

From: SPOMO1701@outlook.com
To: [Environmental Compliance ENV:EX](#); marty@chholdings.ca
Subject: 105809 SPO MO1701-Status Update May 30, 2019
Date: May 30, 2019 19:09:30
Attachments: [May 30, 2019 CHH Progress Report.pdf](#)
[April 2019 Surface Water Quality DATA-CHH.pdf](#)
[April 2019 Groundwater Quality DATA-CHH.pdf](#)
[COA April 2019 CHH.pdf](#)
[COA April 2019 CHH.xlsx](#)

- ***Please find information regarding the Leachate reporting requirements for the May 30, 2019 reporting period as per SPILL PREVENTION ORDER: MO1701 Section 1d***

Total Leachate Collected= 2.03 m³
Total Leachate Stored= 32.92 m³
Total Leachate Transported= 0.00 m³

- ***Sampling was conducted on May 30, 2019 as per Section 6biii of File 311372 August 11, 2017 letter. Laboratory results are pending. Tabulated laboratory results and COAs from the previous reporting period are attached.***

Sampling Summary May 30, 2019:

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 May 30, 2019 as per File 311372 August 11, 2017 letter.***

Thank you



FIELD REVIEW REPORT		DATE: May 30, 2019	ISLANDER PROJECT No.: 2087
REPORT No: 45	STAGE OF CONSTRUCTION: Landfill Closure	WEATHER: Sun 18°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: = 2.03 m³
 - Total leachate stored = 32.92 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: May 30, 2019	ISLANDER PROJECT No.: 2087
REPORT No: 45	STAGE OF CONSTRUCTION: Landfill Closure	WEATHER: Sun 18°C	PAGE: 2 of 3



SMA - looking south



SMA - looking north



Contact water containment Pond



Leak and leachate detection works



FIELD REVIEW REPORT		DATE: May 30, 2019	ISLANDER PROJECT No.: 2087
REPORT No: 45	STAGE OF CONSTRUCTION: Landfill Closure	WEATHER: Sun 18°C	PAGE: 3 of 3



PEA – liner near NE corner



PEA– NW corner



PEA north face



PEA ditch

Table 1: Analytical Results for Nutrients			SHA-LE-1	SHA-SW-1
Laboratory ID			9050121-07	9050121-08
Sample ID	BC DRINKING WATER QUALITY GUIDELINES	BC FRESHWATER AQUATIC LIFE WATER QUALITY GUIDELINES	LE-1	SW1
Date Sampled/Time			2019-04-30	2019-04-30
Physical Tests				
Colour, True (Colour Units)	15 TCU	15 ⁽¹⁾ units absolute, or 5 units above background (30-day average)	<5.0	<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	6.77	7.4
Conductivity (uS/cm)	-	-	12100	444
Hardness (as CaCO3)	-	-	3170	198
Turbidity (NTU)	Δ1 NTU	8 NTU above background (24-hr during clear flow)	<0.10	0.46
Anions and Nutrients mg/L				
Alkalinity Total (as CaCO3)	<10 high sensitivity to acid inputs		31.5	121
Acid Sensitivity	10-20 moderate sensitivity to acid inputs		Low	Low
	>20 low sensitivity to acid inputs			
Chloride (Cl)	250 mg/L	600 mg/L (instant max), 150 mg/L (30-day average)	3250	12.4
Fluoride (F)	1.5 mg/L (instant max) 1.0 mg/L (30-day average)	0.4 (Hardness <10mg/L)	<1.00	<0.10
		Hardness-Dependent AW (Hardness is >10mg/L) ⁽³⁾	0.25	0.29
Nitrate (as N)	45 mg/L	32.8 mg/L (instant maximum) 3.0 mg/L (30-day average)	1.6	0.308
Nitrite (as N) ⁽²⁾	3 mg/L	Cl > 10 mg/L 0.6 mg/L (MAX), 0.2 mg/L (30-day average)	<0.100	<0.010
Sulfate (SO4) H 0-30 mg/L	500 mg/L	128 mg/L 30-day average)		
		H 31 - 75 mg/L		
		H 76 - 180 mg/L		
		H 181 - 250 mg/L		
		H > 250 mg/L	TBD	1730

Notes: Refer to Table Endnotes (attached)

Table 2: Analytical Results for Total Metals			SHA-LE-1	SHA-SW-1
Laboratory ID			9050121-07	9050121-08
Sample ID	BC DRINKING WATER QUALITY GUIDELINES	BC FRESHWATER AQUATIC LIFE WATER QUALITY GUIDELINES	LE-1	SW1
Date Sampled/Time			2019-04-30	2019-04-30
Physical Tests				
Hardness (as CaCO ₃) (mg/L)	-	-	3170	198
pH	7-10.5	6.5-9	6.77	7.4
Total Metals (mg/L)				
Aluminum (Al)-Total	0.2	-	0.0417	0.034
Antimony (Sb)-Total	-	-	<0.00020	<0.00020
Arsenic (As)-Total	0.01	0.005	<0.00050	<0.00050
Barium (Ba)-Total	-	-	0.0121	0.0113
Beryllium (Be)-Total	-	-	<0.00010	<0.00010
Bismuth, total	-	-	<0.00010	<0.00010
Boron (B)-Total	5	1.2	0.253	0.0158
Cadmium (Cd)-Total	-	-	0.000544	<0.000010
Calcium (Ca)-Total	-	-	919	65.4
Chromium (Cr)-Total	-	-	0.00156	0.00098
Chromium (Cr(III))	-	-	-	<0.00100
Chromium (Cr(VI))	-	-	-	<0.0010
Cobalt (Co)-Total	-	0.110 (Short Term), 0.004 (Long Term Average)	0.00096	<0.00010
Copper (Cu)-Total	0.5	Hardness-Dependent ⁽¹⁾	0.00219	0.00124
		Hardness-Dependent BCAWQG to protect AW ⁽²⁾ (instant)	0.3000	0.0206
		Hardness-Dependent BCAWQG to protect AW ⁽²⁾ (30-d average)	0.1268	0.0079
Iron (Fe)-Total	-	1	0.012	0.012
Lead (Pb)-Total	0.01	Hardness-Dependent ⁽¹⁾	<0.00020	<0.00020
		Hardness-Dependent BCAWQG to protect AW ⁽²⁾ (instant max)	6.6493	0.1948
		Hardness-Dependent BCAWQG to protect AW ⁽²⁾ (30-d average)	0.2527	0.0109
Lithium (Li)-Total	-	-	0.00022	0.00013
Magnesium (Mg)-Total	-	-	249	8.7
Manganese (Mn)-Total	-	Hardness-Dependent ⁽¹⁾	12.3	0.00389
		Hardness-Dependent BCAWQG to protect AW ⁽²⁾ (instant max)	35.5	2.7
		Hardness-Dependent BCAWQG to protect AW ⁽²⁾ (30-d average)	14.6	1.5
Mercury (Hg)-Total	0.001	0.00002	<0.000010	<0.000010
Molybdenum (Mo)-Total	0.25	≤1 (instant max) 2 (30-d average)	0.00017	0.00072
Nickel (Ni)-Total	-	0.025 (Hardness-Dependent ⁽¹⁾ BCAWQG to protect AW ≤60mg/L)	0.00662	0.00047
		Calculated Hardness-Dependent ⁽¹⁾ BCAWQG to protect AW 60≤H≤180 mg/L CaCO ₃	1.321	0.161
Phosphorus(P)-Total	-	-	<0.050	<0.050
Potassium (K)-Total	-	-	23.9	0.7
Selenium (Se)-Total	0.01	0.002	<0.00050	<0.00050
Silicon (Si)-Total	-	-	7.1	5.1
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)	0.000078	<0.000050
Sodium (Na)-Total	-	-	1860	8.66
Strontium (Sr)-Total	-	-	4.77	0.182
Sulfur (S)-Total	-	-	719	31.5
Tellurium (Te)-Total	-	-	<0.00050	<0.00050
Thallium (Tl)-Total	-	-	<0.00020	<0.00020
Thorium (Th)-Total	-	-	<0.00010	<0.00010
Tin (Sn)-Total	-	-	0.00036	<0.00020
Titanium (Ti)-Total	-	-	<0.0050	<0.0050
Uranium (U)-Total	-	-	0.000056	0.000963
Vanadium (V)-Total	-	-	<0.0010	<0.0010
Zinc (Zn)-Total	5.0	Hardness >90 mg/L	0.0242	<0.0040
		Hardness-Dependent BCAWQG to protect AW ⁽²⁾ (instant max)	2.343	0.114
		Hardness-Dependent BCAWQG to protect AW ⁽²⁾ (30-d average)	2.318	0.089
Zirconium (Zr)-Total	-	-	<0.00010	<0.00010

