.241	0.000020 mg/L	0.266		91	87-113			
Vanadium, dissolved	0.802	0.0010 mg/L	0.869		92	85-110			
Zinc, dissolved	0.918	0.0040 mg/L	0.881		104	88-114			

General Parameters, Batch B8I2217

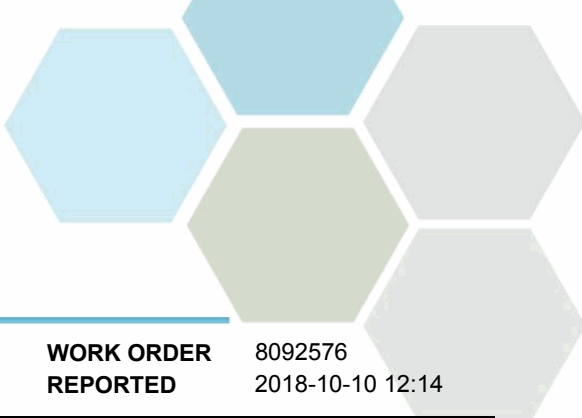
Blank (B8I2217-BLK1)					Prepared: 2018-09-29, Analyzed: 2018-09-29				
Colour, True	< 5.0	5.0 CU							
Blank (B8I2217-BLK2)					Prepared: 2018-09-29, Analyzed: 2018-09-29				
Colour, True	< 5.0	5.0 CU							
LCS (B8I2217-BS1)					Prepared: 2018-09-29, Analyzed: 2018-09-29				
Colour, True	9.2	5.0 CU	10.0		92	85-115			
LCS (B8I2217-BS2)					Prepared: 2018-09-29, Analyzed: 2018-09-29				
Colour, True	10	5.0 CU	10.0		105	85-115			
Duplicate (B8I2217-DUP1)					Prepared: 2018-09-29, Analyzed: 2018-09-29				
		Source: 8092576-04							
Colour, True	5.2	5.0 CU	5.4					15	

General Parameters, Batch B8I2224

Blank (B8I2224-BLK1)					Prepared: 2018-09-29, Analyzed: 2018-09-29				
Turbidity	< 0.10	0.10 NTU							
Duplicate (B8I2224-DUP1)					Prepared: 2018-09-29, Analyzed: 2018-09-29				
Turbidity	6.00	0.10 NTU	6.90				14	18	

General Parameters, Batch B8J0104

Blank (B8J0104-BLK1)					Prepared: 2018-10-02, Analyzed: 2018-10-02				
Alkalinity, Total (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
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WORK ORDER REPORTED 8092576
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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 B8J0104, Continued

Blank (B8J0104-BLK1), Continued

Prepared: 2018-10-02, Analyzed: 2018-10-02

Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0 mg/L							

Blank (B8J0104-BLK2)

Prepared: 2018-10-02, Analyzed: 2018-10-02

Alkalinity, Total (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0 mg/L							

LCS (B8J0104-BS1)

Prepared: 2018-10-02, Analyzed: 2018-10-02

Alkalinity, Total (as CaCO3)	101	1.0 mg/L	100		101	92-106			
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LCS (B8J0104-BS2)

Prepared: 2018-10-02, Analyzed: 2018-10-02

Alkalinity, Total (as CaCO3)	103	1.0 mg/L	100		103	92-106			
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General Parameters, Batch B8J0148

Blank (B8J0148-BLK1)

Prepared: 2018-10-02, Analyzed: 2018-10-02

Chromium, Hexavalent	< 0.0010	0.0010 mg/L							
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LCS (B8J0148-BS1)

Prepared: 2018-10-02, Analyzed: 2018-10-02

Chromium, Hexavalent	0.101	0.0010 mg/L	0.100		101	90-111			
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Matrix Spike (B8J0148-MS1)

Source: 8092576-07

Prepared: 2018-10-02, Analyzed: 2018-10-02

Chromium, Hexavalent	0.101	0.0010 mg/L	0.100	< 0.0010	101	70-116			
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General Parameters, Batch B8J0170

Blank (B8J0170-BLK1)

Prepared: 2018-10-02, Analyzed: 2018-10-02

Alkalinity, Total (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0 mg/L							

LCS (B8J0170-BS1)

Prepared: 2018-10-02, Analyzed: 2018-10-02

Alkalinity, Total (as CaCO3)	101	1.0 mg/L	100		101	92-106			
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General Parameters, Batch B8J0199

Blank (B8J0199-BLK1)

Prepared: 2018-10-02, Analyzed: 2018-10-02

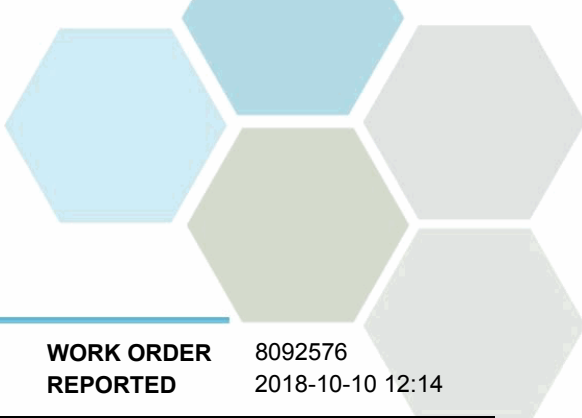
Alkalinity, Total (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Bicarbonate (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0 mg/L							
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0 mg/L							

LCS (B8J0199-BS1)

Prepared: 2018-10-02, Analyzed: 2018-10-02

Alkalinity, Total (as CaCO3)	102	1.0 mg/L	100		102	92-106			
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General Parameters, Batch B8J0234

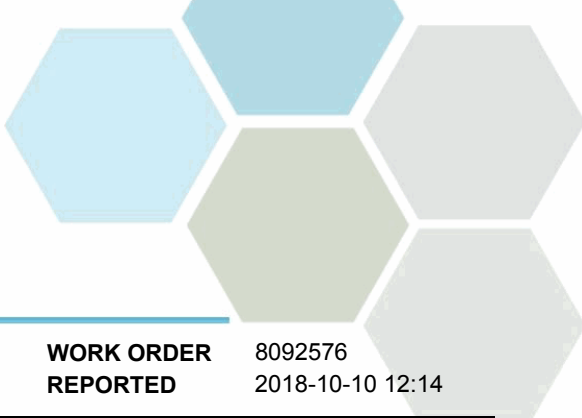


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8092576
2018-10-10 12:14

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B8J0234, Continued									
Blank (B8J0234-BLK1)			Prepared: 2018-10-03, Analyzed: 2018-10-03						
Solids, Total Suspended	< 2.0	2.0 mg/L							
Blank (B8J0234-BLK2)			Prepared: 2018-10-03, Analyzed: 2018-10-03						
Solids, Total Suspended	< 2.0	2.0 mg/L							
LCS (B8J0234-BS1)			Prepared: 2018-10-03, Analyzed: 2018-10-03						
Solids, Total Suspended	99.0	10.0 mg/L	100		99	83-107			
LCS (B8J0234-BS2)			Prepared: 2018-10-03, Analyzed: 2018-10-03						
Solids, Total Suspended	97.0	10.0 mg/L	100		97	83-107			
General Parameters, Batch B8J0240									
Duplicate (B8J0240-DUP1)			Source: 8092576-01		Prepared: 2018-10-03, Analyzed: 2018-10-03				
pH	7.17	0.10 pH units		7.17			< 1	4	
General Parameters, Batch B8J0356									
Blank (B8J0356-BLK1)			Prepared: 2018-10-04, Analyzed: 2018-10-04						
Conductivity (EC)	< 2.0	2.0 µS/cm							
LCS (B8J0356-BS1)			Prepared: 2018-10-04, Analyzed: 2018-10-04						
Conductivity (EC)	147	2.0 µS/cm	147		100	90-110			
Polycyclic Aromatic Hydrocarbons (PAH), Batch B8J0111									
Blank (B8J0111-BLK1)			Prepared: 2018-10-02, Analyzed: 2018-10-06						
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							
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	2.13	µg/L	4.44		48	50-140			S02
Surrogate: Naphthalene-d8	4.28	µg/L	4.44		96	50-140			
Surrogate: Perylene-d12	2.03	µg/L	4.44		46	50-140			S02
LCS (B8J0111-BS1)			Prepared: 2018-10-02, Analyzed: 2018-10-06						
Acenaphthene	4.79	0.050 µg/L	4.40		109	58-125			
Acenaphthylene	5.06	0.200 µg/L	4.40		115	54-128			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
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WORK ORDER REPORTED 8092576
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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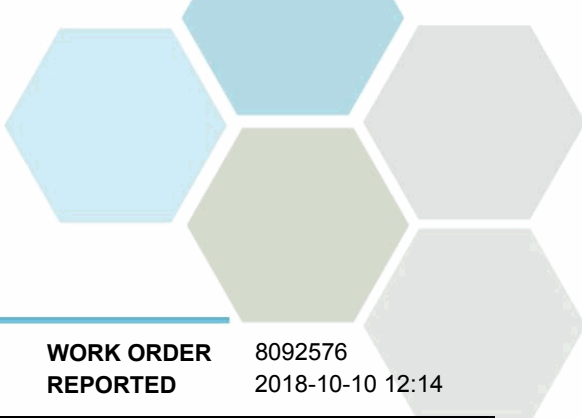
Polycyclic Aromatic Hydrocarbons (PAH), Batch B8J0111, Continued