Table 3: Analytical Results for Dissolved Metals			SHA-LE-1	SHA-SW-1
Laboratory ID			9050121-07	9050121-08
Sample ID	BC DRINKING WATER QUALITY GUIDELINES	BC FRESHWATER AQUATIC LIFE WATER QUALITY GUIDELINES	LE-1	SW1
Date Sampled/Time			2019-04-30	2019-04-30
Physical Tests				
Hardness (as CaCO ₃) (mg/L)	-	-	3170	198
pH	7-10.5	6.5-9	6.77	7.4
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	0.0154	<0.0050
		pH/Hardness Dependent BCAWQG to protect AW ⁽⁴⁾ (instant max)	0.122	0.339
		pH/Hardness Dependent BCAWQG to protect AW ⁽⁴⁾ (30-d Mean)	0.082	0.366
Antimony (Sb)-Dissolved	-	-	<0.00020	<0.00020
Arsenic (As)-Dissolved	-	-	<0.00050	<0.00050
Barium (Ba)-Dissolved	-	-	0.0108	0.0118
Beryllium (Be)-Dissolved	-	-	<0.00010	<0.00010
Bismuth (Bi)-Dissolved	-	-	<0.00010	<0.00010
Boron (B)-Dissolved	-	-	0.218	0.0121
Cadmium (Cd)-Dissolved	-	Hardness-Dependent⁽³⁾	0.000474	<0.000010
		Calculated Hardness-Dependent (a) BCAWQG to protect AW (short-term max) $e[1.03 * \ln(\text{Hss}) - 5.274]$ ug/L H<455mg/L	Hardness exceeds 455mg/L	0.00119
		Calculated Hardness-Dependent BCAWQG to protect AW ⁽³⁾ (long-term max) $e[0.736 * \ln(\text{Hss}) - 4.943]$ ug/L H<285mg/L	Hardness exceeds 285mg/L	0.00035
Calcium (Ca)-Dissolved	-	up to 4, highly sensitive to acid inputs 4 to 8, moderately sensitive over 8 low sensitivity	861	64.4
			Low	Low
Chromium (Cr)-Dissolved	-	-	0.00149	0.00126
Cobalt (Co)-Dissolved	-	-	0.00094	<0.00010
Copper (Cu)-Dissolved	-	-	0.00209	0.00119
Iron (Fe)-Dissolved	-	0.35	<0.010	<0.010
Lead (Pb)-Dissolved	-	-	<0.00020	<0.00020
Lithium, dissolved	-	-	0.00022	0.00013
Magnesium (Mg)-Dissolved	-	-	248	8.98
Manganese (Mn)-Dissolved	-	-	12.1	0.00182
Mercury (Hg)-Dissolved	-	-	0.000043	<0.000040
Molybdenum (Mo)-Dissolved	-	-	0.00016	0.00074
Nickel (Ni)-Dissolved	-	-	0.00643	0.00046
Phosphorus (P)-Dissolved	-	-	<0.050	<0.050
Potassium (K)-Dissolved	-	-	23.6	0.71
Selenium (Se)-Dissolved	-	-	<0.00050	<0.00050
Silicon (Si)-Dissolved	-	-	7.1	5.3
Silver (Ag)-Dissolved	-	-	0.000126	<0.000050
Sodium (Na)-Dissolved	-	-	1830	8.62
Strontium (Sr)-dissolved	-	-	4.49	0.18
Sulfur (S)-Dissolved	-	-	720	31.4
Tellurium (Te)-Dissolved	-	-	<0.00050	<0.00050
Thallium (Tl)-Dissolved	-	-	<0.000020	<0.000020
Thorium (Th)-Dissolved	-	-	<0.00010	<0.00010
Tin (Sn)-Dissolved	-	-	<0.00020	<0.00020
Titanium (Ti)-Dissolved	-	-	<0.0050	<0.0050
Uranium (U)-Dissolved	-	-	0.000057	0.000988
Vanadium (V)-Dissolved	-	-	<0.0010	<0.0010
Zinc (Zn)-Dissolved	-	-	0.0222	<0.0040
Zirconium (Zr)-Dissolved	-	-	<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 GUIDELINES	BC FRESHWATER AQUATIC LIFE WATER QUALITY GUIDELINES	9050121-07	9050121-08
Sample ID			LE-1	SW1
Date Sampled/ Time			2019-04-30	2019-04-30
Hydrocarbons ug/L				
LEPH	-	-	314	452
HEPH	-	-	326	467
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			0.108	0.158
2-Methylnaphthalene			0.185	0.27
Naphthalene	-	1 (LONG TERM)	0.238	0.363
Phenanthrene	-	0.3 (LONG TERM)	<0.100	<0.100
Pyrene	-	0.02 (PHOTOTOXIC)	<0.020	<0.020
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

Table 1: Analytical Results for Nutrients

Sample Location	CSR Standards ⁽¹⁾		MW-6	MW-3S	MW-3D	MW-2	SB1	SB2
	As-built Well Depths		47m	23m	46m	43m	4.01m	3.28m
Sample ID			9050121-01	9050121-02	9050121-03	9050121-04	9050121-05	9050121-06
			MW6	MW3S	MW3D	MW2	SB1	SB2
Date Sampled	Aquatic Life	Drinking Water	2019-04-30	2019-04-30	2019-04-30	2019-04-30	2019-04-30	2019-04-30
Physical Tests								
Colour, True (TCU)	-	-	5.9	<5.0	5.1	6	<5.0	<5.0
Conductivity (uS/cm)	-	-	1260	372	251	294	332	615
Hardness (as CaCO3) mg/L	-	-	567	149	100	124	148	239
pH (pH Units)	-	-	7.2	7.71	7.62	7.72	7.18	7.07
Total Suspended Solids mg/L			10.8	7.4	8	17	95.1	45.1
Turbidity (NTU)	-	-	37.6	5.39	9.92	13.7	35.9	42.6
Anions and Nutrients mg/L								
Alkalinity, Total (as CaCO3)	-	-	612	130	107	130	115	184
Chloride (Cl)	1500	250	36.7	14.7	2.57	5.64	4.63	45.3
Fluoride (F)	2 (H < 50)	1.5						
	3 (H ≥ 50)		0.12	0.11	0.17	0.14	<0.10	<0.10
Nitrate (as N)	400	10	0.07	<0.010	<0.010	<0.010	0.186	0.174
Nitrite (as N) ⁽¹⁾ Cl <2 mg/L	0.2	3.2						
Cl 2 - <4 mg/L	0.4				<0.010			
Cl 4 - <6 mg/L	0.6					<0.010	<0.010	
Cl 6 - <8 mg/L	0.8							
Cl 8 - <10 mg/L	1							
Cl ≥ 10 mg/L	2			<0.010	<0.010			
Sulfate (SO4)	1000	500	68.2	41.3	20.6	16.2	47.6	60.4

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	SB1	SB2
As-built Well Depths				47m	23m	46m	43m	4.01m	3.28m
Sample ID				9050121-01	9050121-02	9050121-03	9050121-04	9050121-05	9050121-06
Date Sampled		Aquatic Life	Drinking Water	MW6	MW3S	MW3D	MW2	SB1	SB2
Physical Tests mg/L				2019-04-30	2019-04-30	2019-04-30	2019-04-30	2019-04-30	2019-04-30
Hardness (as CaCO3)		-	-	567	149	100	124	148	239
Total Metals mg/L									
Aluminum (Al)-Total		-	-	0.0844	0.0599	0.0607	0.285	1.91	1.81
Antimony (Sb)-Total		-	-	0.00062	<0.00020	<0.00020	0.00022	<0.00020	<0.00020
Arsenic (As)-Total		-	-	0.00615	0.00142	0.00172	0.00232	<0.00050	<0.00050
Barium (Ba)-Total		-	-	0.108	0.034	0.0211	0.0329	0.0179	0.0175
Beryllium (Be)-Total		-	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Bismuth (Bi)- Total		-	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Boron (B)-Total		-	-	0.0741	0.029	0.0287	0.0273	0.0095	0.0196
Cadmium (Cd)-Total		-	-	0.000042	0.000087	0.000108	0.00004	0.000019	0.000013
Calcium (Ca)-Total		-	-	174	50.6	33.3	40.1	56.6	81.4
Chromium (Cr)-Total		-	-	0.00142	0.00131	0.00113	0.00154	0.00285	0.00324
Cobalt (Co)-Total		-	-	0.004	0.00064	0.00046	0.00063	0.0024	0.0016
Copper (Cu)-Total		-	-	0.0016	0.00076	0.00056	0.00082	0.00601	0.00666
Iron (Fe)-Total		-	-	5.36	0.185	0.228	0.742	2.37	2.07
Lead (Pb)-Total		-	-	0.00042	<0.00020	<0.00020	0.00054	0.00176	0.00061
Lithium (Li)-Total		-	-	0.0101	0.00014	<0.00010	0.00011	0.00068	0.00081
Magnesium (Mg)-Total		-	-	34.5	7.77	5.63	7.56	5.23	11.5
Manganese (Mn)-Total		-	-	2.02	0.406	0.364	0.502	0.0618	0.0813
Mercury (Hg)-Total		-	-	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Molybdenum (Mo)-Total		-	-	0.00135	0.0067	0.00689	0.00443	0.00049	0.00076
Nickel (Ni)-Total		-	-	0.00821	0.00142	0.00144	0.00138	0.00413	0.00248
Phosphorus(P)-Total		-	-	0.056	0.125	0.143	0.196	0.084	0.088
Potassium (K)-Total		-	-	3.13	0.96	0.64	0.73	0.5	1.42
Selenium (Se)-Total		-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Silicon (Si)-Total		-	-	12.4	6.7	6.6	7.4	7.1	9
Silver (Ag)-Total		-	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Sodium (Na)-Total		-	-	56.5	15.2	11	9.72	3.96	27
Strontium (Sr)-Total		-	-	0.674	0.271	0.218	0.186	0.136	0.273
Sulfur (S)-Total		-	-	21	16.2	9.7	8	18	22.8
Tellurium (Te)-Total		-	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Thallium (Tl)-Total		-	-	0.000051	0.000035	<0.000020	0.00002	<0.000020	<0.000020
Thorium (Th)-Total		-	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total		-	-	0.0008	<0.00020	0.00035	<0.00020	<0.00020	<0.00020
Titanium (Ti)-Total		-	-	<0.0050	<0.0050	<0.0050	0.0142	0.119	0.116
Uranium (U)-Total		-	-	0.00562	0.00103	0.000673	0.000843	0.000639	0.00131
Vanadium (V)-Total		-	-	0.0011	<0.0010	<0.0010	0.0019	0.0068	0.0057
Zinc (Zn)-Total		-	-	0.0068	<0.0040	<0.0040	0.0062	0.0088	0.0081
Zirconium (Zr)-Total		-	-	0.00013	0.00012	0.00018	0.00013	<0.00010	<0.00010

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	SB1	SB2
As-built Well Depths			47m	23m	46m	43m	4.01m	3.28m
Sample ID			9050121-01	9050121-02	9050121-03	9050121-04	9050121-05	9050121-06
Date Sampled			MW6	MW3S	MW3D	MW2	SB1	SB2
Physical Tests mg/L			2019-04-30	2019-04-30	2019-04-30	2019-04-30	2019-04-30	2019-04-30
Hardness (as CaCO3)	-	-	567	149	100	124	148	239
Dissolved Metals mg/L								
Aluminum (Al)-Dissolved	-	9.5	<0.0050	<0.0050	0.0092	0.0063	0.0096	<0.0050
Antimony (Sb)-Dissolved	0.2	0.006	0.00031	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Arsenic (As)-Dissolved	0.05	0.01	0.00583	0.00138	0.0016	0.00228	<0.00050	<0.00050
Barium (Ba)-Dissolved	10	1	0.0868	0.0357	0.0237	0.0329	0.0076	0.0094
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	0.062	0.0277	0.0295	0.0272	0.0093	0.0173
Cadmium (Cd)-Dissolved	0.0001 (H<30) 0.0003 (H=30 -<90) 0.0005 (H=90-<150) 0.0006 (H=150-<210)	0.005	<0.000010	<0.000010	<0.000010	<0.000010	0.000011	<0.000010
Calcium (Ca)-Dissolved	-	-	169	46.7	31.1	37.4	52	77.8
Chromium (Cr)-Dissolved	0.01	0.05	0.00092	0.00091	0.00091	0.00111	0.00098	0.00104
Colbalt (Co)-Dissolved	0.04	-	0.00228	0.00056	0.00038	0.00034	0.00012	<0.00010
Copper (Cu)-Dissolved	0.02 (H<50) 0.03 (H=50-<75) 0.04 (H=75-<100) 0.05 (H=100-<125) 0.06 (H=125-<150) 0.07 (H=150-<175) 0.08 (H=175-<200) 0.09 (H=200)	1			<0.00040	<0.00040		
Iron (Fe)-Dissolved	-	6.5	<0.00040					0.00091
Lead (Pb)-Dissolved	0.04 (H<50) 0.05 (H=50-<100) 0.06 (H=100-<200) 0.11 (H=200-<300) 0.16 (H=300)	0.01	4.24	0.131	0.171	0.309	<0.010	<0.010
Lithium (Li)-Dissolved	-	-						0.00025
Magnesium (Mg)-Dissolved	-	100	0.00973	0.00011	<0.00010	<0.00010	<0.00010	0.00015
Manganese (Mn)-Dissolved	-	0.55	35	7.76	5.52	7.44	4.37	10.9
Mercury (Hg)-Dissolved	0.001	0.001	2.03	0.4	0.353	0.493	0.00046	0.00077
Molybdenum (Mo)-Dissolved	10	0.25	<0.000040	<0.000040	<0.000040	<0.000040	<0.000040	<0.000040
Nickel (Ni)-Dissolved	0.25 (H<60) 0.65 (H=60-<120) 1.1 (H=120-<180) 1.5 (H=180)	-	0.00065	0.00671	0.00645	0.00419	0.00069	0.0006
Phosphorus(P)-Dissolved	-	-			0.00097			
Potassium (K)-Dissolved	-	-	0.00152	0.00124		0.00072	0.0022	0.00059
Selenium (Se)-Dissolved	0.01	0.01	<0.050	0.081	0.133	0.202	<0.050	<0.050
Silicon (Si)-Dissolved	-	-	3.17	0.92	0.6	0.7	0.34	1.18
Silver (Ag)-Dissolved	0.0005 (H<=100) 0.015 (H>100)	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Sodium (Na)-Dissolved	-	200	12.6	6.4	6.2	6.9	4.1	6.1
Strontium (Sr)-Dissolved	-	-	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Sulfur (S)-Dissolved	-	-	57.3	14.7	10.7	9.66	3.75	26.6
Tellurium (Te)-Dissolved	-	-	0.663	0.255	0.204	0.179	0.126	0.261
Thallium (Tl)-Dissolved	0.003	-	19.8	15.2	8.2	7	17.3	22
Thorium (Th)-Dissolved	-	-	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Tin (Sn)-Dissolved	-	-	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Titanium (Ti)-Dissolved	1	-	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Uranium (U)-Dissolved	3	0.02	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Vanadium (V)-Dissolved	-	-	0.00596	0.00105	0.000636	0.000814	0.000545	0.00127
Zinc (Zn)-Dissolved	0.075 (H<90) 0.150 (H=90-<100) 0.900 (H=100-<200) 1.650 (H=200-<300) 2.4 (H=300-<400)	5	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Zirconium (Zr)-Dissolved	-	-	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
			0.00021	<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	SB1	SB2
	As-built Well Depths		47m	23m	46m	43m	4.01m	3.28m
Sample ID			9050121-01	9050121-02	9050121-03	9050121-04	9050121-05	9050121-06
Date Sampled	Aquatic Life	Drinking Water	MW6	MW3S	MW3D	MW2	SB1	SB2
			2019-04-30	2019-04-30	2019-04-30	2019-04-30	2019-04-30	2019-04-30
Turbidity (NTU)	-	-	37.6	5.39	9.92	13.7	35.9	42.6
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	0.185	0.639	0.489	<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	<0.015
Benzo(a)pyrene	0.1	0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.022
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	<0.036
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	0.109	<0.100	<0.100	<0.100	<0.100
2-Methylnaphthalene			<0.100	0.246	0.199	<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	-	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
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.

RED TEXT

The formula $0.5 * MDL$ is utilized for statistical purposes

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

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

LAB ID		9050121-01	9050121-02	9050121-03	9050121-04	9050121-05	9050121-06	9050121-07	9050121-08
CLIENT ID		MW6	MW35	MW3D	MW2	SB1	SB2	LE-1	SW1
DATE SAMPLED		2019-04-30	2019-04-30	2019-04-30	2019-04-30	2019-04-30	2019-04-30	2019-04-30	2019-04-30
DATE RECEIVED		2019-05-01	2019-05-01	2019-05-01	2019-05-01	2019-05-01	2019-05-01	2019-05-01	2019-05-01
MATRIX		Water	Water	Water	Water	Water	Water	Water	Water
General Method	Analyte	Units	MRL						
Dissolved Metals	Tin, dissolved	mg/L	0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Dissolved Metals	Titanium, dissolved	mg/L	0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dissolved Metals	Tungsten, dissolved	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Uranium, dissolved	mg/L	2E-05	0.00596	0.00105	0.000636	0.000814	0.000545	0.00127
Dissolved Metals	Vanadium, dissolved	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Dissolved Metals	Zinc, dissolved	mg/L	0.004	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	0.0222
Dissolved Metals	Zirconium, dissolved	mg/L	0.0001	0.00021	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Metals	Aluminum, total	mg/L	0.005	0.0844	0.0599	0.0607	0.285	1.91	1.81
Total Metals	Antimony, total	mg/L	0.0002	0.00062	<0.00020	<0.00020	0.00022	<0.00020	<0.00020
Total Metals	Arsenic, total	mg/L	0.0005	0.00615	0.00142	0.00172	0.00232	<0.00050	<0.00050
Total Metals	Barium, total	mg/L	0.005	0.108	0.034	0.0211	0.0329	0.0179	0.0175
Total Metals	Beryllium, total	mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Metals	Bismuth, total	mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Metals	Boron, total	mg/L	0.005	0.0741	0.029	0.0287	0.0273	0.0095	0.0196
Total Metals	Cadmium, total	mg/L	1E-05	0.000042	0.000087	0.000108	0.00004	0.000019	0.000013
Total Metals	Calcium, total	mg/L	0.2	174	50.6	33.3	40.1	56.6	81.4
Total Metals	Chromium, total	mg/L	0.0005	0.00142	0.00131	0.00113	0.00154	0.00285	0.00324
Total Metals	Cobalt, total	mg/L	0.0001	0.004	0.00064	0.00046	0.00063	0.0024	0.0016
Total Metals	Copper, total	mg/L	0.0004	0.0016	0.00076	0.00056	0.00082	0.00601	0.00666
Total Metals	Iron, total	mg/L	0.01	5.36	0.185	0.228	0.742	2.37	2.07
Total Metals	Lead, total	mg/L	0.0002	0.00042	<0.00020	<0.00020	0.00054	0.00176	0.00061
Total Metals	Lithium, total	mg/L	0.0001	0.0101	0.00014	<0.00010	0.00011	0.00068	0.00081
Total Metals	Magnesium, total	mg/L	0.01	34.5	7.77	5.63	7.56	5.23	11.5
Total Metals	Manganese, total	mg/L	0.0002	2.02	0.406	0.364	0.502	0.0618	0.0813
Total Metals	Mercury, total	mg/L	1E-05	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Total Metals	Molybdenum, total	mg/L	0.0001	0.00135	0.0067	0.00689	0.00443	0.00049	0.00076
Total Metals	Nickel, total	mg/L	0.0004	0.00821	0.00142	0.00144	0.00138	0.00413	0.00248
Total Metals	Phosphorus, total	mg/L	0.05	0.056	0.125	0.143	0.196	0.084	0.088
Total Metals	Potassium, total	mg/L	0.1	3.13	0.96	0.64	0.73	0.5	1.42
Total Metals	Selenium, total	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Total Metals	Silicon, total	mg/L	1	12.4	6.7	6.6	7.4	7.1	9
Total Metals	Silver, total	mg/L	5E-05	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	0.000078
Total Metals	Sodium, total	mg/L	0.1	56.5	15.2	11	9.72	3.96	27
Total Metals	Strontium, total	mg/L	0.001	0.674	0.271	0.218	0.186	0.136	0.273
Total Metals	Sulfur, total	mg/L	3	21	16.2	9.7	8	18	22.8
Total Metals	Tellurium, total	mg/L	0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Total Metals	Thallium, total	mg/L	2E-05	0.000051	0.000035	<0.000020	0.00002	<0.000020	<0.000020
Total Metals	Thorium, total	mg/L	0.0001	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Total Metals	Tin, total	mg/L	0.0002	0.0008	<0.00020	0.00035	<0.00020	<0.00020	0.00036
Total Metals	Titanium, total	mg/L	0.005	<0.0050	<0.0050	<0.0050	0.0142	0.119	0.116
Total Metals	Tungsten, total	mg/L	0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Total Metals	Uranium, total	mg/L	2E-05	0.00562	0.00103	0.000673	0.000843	0.000639	0.00131
Total Metals	Vanadium, total	mg/L	0.001	0.0011	<0.0010	<0.0010	0.0019	0.0068	0.0057
Total Metals	Zinc, total	mg/L	0.004	0.0068	<0.0040	<0.0040	0.0062	0.0088	0.0081
Total Metals	Zirconium, total	mg/L	0.0001	0.00013	0.00012	0.00018	0.00013	<0.00010	<0.00010