LCS (B8J0111-BS1), Continued				Prepared: 2018-10-02, Analyzed: 2018-10-06					
Acridine	4.32	0.050 µg/L	4.44		97	50-112			
Anthracene	4.76	0.010 µg/L	4.44		107	66-125			
Benzo(a)anthracene	4.34	0.010 µg/L	4.44		98	59-123			
Benzo(a)pyrene	4.58	0.010 µg/L	4.40		104	62-116			
Benzo(b+j)fluoranthene	9.40	0.050 µg/L	8.89		106	69-121			
Benzo(g,h,i)perylene	4.69	0.050 µg/L	4.40		107	58-129			
Benzo(k)fluoranthene	4.45	0.050 µg/L	4.44		100	67-128			
2-Chloronaphthalene	4.49	0.100 µg/L	4.44		101	50-140			
Chrysene	4.24	0.050 µg/L	4.42		96	58-125			
Dibenz(a,h)anthracene	4.74	0.010 µg/L	4.42		107	58-126			
Fluoranthene	4.60	0.030 µg/L	4.36		106	67-133			
Fluorene	4.77	0.050 µg/L	4.40		108	55-122			
Indeno(1,2,3-cd)pyrene	4.30	0.050 µg/L	4.44		97	62-126			
1-Methylnaphthalene	4.69	0.100 µg/L	4.38		107	53-125			
2-Methylnaphthalene	4.67	0.100 µg/L	4.36		107	52-122			
Naphthalene	4.38	0.200 µg/L	4.44		99	50-130			
Phenanthrene	4.18	0.100 µg/L	4.40		95	67-127			
Pyrene	4.25	0.020 µg/L	4.44		96	68-133			
Quinoline	8.35	0.050 µg/L	4.44		188	51-140			SPK
Surrogate: Acridine-d9	2.25	µg/L	4.44		51	50-140			
Surrogate: Naphthalene-d8	3.06	µg/L	4.44		69	50-140			
Surrogate: Perylene-d12	1.38	µg/L	4.44		31	50-140			S02

LCS Dup (B8J0111-BSD1)				Prepared: 2018-10-02, Analyzed: 2018-10-06					
Acenaphthene	5.00	0.050 µg/L	4.40		114	58-125	4	16	
Acenaphthylene	5.23	0.200 µg/L	4.40		119	54-128	3	16	
Acridine	3.97	0.050 µg/L	4.44		89	50-112	8	26	
Anthracene	4.92	0.010 µg/L	4.44		111	66-125	3	14	
Benzo(a)anthracene	4.56	0.010 µg/L	4.44		103	59-123	5	23	
Benzo(a)pyrene	4.85	0.010 µg/L	4.40		110	62-116	6	16	
Benzo(b+j)fluoranthene	9.18	0.050 µg/L	8.89		103	69-121	2	14	
Benzo(g,h,i)perylene	4.95	0.050 µg/L	4.40		112	58-129	5	25	
Benzo(k)fluoranthene	4.78	0.050 µg/L	4.44		108	67-128	7	18	
2-Chloronaphthalene	4.77	0.100 µg/L	4.44		107	50-140	6	30	
Chrysene	4.52	0.050 µg/L	4.42		102	58-125	6	24	
Dibenz(a,h)anthracene	5.05	0.010 µg/L	4.42		114	58-126	6	23	
Fluoranthene	4.72	0.030 µg/L	4.36		108	67-133	3	18	
Fluorene	4.95	0.050 µg/L	4.40		113	55-122	4	16	
Indeno(1,2,3-cd)pyrene	4.58	0.050 µg/L	4.44		103	62-126	6	22	
1-Methylnaphthalene	4.83	0.100 µg/L	4.38		110	53-125	3	16	
2-Methylnaphthalene	4.82	0.100 µg/L	4.36		111	52-122	3	17	
Naphthalene	4.75	0.200 µg/L	4.44		107	50-130	8	18	
Phenanthrene	4.36	0.100 µg/L	4.40		99	67-127	4	14	
Pyrene	4.35	0.020 µg/L	4.44		98	68-133	2	18	
Quinoline	8.99	0.050 µg/L	4.44		202	51-140	7	12	SPK
Surrogate: Acridine-d9	2.20	µg/L	4.44		50	50-140			
Surrogate: Naphthalene-d8	3.03	µg/L	4.44		68	50-140			
Surrogate: Perylene-d12	1.32	µg/L	4.44		30	50-140			S02