CERTIFICATE OF ANALYSIS

REPORTED TO	Allterra Construction 2158 Millstream Road Victoria, BC V9B 6H4	WORK ORDER	9050121
ATTENTION	Rahim Gaidhar	RECEIVED / TEMP REPORTED	2019-05-01 13:52 / 14°C 2019-05-10 15:15
PO NUMBER	P15-06 SIRM	COC NUMBER	April 2019
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.

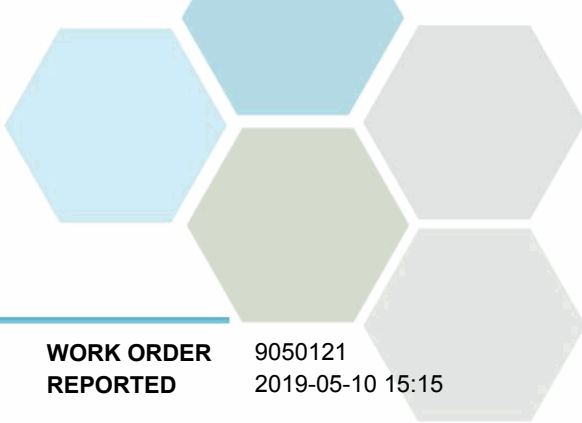
If you have any questions or concerns, please contact me at bshaw@caro.ca

Authorized By:

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

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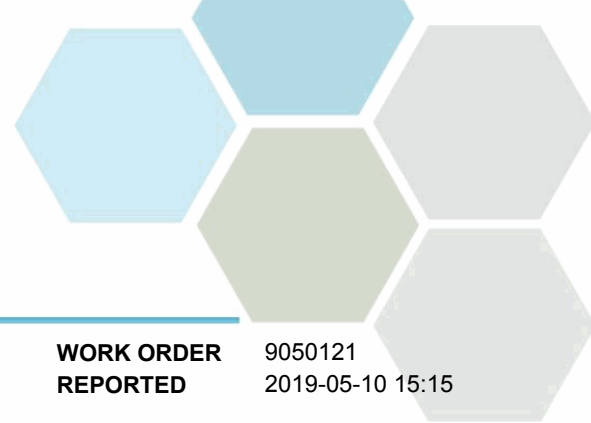


TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL	Units	Analyzed	Qualifier
MW6 (9050121-01) Matrix: Water Sampled: 2019-04-30 10:15					
Anions					
Chloride	36.7	0.10	mg/L	2019-05-03	
Fluoride	0.12	0.10	mg/L	2019-05-03	
Nitrate (as N)	0.070	0.010	mg/L	2019-05-03	
Nitrite (as N)	< 0.010	0.010	mg/L	2019-05-03	
Sulfate	68.2	1.0	mg/L	2019-05-03	
BCMOE Aggregate Hydrocarbons					
EPHw10-19	< 250	250	µg/L	2019-05-06	
EPHw19-32	< 250	250	µg/L	2019-05-06	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	77	60-140	%	2019-05-06	
Calculated Parameters					
Hardness, Total (as CaCO3)	567	0.500	mg/L	N/A	
Dissolved Metals					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2019-05-08	
Antimony, dissolved	0.00031	0.00020	mg/L	2019-05-08	
Arsenic, dissolved	0.00583	0.00050	mg/L	2019-05-08	
Barium, dissolved	0.0868	0.0050	mg/L	2019-05-08	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Boron, dissolved	0.0620	0.0050	mg/L	2019-05-08	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2019-05-08	
Calcium, dissolved	169	0.20	mg/L	2019-05-08	
Chromium, dissolved	0.00092	0.00050	mg/L	2019-05-08	
Cobalt, dissolved	0.00228	0.00010	mg/L	2019-05-08	
Copper, dissolved	< 0.00040	0.00040	mg/L	2019-05-08	
Iron, dissolved	4.24	0.010	mg/L	2019-05-08	
Lead, dissolved	< 0.00020	0.00020	mg/L	2019-05-08	
Lithium, dissolved	0.00973	0.00010	mg/L	2019-05-08	
Magnesium, dissolved	35.0	0.010	mg/L	2019-05-08	
Manganese, dissolved	2.03	0.00020	mg/L	2019-05-08	
Mercury, dissolved	< 0.000040	0.000040	mg/L	2019-05-08	CT5
Molybdenum, dissolved	0.00065	0.00010	mg/L	2019-05-08	
Nickel, dissolved	0.00152	0.00040	mg/L	2019-05-08	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2019-05-08	
Potassium, dissolved	3.17	0.10	mg/L	2019-05-08	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2019-05-08	
Silicon, dissolved	12.6	1.0	mg/L	2019-05-08	
Silver, dissolved	< 0.000050	0.000050	mg/L	2019-05-08	
Sodium, dissolved	57.3	0.10	mg/L	2019-05-08	

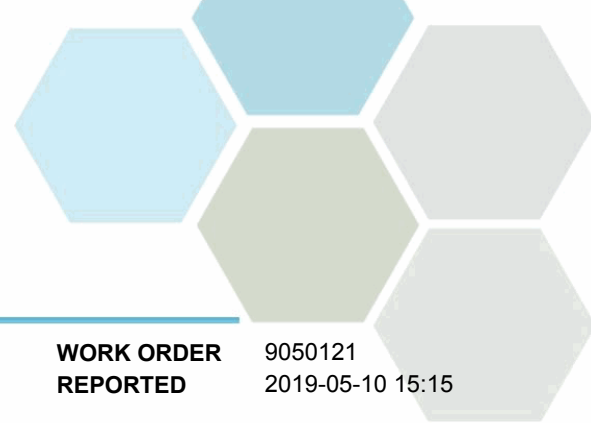


TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL	Units	Analyzed	Qualifier
MW6 (9050121-01) Matrix: Water Sampled: 2019-04-30 10:15, Continued					
<i>Dissolved Metals, Continued</i>					
Strontium, dissolved	0.663	0.0010	mg/L	2019-05-08	
Sulfur, dissolved	19.8	3.0	mg/L	2019-05-08	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2019-05-08	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2019-05-08	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Tin, dissolved	< 0.00020	0.00020	mg/L	2019-05-08	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2019-05-08	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2019-05-08	
Uranium, dissolved	0.00596	0.000020	mg/L	2019-05-08	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2019-05-08	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2019-05-08	
Zirconium, dissolved	0.00021	0.00010	mg/L	2019-05-08	
<i>General Parameters</i>					
Alkalinity, Total (as CaCO3)	612	1.0	mg/L	2019-05-04	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2019-05-04	
Alkalinity, Bicarbonate (as CaCO3)	612	1.0	mg/L	2019-05-04	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2019-05-04	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2019-05-04	
Colour, True	5.9	5.0	CU	2019-05-03	
Conductivity (EC)	1260	2.0	µS/cm	2019-05-07	
pH	7.20	0.10	pH units	2019-05-07	HT2
Solids, Total Suspended	10.8	2.0	mg/L	2019-05-07	
Turbidity	37.6	0.10	NTU	2019-05-03	
<i>Polycyclic Aromatic Hydrocarbons (PAH)</i>					
Acenaphthene	< 0.050	0.050	µg/L	2019-05-09	
Acenaphthylene	< 0.200	0.200	µg/L	2019-05-09	
Acridine	< 0.050	0.050	µg/L	2019-05-09	
Anthracene	< 0.010	0.010	µg/L	2019-05-09	
Benz(a)anthracene	< 0.010	0.010	µg/L	2019-05-09	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2019-05-09	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2019-05-09	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2019-05-09	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2019-05-09	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2019-05-09	
Chrysene	< 0.050	0.050	µg/L	2019-05-09	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2019-05-09	
Fluoranthene	< 0.030	0.030	µg/L	2019-05-09	
Fluorene	< 0.050	0.050	µg/L	2019-05-09	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2019-05-09	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2019-05-09	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2019-05-09	

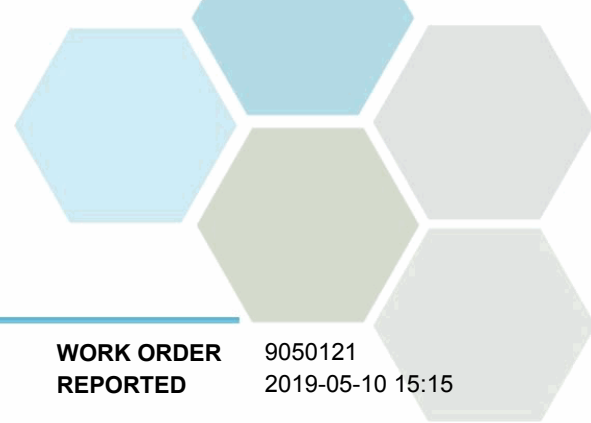


TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL	Units	Analyzed	Qualifier
MW6 (9050121-01) Matrix: Water Sampled: 2019-04-30 10:15, Continued					
<i>Polycyclic Aromatic Hydrocarbons (PAH), Continued</i>					
Naphthalene	< 0.200	0.200	µg/L	2019-05-09	
Phenanthrene	< 0.100	0.100	µg/L	2019-05-09	
Pyrene	< 0.020	0.020	µg/L	2019-05-09	
Quinoline	< 0.050	0.050	µg/L	2019-05-09	
Surrogate: Acridine-d9	78	50-140	%	2019-05-09	
Surrogate: Naphthalene-d8	110	50-140	%	2019-05-09	
Surrogate: Perylene-d12	110	50-140	%	2019-05-09	
Total Metals					
Aluminum, total	0.0844	0.0050	mg/L	2019-05-08	
Antimony, total	0.00062	0.00020	mg/L	2019-05-08	
Arsenic, total	0.00615	0.00050	mg/L	2019-05-08	
Barium, total	0.108	0.0050	mg/L	2019-05-08	
Beryllium, total	< 0.00010	0.00010	mg/L	2019-05-08	
Bismuth, total	< 0.00010	0.00010	mg/L	2019-05-08	
Boron, total	0.0741	0.0050	mg/L	2019-05-08	
Cadmium, total	0.000042	0.000010	mg/L	2019-05-08	
Calcium, total	174	0.20	mg/L	2019-05-08	
Chromium, total	0.00142	0.00050	mg/L	2019-05-08	
Cobalt, total	0.00400	0.00010	mg/L	2019-05-08	
Copper, total	0.00160	0.00040	mg/L	2019-05-08	
Iron, total	5.36	0.010	mg/L	2019-05-08	
Lead, total	0.00042	0.00020	mg/L	2019-05-08	
Lithium, total	0.0101	0.00010	mg/L	2019-05-08	
Magnesium, total	34.5	0.010	mg/L	2019-05-08	
Manganese, total	2.02	0.00020	mg/L	2019-05-08	
Mercury, total	< 0.000010	0.000010	mg/L	2019-05-07	
Molybdenum, total	0.00135	0.00010	mg/L	2019-05-08	
Nickel, total	0.00821	0.00040	mg/L	2019-05-08	
Phosphorus, total	0.056	0.050	mg/L	2019-05-08	
Potassium, total	3.13	0.10	mg/L	2019-05-08	
Selenium, total	< 0.00050	0.00050	mg/L	2019-05-08	
Silicon, total	12.4	1.0	mg/L	2019-05-08	
Silver, total	< 0.000050	0.000050	mg/L	2019-05-08	
Sodium, total	56.5	0.10	mg/L	2019-05-08	
Strontium, total	0.674	0.0010	mg/L	2019-05-08	
Sulfur, total	21.0	3.0	mg/L	2019-05-08	
Tellurium, total	< 0.00050	0.00050	mg/L	2019-05-08	
Thallium, total	0.000051	0.000020	mg/L	2019-05-08	
Thorium, total	< 0.00010	0.00010	mg/L	2019-05-08	
Tin, total	0.00080	0.00020	mg/L	2019-05-08	
Titanium, total	< 0.0050	0.0050	mg/L	2019-05-08	
Tungsten, total	< 0.0010	0.0010	mg/L	2019-05-08	

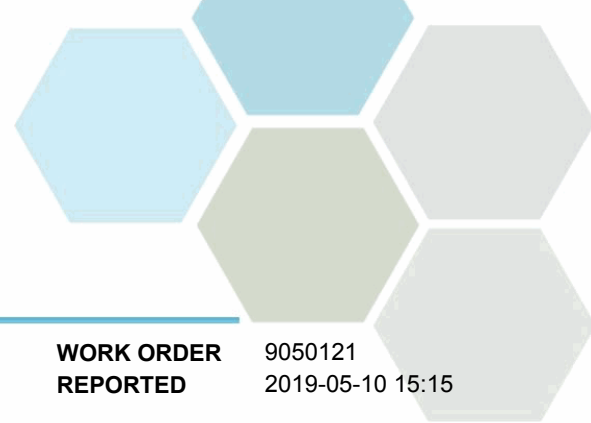


TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL	Units	Analyzed	Qualifier
MW6 (9050121-01) Matrix: Water Sampled: 2019-04-30 10:15, Continued					
<i>Total Metals, Continued</i>					
Uranium, total	0.00562	0.000020	mg/L	2019-05-08	
Vanadium, total	0.0011	0.0010	mg/L	2019-05-08	
Zinc, total	0.0068	0.0040	mg/L	2019-05-08	
Zirconium, total	0.00013	0.00010	mg/L	2019-05-08	
MW3S (9050121-02) Matrix: Water Sampled: 2019-04-30 11:45					
<i>Anions</i>					
Chloride	14.7	0.10	mg/L	2019-05-03	
Fluoride	0.11	0.10	mg/L	2019-05-03	
Nitrate (as N)	< 0.010	0.010	mg/L	2019-05-03	
Nitrite (as N)	< 0.010	0.010	mg/L	2019-05-03	
Sulfate	41.3	1.0	mg/L	2019-05-03	
<i>BCMOE Aggregate Hydrocarbons</i>					
EPHw10-19	< 250	250	µg/L	2019-05-06	
EPHw19-32	< 250	250	µg/L	2019-05-06	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	78	60-140	%	2019-05-06	
<i>Calculated Parameters</i>					
Hardness, Total (as CaCO3)	149	0.500	mg/L	N/A	
<i>Dissolved Metals</i>					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2019-05-08	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2019-05-08	
Arsenic, dissolved	0.00138	0.00050	mg/L	2019-05-08	
Barium, dissolved	0.0357	0.0050	mg/L	2019-05-08	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Boron, dissolved	0.0277	0.0050	mg/L	2019-05-08	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2019-05-08	
Calcium, dissolved	46.7	0.20	mg/L	2019-05-08	
Chromium, dissolved	0.00091	0.00050	mg/L	2019-05-08	
Cobalt, dissolved	0.00056	0.00010	mg/L	2019-05-08	
Copper, dissolved	< 0.00040	0.00040	mg/L	2019-05-08	
Iron, dissolved	0.131	0.010	mg/L	2019-05-08	
Lead, dissolved	< 0.00020	0.00020	mg/L	2019-05-08	
Lithium, dissolved	0.00011	0.00010	mg/L	2019-05-08	
Magnesium, dissolved	7.76	0.010	mg/L	2019-05-08	
Manganese, dissolved	0.400	0.00020	mg/L	2019-05-08	
Mercury, dissolved	< 0.000040	0.000040	mg/L	2019-05-08	CT5



TEST RESULTS

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P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL	Units	Analyzed	Qualifier
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MW3S (9050121-02) | Matrix: Water | Sampled: 2019-04-30 11:45, Continued