Total Metals, Batch B8J0006

Blank (B8J0006-BLK1)				Prepared: 2018-10-01, Analyzed: 2018-10-01					
Mercury, total	< 0.000010	0.000010 mg/L							

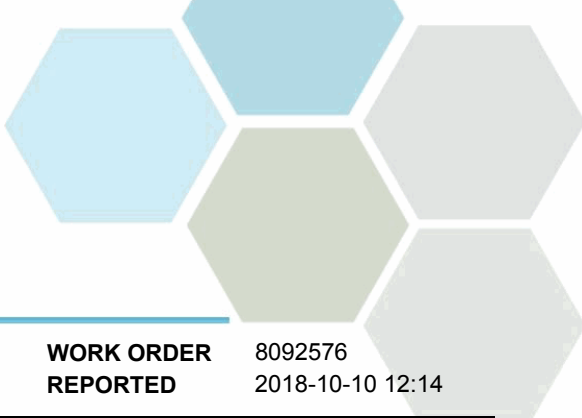


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 8092576
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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B8J0006, Continued									
Blank (B8J0006-BLK2)			Prepared: 2018-10-01, Analyzed: 2018-10-01						
Mercury, total	< 0.000010	0.000010 mg/L							
Duplicate (B8J0006-DUP2)			Source: 8092576-02 Prepared: 2018-10-01, Analyzed: 2018-10-01						
Mercury, total	< 0.000010	0.000010 mg/L		< 0.000010				20	
Matrix Spike (B8J0006-MS2)			Source: 8092576-07 Prepared: 2018-10-01, Analyzed: 2018-10-01						
Mercury, total	0.000233	0.000010 mg/L	0.000250	< 0.000010	93	70-130			
Reference (B8J0006-SRM1)			Prepared: 2018-10-01, Analyzed: 2018-10-01						
Mercury, total	0.00499	0.000010 mg/L	0.00489		102	80-120			
Reference (B8J0006-SRM2)			Prepared: 2018-10-01, Analyzed: 2018-10-01						
Mercury, total	0.00421	0.000010 mg/L	0.00489		86	80-120			
Total Metals, Batch B8J0378									
Blank (B8J0378-BLK1)			Prepared: 2018-10-04, Analyzed: 2018-10-09						
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							



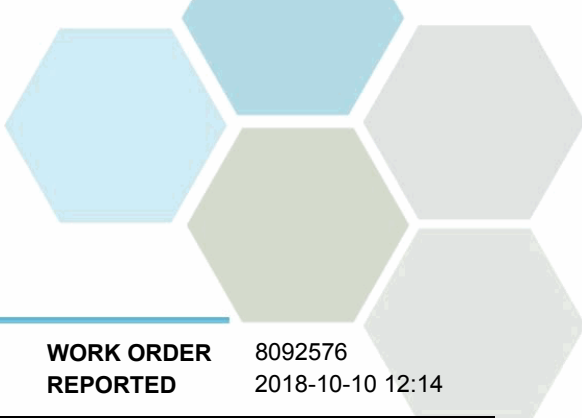
APPENDIX 2: QUALITY CONTROL RESULTS

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P17-932

WORK ORDER REPORTED 8092576
2018-10-10 12:14

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B8J0378, Continued									
Blank (B8J0378-BLK2)					Prepared: 2018-10-04, Analyzed: 2018-10-09				
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							

Blank (B8J0378-BLK3)					Prepared: 2018-10-04, Analyzed: 2018-10-09				
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							