Dissolved Metals, Continued

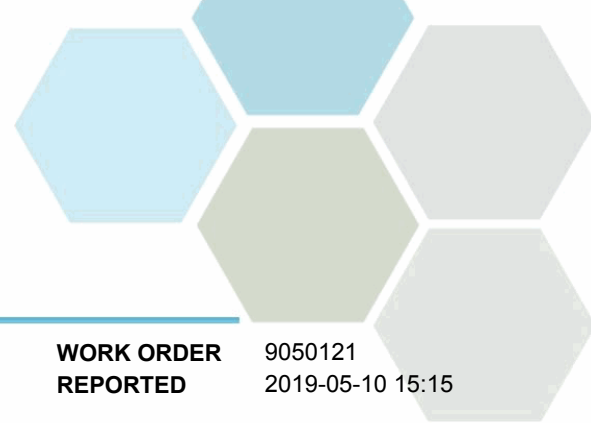
Molybdenum, dissolved	0.00671	0.00010	mg/L	2019-05-08	
Nickel, dissolved	0.00124	0.00040	mg/L	2019-05-08	
Phosphorus, dissolved	0.081	0.050	mg/L	2019-05-08	
Potassium, dissolved	0.92	0.10	mg/L	2019-05-08	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2019-05-08	
Silicon, dissolved	6.4	1.0	mg/L	2019-05-08	
Silver, dissolved	< 0.000050	0.000050	mg/L	2019-05-08	
Sodium, dissolved	14.7	0.10	mg/L	2019-05-08	
Strontium, dissolved	0.255	0.0010	mg/L	2019-05-08	
Sulfur, dissolved	15.2	3.0	mg/L	2019-05-08	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2019-05-08	
Thallium, dissolved	0.000020	0.000020	mg/L	2019-05-08	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Tin, dissolved	< 0.00020	0.00020	mg/L	2019-05-08	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2019-05-08	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2019-05-08	
Uranium, dissolved	0.00105	0.000020	mg/L	2019-05-08	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2019-05-08	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2019-05-08	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	

General Parameters

Alkalinity, Total (as CaCO3)	130	1.0	mg/L	2019-05-04	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2019-05-04	
Alkalinity, Bicarbonate (as CaCO3)	130	1.0	mg/L	2019-05-04	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2019-05-04	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2019-05-04	
Colour, True	< 5.0	5.0	CU	2019-05-03	
Conductivity (EC)	372	2.0	µS/cm	2019-05-07	
pH	7.71	0.10	pH units	2019-05-07	HT2
Solids, Total Suspended	7.4	2.0	mg/L	2019-05-07	
Turbidity	5.39	0.10	NTU	2019-05-03	

Polycyclic Aromatic Hydrocarbons (PAH)

Acenaphthene	< 0.050	0.050	µg/L	2019-05-08	
Acenaphthylene	< 0.200	0.200	µg/L	2019-05-08	
Acridine	0.185	0.050	µg/L	2019-05-08	
Anthracene	< 0.010	0.010	µg/L	2019-05-08	
Benz(a)anthracene	< 0.010	0.010	µg/L	2019-05-08	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2019-05-08	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2019-05-08	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2019-05-08	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2019-05-08	



TEST RESULTS

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P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL	Units	Analyzed	Qualifier
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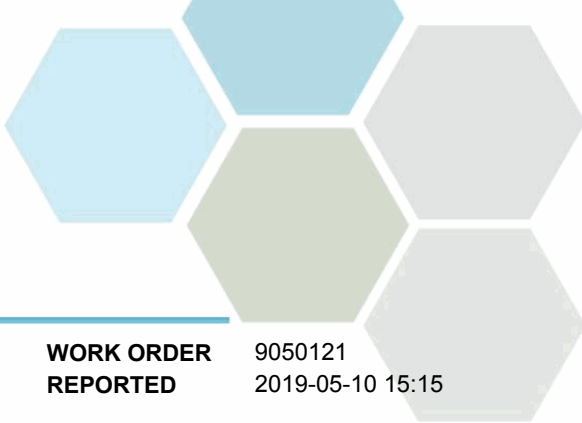
MW3S (9050121-02) | Matrix: Water | Sampled: 2019-04-30 11:45, Continued

Polycyclic Aromatic Hydrocarbons (PAH), Continued

2-Chloronaphthalene	< 0.100	0.100	µg/L	2019-05-08	
Chrysene	< 0.050	0.050	µg/L	2019-05-08	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2019-05-08	
Fluoranthene	< 0.030	0.030	µg/L	2019-05-08	
Fluorene	< 0.050	0.050	µg/L	2019-05-08	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2019-05-08	
1-Methylnaphthalene	0.109	0.100	µg/L	2019-05-08	
2-Methylnaphthalene	0.246	0.100	µg/L	2019-05-08	
Naphthalene	< 0.200	0.200	µg/L	2019-05-08	
Phenanthrene	< 0.100	0.100	µg/L	2019-05-08	
Pyrene	< 0.020	0.020	µg/L	2019-05-08	
Quinoline	< 0.050	0.050	µg/L	2019-05-08	
Surrogate: Acridine-d9	72	50-140	%	2019-05-08	
Surrogate: Naphthalene-d8	124	50-140	%	2019-05-08	
Surrogate: Perylene-d12	97	50-140	%	2019-05-08	

Total Metals

Aluminum, total	0.0599	0.0050	mg/L	2019-05-08	
Antimony, total	< 0.00020	0.00020	mg/L	2019-05-08	
Arsenic, total	0.00142	0.00050	mg/L	2019-05-08	
Barium, total	0.0340	0.0050	mg/L	2019-05-08	
Beryllium, total	< 0.00010	0.00010	mg/L	2019-05-08	
Bismuth, total	< 0.00010	0.00010	mg/L	2019-05-08	
Boron, total	0.0290	0.0050	mg/L	2019-05-08	
Cadmium, total	0.000087	0.000010	mg/L	2019-05-08	
Calcium, total	50.6	0.20	mg/L	2019-05-08	
Chromium, total	0.00131	0.00050	mg/L	2019-05-08	
Cobalt, total	0.00064	0.00010	mg/L	2019-05-08	
Copper, total	0.00076	0.00040	mg/L	2019-05-08	
Iron, total	0.185	0.010	mg/L	2019-05-08	
Lead, total	< 0.00020	0.00020	mg/L	2019-05-08	
Lithium, total	0.00014	0.00010	mg/L	2019-05-08	
Magnesium, total	7.77	0.010	mg/L	2019-05-08	
Manganese, total	0.406	0.00020	mg/L	2019-05-08	
Mercury, total	< 0.000010	0.000010	mg/L	2019-05-07	
Molybdenum, total	0.00670	0.00010	mg/L	2019-05-08	
Nickel, total	0.00142	0.00040	mg/L	2019-05-08	
Phosphorus, total	0.125	0.050	mg/L	2019-05-08	
Potassium, total	0.96	0.10	mg/L	2019-05-08	
Selenium, total	< 0.000050	0.000050	mg/L	2019-05-08	
Silicon, total	6.7	1.0	mg/L	2019-05-08	
Silver, total	< 0.000050	0.000050	mg/L	2019-05-08	
Sodium, total	15.2	0.10	mg/L	2019-05-08	



TEST RESULTS

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P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL	Units	Analyzed	Qualifier
MW3S (9050121-02) Matrix: Water Sampled: 2019-04-30 11:45, Continued					
<i>Total Metals, Continued</i>					
Strontium, total	0.271	0.0010	mg/L	2019-05-08	
Sulfur, total	16.2	3.0	mg/L	2019-05-08	
Tellurium, total	< 0.00050	0.00050	mg/L	2019-05-08	
Thallium, total	0.000035	0.000020	mg/L	2019-05-08	
Thorium, total	< 0.00010	0.00010	mg/L	2019-05-08	
Tin, total	< 0.00020	0.00020	mg/L	2019-05-08	
Titanium, total	< 0.0050	0.0050	mg/L	2019-05-08	
Tungsten, total	< 0.0010	0.0010	mg/L	2019-05-08	
Uranium, total	0.00103	0.000020	mg/L	2019-05-08	
Vanadium, total	< 0.0010	0.0010	mg/L	2019-05-08	
Zinc, total	< 0.0040	0.0040	mg/L	2019-05-08	
Zirconium, total	0.00012	0.00010	mg/L	2019-05-08	

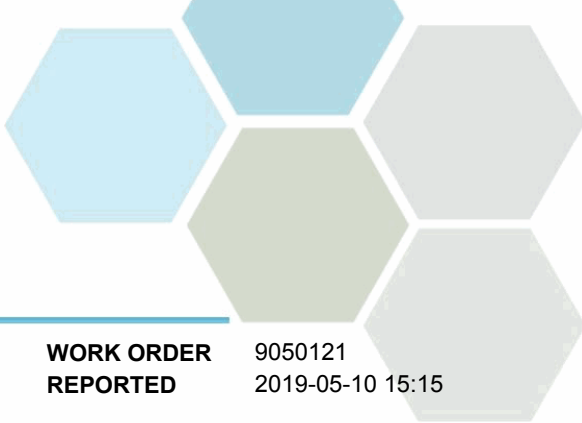
MW3D (9050121-03) | Matrix: Water | Sampled: 2019-04-30 12:15

<i>Anions</i>					
Chloride	2.57	0.10	mg/L	2019-05-03	
Fluoride	0.17	0.10	mg/L	2019-05-03	
Nitrate (as N)	< 0.010	0.010	mg/L	2019-05-03	
Nitrite (as N)	< 0.010	0.010	mg/L	2019-05-03	
Sulfate	20.6	1.0	mg/L	2019-05-03	

<i>BCMOE Aggregate Hydrocarbons</i>					
EPHw10-19	< 250	250	µg/L	2019-05-06	
EPHw19-32	< 250	250	µg/L	2019-05-06	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	65	60-140	%	2019-05-06	

<i>Calculated Parameters</i>					
Hardness, Total (as CaCO3)	100	0.500	mg/L	N/A	

<i>Dissolved Metals</i>					
Aluminum, dissolved	0.0092	0.0050	mg/L	2019-05-08	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2019-05-08	
Arsenic, dissolved	0.00160	0.00050	mg/L	2019-05-08	
Barium, dissolved	0.0237	0.0050	mg/L	2019-05-08	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Boron, dissolved	0.0295	0.0050	mg/L	2019-05-08	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2019-05-08	
Calcium, dissolved	31.1	0.20	mg/L	2019-05-08	
Chromium, dissolved	0.00091	0.00050	mg/L	2019-05-08	

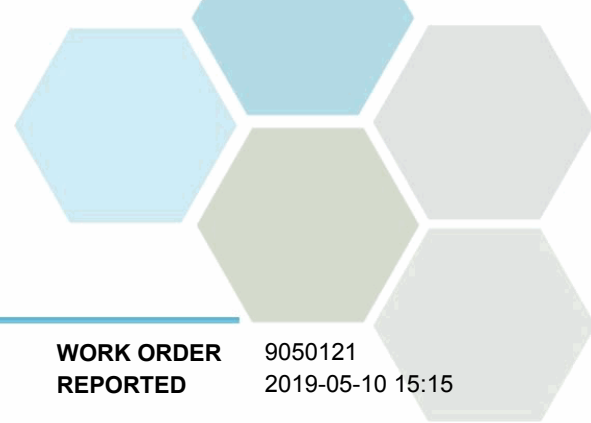


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P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL	Units	Analyzed	Qualifier
MW3D (9050121-03) Matrix: Water Sampled: 2019-04-30 12:15, Continued					
<i>Dissolved Metals, Continued</i>					
Cobalt, dissolved	0.00038	0.00010	mg/L	2019-05-08	
Copper, dissolved	< 0.00040	0.00040	mg/L	2019-05-08	
Iron, dissolved	0.171	0.010	mg/L	2019-05-08	
Lead, dissolved	< 0.00020	0.00020	mg/L	2019-05-08	
Lithium, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Magnesium, dissolved	5.52	0.010	mg/L	2019-05-08	
Manganese, dissolved	0.353	0.00020	mg/L	2019-05-08	
Mercury, dissolved	< 0.000040	0.000040	mg/L	2019-05-08	CT5
Molybdenum, dissolved	0.00645	0.00010	mg/L	2019-05-08	
Nickel, dissolved	0.00097	0.00040	mg/L	2019-05-08	
Phosphorus, dissolved	0.133	0.050	mg/L	2019-05-08	
Potassium, dissolved	0.60	0.10	mg/L	2019-05-08	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2019-05-08	
Silicon, dissolved	6.2	1.0	mg/L	2019-05-08	
Silver, dissolved	< 0.000050	0.000050	mg/L	2019-05-08	
Sodium, dissolved	10.7	0.10	mg/L	2019-05-08	
Strontium, dissolved	0.204	0.0010	mg/L	2019-05-08	
Sulfur, dissolved	8.2	3.0	mg/L	2019-05-08	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2019-05-08	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2019-05-08	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Tin, dissolved	< 0.00020	0.00020	mg/L	2019-05-08	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2019-05-08	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2019-05-08	
Uranium, dissolved	0.000636	0.000020	mg/L	2019-05-08	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2019-05-08	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2019-05-08	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
<i>General Parameters</i>					
Alkalinity, Total (as CaCO3)	107	1.0	mg/L	2019-05-04	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2019-05-04	
Alkalinity, Bicarbonate (as CaCO3)	107	1.0	mg/L	2019-05-04	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2019-05-04	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2019-05-04	
Colour, True	5.1	5.0	CU	2019-05-03	
Conductivity (EC)	251	2.0	µS/cm	2019-05-07	
pH	7.62	0.10	pH units	2019-05-07	HT2
Solids, Total Suspended	8.0	2.0	mg/L	2019-05-07	
Turbidity	9.92	0.10	NTU	2019-05-03	
<i>Polycyclic Aromatic Hydrocarbons (PAH)</i>					
Acenaphthene	< 0.050	0.050	µg/L	2019-05-08	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL	Units	Analyzed	Qualifier
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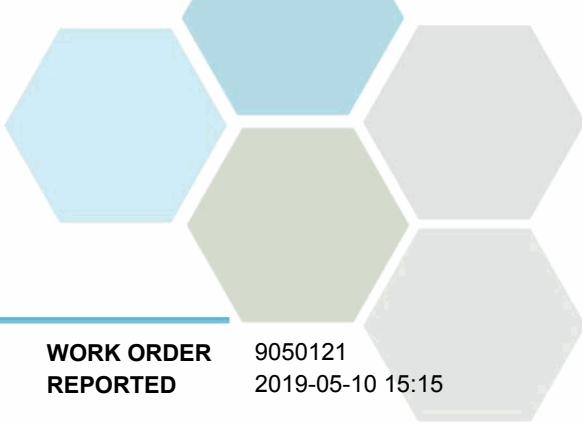
MW3D (9050121-03) | Matrix: Water | Sampled: 2019-04-30 12:15, Continued

Polycyclic Aromatic Hydrocarbons (PAH), Continued

Acenaphthylene	< 0.200	0.200	µg/L	2019-05-08	
Acridine	0.639	0.050	µg/L	2019-05-08	
Anthracene	< 0.010	0.010	µg/L	2019-05-08	
Benz(a)anthracene	< 0.010	0.010	µg/L	2019-05-08	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2019-05-08	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2019-05-08	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2019-05-08	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2019-05-08	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2019-05-08	
Chrysene	< 0.050	0.050	µg/L	2019-05-08	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2019-05-08	
Fluoranthene	< 0.030	0.030	µg/L	2019-05-08	
Fluorene	< 0.050	0.050	µg/L	2019-05-08	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2019-05-08	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2019-05-08	
2-Methylnaphthalene	0.199	0.100	µg/L	2019-05-08	
Naphthalene	< 0.200	0.200	µg/L	2019-05-08	
Phenanthrene	< 0.100	0.100	µg/L	2019-05-08	
Pyrene	< 0.020	0.020	µg/L	2019-05-08	
Quinoline	< 0.050	0.050	µg/L	2019-05-08	
Surrogate: Acridine-d9	82	50-140	%	2019-05-08	
Surrogate: Naphthalene-d8	134	50-140	%	2019-05-08	
Surrogate: Perylene-d12	114	50-140	%	2019-05-08	

Total Metals

Aluminum, total	0.0607	0.0050	mg/L	2019-05-08	
Antimony, total	< 0.00020	0.00020	mg/L	2019-05-08	
Arsenic, total	0.00172	0.00050	mg/L	2019-05-08	
Barium, total	0.0211	0.0050	mg/L	2019-05-08	
Beryllium, total	< 0.00010	0.00010	mg/L	2019-05-08	
Bismuth, total	< 0.00010	0.00010	mg/L	2019-05-08	
Boron, total	0.0287	0.0050	mg/L	2019-05-08	
Cadmium, total	0.000108	0.000010	mg/L	2019-05-08	
Calcium, total	33.3	0.20	mg/L	2019-05-08	
Chromium, total	0.00113	0.00050	mg/L	2019-05-08	
Cobalt, total	0.00046	0.00010	mg/L	2019-05-08	
Copper, total	0.00056	0.00040	mg/L	2019-05-08	
Iron, total	0.228	0.010	mg/L	2019-05-08	
Lead, total	< 0.00020	0.00020	mg/L	2019-05-08	
Lithium, total	< 0.00010	0.00010	mg/L	2019-05-08	
Magnesium, total	5.63	0.010	mg/L	2019-05-08	
Manganese, total	0.364	0.00020	mg/L	2019-05-08	
Mercury, total	< 0.000010	0.000010	mg/L	2019-05-07	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL	Units	Analyzed	Qualifier
MW3D (9050121-03) Matrix: Water Sampled: 2019-04-30 12:15, Continued					
<i>Total Metals, Continued</i>					
Molybdenum, total	0.00689	0.00010	mg/L	2019-05-08	
Nickel, total	0.00144	0.00040	mg/L	2019-05-08	
Phosphorus, total	0.143	0.050	mg/L	2019-05-08	
Potassium, total	0.64	0.10	mg/L	2019-05-08	
Selenium, total	< 0.00050	0.00050	mg/L	2019-05-08	
Silicon, total	6.6	1.0	mg/L	2019-05-08	
Silver, total	< 0.000050	0.000050	mg/L	2019-05-08	
Sodium, total	11.0	0.10	mg/L	2019-05-08	
Strontium, total	0.218	0.0010	mg/L	2019-05-08	
Sulfur, total	9.7	3.0	mg/L	2019-05-08	
Tellurium, total	< 0.00050	0.00050	mg/L	2019-05-08	
Thallium, total	< 0.000020	0.000020	mg/L	2019-05-08	
Thorium, total	< 0.00010	0.00010	mg/L	2019-05-08	
Tin, total	0.00035	0.00020	mg/L	2019-05-08	
Titanium, total	< 0.0050	0.0050	mg/L	2019-05-08	
Tungsten, total	< 0.0010	0.0010	mg/L	2019-05-08	
Uranium, total	0.000673	0.000020	mg/L	2019-05-08	
Vanadium, total	< 0.0010	0.0010	mg/L	2019-05-08	
Zinc, total	< 0.0040	0.0040	mg/L	2019-05-08	
Zirconium, total	0.00018	0.00010	mg/L	2019-05-08	