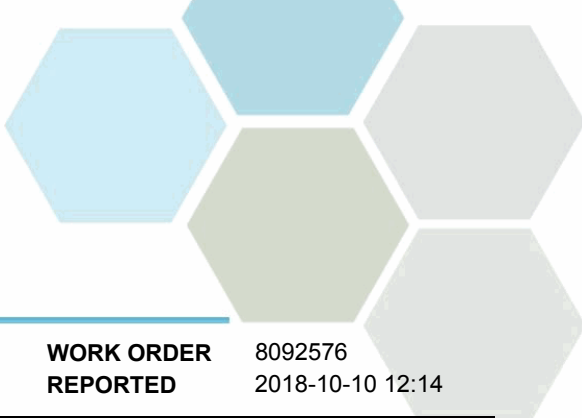
APPENDIX 2: QUALITY CONTROL RESULTS

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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B8J0378, Continued									
Blank (B8J0378-BLK3), Continued					Prepared: 2018-10-04, Analyzed: 2018-10-09				
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 (B8J0378-BS1)					Prepared: 2018-10-04, Analyzed: 2018-10-09				
Aluminum, total	0.0224	0.0050 mg/L	0.0200		112	80-120			
Antimony, total	0.0191	0.00020 mg/L	0.0200		96	80-120			
Arsenic, total	0.0199	0.00050 mg/L	0.0200		100	80-120			
Barium, total	0.0197	0.0050 mg/L	0.0200		99	80-120			
Beryllium, total	0.0203	0.00010 mg/L	0.0200		101	80-120			
Bismuth, total	0.0216	0.00010 mg/L	0.0200		108	80-120			
Boron, total	0.0234	0.0050 mg/L	0.0200		117	80-120			
Cadmium, total	0.0207	0.000010 mg/L	0.0200		104	80-120			
Calcium, total	1.88	0.20 mg/L	2.00		94	80-120			
Chromium, total	0.0192	0.00050 mg/L	0.0200		96	80-120			
Cobalt, total	0.0204	0.00010 mg/L	0.0200		102	80-120			
Copper, total	0.0211	0.00040 mg/L	0.0200		106	80-120			
Iron, total	1.81	0.010 mg/L	2.00		90	80-120			
Lead, total	0.0212	0.00020 mg/L	0.0200		106	80-120			
Lithium, total	0.0223	0.00010 mg/L	0.0200		112	80-120			
Magnesium, total	2.13	0.010 mg/L	2.00		106	80-120			
Manganese, total	0.0208	0.00020 mg/L	0.0200		104	80-120			
Molybdenum, total	0.0187	0.00010 mg/L	0.0200		94	80-120			
Nickel, total	0.0205	0.00040 mg/L	0.0200		103	80-120			
Phosphorus, total	2.04	0.050 mg/L	2.00		102	80-120			
Potassium, total	1.86	0.10 mg/L	2.00		93	80-120			
Selenium, total	0.0230	0.00050 mg/L	0.0200		115	80-120			
Silicon, total	2.0	1.0 mg/L	2.00		100	80-120			
Silver, total	0.0205	0.000050 mg/L	0.0200		102	80-120			
Sodium, total	2.06	0.10 mg/L	2.00		103	80-120			
Strontium, total	0.0189	0.0010 mg/L	0.0200		94	80-120			
Sulfur, total	4.1	3.0 mg/L	5.00		82	80-120			
Tellurium, total	0.0206	0.00050 mg/L	0.0200		103	80-120			
Thallium, total	0.0213	0.000020 mg/L	0.0200		106	80-120			
Thorium, total	0.0197	0.00010 mg/L	0.0200		99	80-120			
Tin, total	0.0197	0.00020 mg/L	0.0200		99	80-120			
Titanium, total	0.0197	0.0050 mg/L	0.0200		98	80-120			
Tungsten, total	0.0167	0.0010 mg/L	0.0200		83	80-120			
Uranium, total	0.0203	0.000020 mg/L	0.0200		102	80-120			



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Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B8J0378, Continued									
LCS (B8J0378-BS1), Continued					Prepared: 2018-10-04, Analyzed: 2018-10-09				
Vanadium, total	0.0190	0.0010 mg/L	0.0200		95	80-120			
Zinc, total	0.0227	0.0040 mg/L	0.0200		114	80-120			
Zirconium, total	0.0206	0.00010 mg/L	0.0200		103	80-120			
Reference (B8J0378-SRM1)					Prepared: 2018-10-04, Analyzed: 2018-10-09				
Aluminum, total	0.322	0.0050 mg/L	0.303		106	82-114			
Antimony, total	0.0476	0.00020 mg/L	0.0511		93	88-115			
Arsenic, total	0.116	0.00050 mg/L	0.118		98	88-111			
Barium, total	0.766	0.0050 mg/L	0.823		93	83-110			
Beryllium, total	0.0504	0.00010 mg/L	0.0496		102	80-119			
Boron, total	3.73	0.0050 mg/L	3.45		108	80-118			
Cadmium, total	0.0498	0.000010 mg/L	0.0495		101	90-110			
Calcium, total	10.6	0.20 mg/L	11.6		91	85-113			
Chromium, total	0.244	0.00050 mg/L	0.250		98	88-111			
Cobalt, total	0.0386	0.00010 mg/L	0.0377		102	90-114			
Copper, total	0.512	0.00040 mg/L	0.486		105	90-117			
Iron, total	0.458	0.010 mg/L	0.488		94	90-116			
Lead, total	0.208	0.00020 mg/L	0.204		102	90-110			
Lithium, total	0.430	0.00010 mg/L	0.403		107	79-118			
Magnesium, total	3.98	0.010 mg/L	3.79		105	88-116			
Manganese, total	0.109	0.00020 mg/L	0.109		100	88-108			
Molybdenum, total	0.190	0.00010 mg/L	0.198		96	88-110			
Nickel, total	0.251	0.00040 mg/L	0.249		101	90-112			
Phosphorus, total	0.231	0.050 mg/L	0.227		102	72-118			
Potassium, total	6.97	0.10 mg/L	7.21		97	87-116			
Selenium, total	0.135	0.00050 mg/L	0.121		111	90-122			
Sodium, total	7.69	0.10 mg/L	7.54		102	86-118			
Strontium, total	0.353	0.0010 mg/L	0.375		94	86-110			
Thallium, total	0.0842	0.000020 mg/L	0.0805		105	90-113			
Uranium, total	0.0306	0.000020 mg/L	0.0306		100	88-112			
Vanadium, total	0.371	0.0010 mg/L	0.386		96	87-110			
Zinc, total	2.58	0.0040 mg/L	2.49		103	90-113			

QC Qualifiers:

- S02 Surrogate recovery outside of control limits. Data accepted based on acceptable recovery of other surrogates.
- SPK The recovery of this analyte was outside of established control limits.

Client information	Project information	Laboratory information	COC information
Allterra Construction 2158 Millstream Road Victoria, BC V9B 6H4 Phone: (250) 508-0726 Fax:	Number: [none] Sample count: 7 TAT: 5	CARO Analytical Services #110 - 4011 Viking Way Richmond, BC V6V 2K9 Phone: (604) 279-1499 Fax: (604) 279-1599	Number: September 2018 Shipped via: Harbour Air Tracking #: SDG:

#	Client information	Analyses	Containers
# 1	MW6 09/26/2018 12:15 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 ICPMS, 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) C10_125 mL Plastic (H2SO4) (1) C11_1 L Plastic (General) (1) S05_125 mL Plastic (Metals-F) (1) S06_40 mL Vial (Mercury-F) (1)
# 2	MW3S 09/26/2018 13:00 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, diss ICPMS, 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) C10_125 mL Plastic (H2SO4) (1) C11_1 L Plastic (General) (1) S05_125 mL Plastic (Metals-F) (1) S06_40 mL Vial (Mercury-F) (1)
# 3	MW3D 09/26/2018 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 ICPMS, 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) C10_125 mL Plastic (H2SO4) (1) C11_1 L Plastic (General) (1) S05_125 mL Plastic (Metals-F) (1) S06_40 mL Vial (Mercury-F) (1)

# 4	MW2 09/26/2018 14:30 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 ICPMS, 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) C10_125 mL Plastic (H2SO4) (1) C11_1 L Plastic (General) (1) S05_125 mL Plastic (Metals-F) (1) S06_40 mL Vial (Mercury-F) (1)
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# 5	SB1 09/26/2018 11:10 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 ICPMS, 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) C10_125 mL Plastic (H2SO4) (1) C11_1 L Plastic (General) (1) S05_125 mL Plastic (Metals-F) (1) S06_40 mL Vial (Mercury-F) (1)
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# 6	SB2 09/26/2018 10:50 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 ICPMS, 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) C10_125 mL Plastic (H2SO4) (1) C11_1 L Plastic (General) (1) S05_125 mL Plastic (Metals-F) (1) S06_40 mL Vial (Mercury-F) (1)
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# 7	SW1 09/26/2018 14:15 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 ICPMS, 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) C09_125 mL Plastic (CN/Cr6) (1) C10_125 mL Plastic (H2SO4) (1) C11_1 L Plastic (General) (1) S05_125 mL Plastic (Metals-F) (1) S06_40 mL Vial (Mercury-F) (1)
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Relinquished by	Date/Time	Accepted by	Date/Time