MW2 (9050121-04) | Matrix: Water | Sampled: 2019-04-30 13:00

Anions

Chloride	5.64	0.10	mg/L	2019-05-03	
Fluoride	0.14	0.10	mg/L	2019-05-03	
Nitrate (as N)	< 0.010	0.010	mg/L	2019-05-03	
Nitrite (as N)	< 0.010	0.010	mg/L	2019-05-03	
Sulfate	16.2	1.0	mg/L	2019-05-03	

BCMOE Aggregate Hydrocarbons

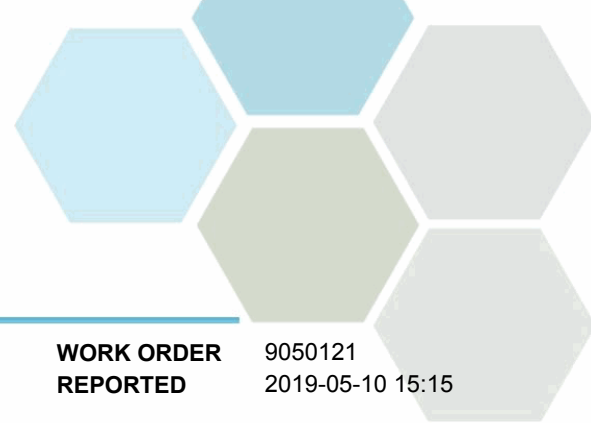
EPHw10-19	< 250	250	µg/L	2019-05-06	
EPHw19-32	< 250	250	µg/L	2019-05-06	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	83	60-140	%	2019-05-06	

Calculated Parameters

Hardness, Total (as CaCO3)	124	0.500	mg/L	N/A	
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Dissolved Metals

Aluminum, dissolved	0.0063	0.0050	mg/L	2019-05-08	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2019-05-08	



TEST RESULTS

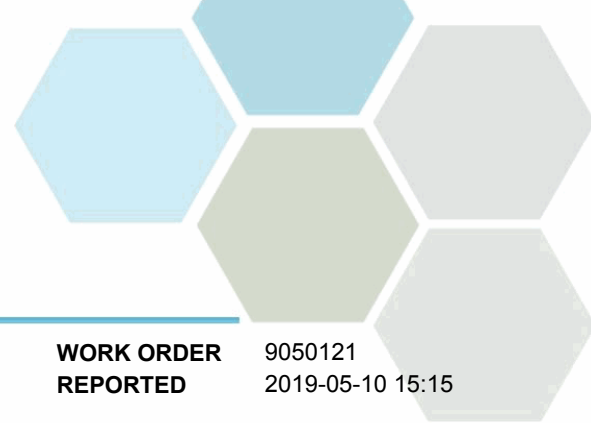
REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL	Units	Analyzed	Qualifier
MW2 (9050121-04) Matrix: Water Sampled: 2019-04-30 13:00, Continued					
<i>Dissolved Metals, Continued</i>					
Arsenic, dissolved	0.00228	0.00050	mg/L	2019-05-08	
Barium, dissolved	0.0329	0.0050	mg/L	2019-05-08	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Boron, dissolved	0.0272	0.0050	mg/L	2019-05-08	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2019-05-08	
Calcium, dissolved	37.4	0.20	mg/L	2019-05-08	
Chromium, dissolved	0.00111	0.00050	mg/L	2019-05-08	
Cobalt, dissolved	0.00034	0.00010	mg/L	2019-05-08	
Copper, dissolved	< 0.00040	0.00040	mg/L	2019-05-08	
Iron, dissolved	0.309	0.010	mg/L	2019-05-08	
Lead, dissolved	< 0.00020	0.00020	mg/L	2019-05-08	
Lithium, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Magnesium, dissolved	7.44	0.010	mg/L	2019-05-08	
Manganese, dissolved	0.493	0.00020	mg/L	2019-05-08	
Mercury, dissolved	< 0.000040	0.000040	mg/L	2019-05-08	CT5
Molybdenum, dissolved	0.00419	0.00010	mg/L	2019-05-08	
Nickel, dissolved	0.00072	0.00040	mg/L	2019-05-08	
Phosphorus, dissolved	0.202	0.050	mg/L	2019-05-08	
Potassium, dissolved	0.70	0.10	mg/L	2019-05-08	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2019-05-08	
Silicon, dissolved	6.9	1.0	mg/L	2019-05-08	
Silver, dissolved	< 0.000050	0.000050	mg/L	2019-05-08	
Sodium, dissolved	9.66	0.10	mg/L	2019-05-08	
Strontium, dissolved	0.179	0.0010	mg/L	2019-05-08	
Sulfur, dissolved	7.0	3.0	mg/L	2019-05-08	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2019-05-08	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2019-05-08	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Tin, dissolved	< 0.00020	0.00020	mg/L	2019-05-08	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2019-05-08	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2019-05-08	
Uranium, dissolved	0.000814	0.000020	mg/L	2019-05-08	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2019-05-08	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2019-05-08	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	

General Parameters

Alkalinity, Total (as CaCO3)	130	1.0	mg/L	2019-05-04	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2019-05-04	
Alkalinity, Bicarbonate (as CaCO3)	130	1.0	mg/L	2019-05-04	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2019-05-04	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2019-05-04	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL	Units	Analyzed	Qualifier
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MW2 (9050121-04) | Matrix: Water | Sampled: 2019-04-30 13:00, Continued

General Parameters, Continued

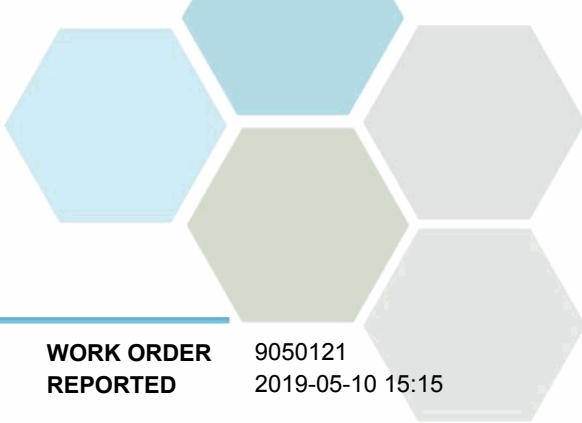
Colour, True	6.0	5.0	CU	2019-05-03	
Conductivity (EC)	294	2.0	µS/cm	2019-05-07	
pH	7.72	0.10	pH units	2019-05-07	HT2
Solids, Total Suspended	17.0	2.0	mg/L	2019-05-07	
Turbidity	13.7	0.10	NTU	2019-05-03	

Polycyclic Aromatic Hydrocarbons (PAH)

Acenaphthene	< 0.050	0.050	µg/L	2019-05-08	
Acenaphthylene	< 0.200	0.200	µg/L	2019-05-08	
Acridine	0.489	0.050	µg/L	2019-05-08	
Anthracene	< 0.010	0.010	µg/L	2019-05-08	
Benz(a)anthracene	< 0.010	0.010	µg/L	2019-05-08	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2019-05-08	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2019-05-08	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2019-05-08	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2019-05-08	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2019-05-08	
Chrysene	< 0.050	0.050	µg/L	2019-05-08	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2019-05-08	
Fluoranthene	< 0.030	0.030	µg/L	2019-05-08	
Fluorene	< 0.050	0.050	µg/L	2019-05-08	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2019-05-08	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2019-05-08	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2019-05-08	
Naphthalene	< 0.200	0.200	µg/L	2019-05-08	
Phenanthrene	< 0.100	0.100	µg/L	2019-05-08	
Pyrene	< 0.020	0.020	µg/L	2019-05-08	
Quinoline	< 0.050	0.050	µg/L	2019-05-08	
Surrogate: Acridine-d9	74	50-140	%	2019-05-08	
Surrogate: Naphthalene-d8	130	50-140	%	2019-05-08	
Surrogate: Perylene-d12	113	50-140	%	2019-05-08	

Total Metals

Aluminum, total	0.285	0.0050	mg/L	2019-05-08	
Antimony, total	0.00022	0.00020	mg/L	2019-05-08	
Arsenic, total	0.00232	0.00050	mg/L	2019-05-08	
Barium, total	0.0329	0.0050	mg/L	2019-05-08	
Beryllium, total	< 0.00010	0.00010	mg/L	2019-05-08	
Bismuth, total	< 0.00010	0.00010	mg/L	2019-05-08	
Boron, total	0.0273	0.0050	mg/L	2019-05-08	
Cadmium, total	0.000040	0.000010	mg/L	2019-05-08	
Calcium, total	40.1	0.20	mg/L	2019-05-08	
Chromium, total	0.00154	0.00050	mg/L	2019-05-08	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL	Units	Analyzed	Qualifier
MW2 (9050121-04) Matrix: Water Sampled: 2019-04-30 13:00, Continued					
<i>Total Metals, Continued</i>					
Cobalt, total	0.00063	0.00010	mg/L	2019-05-08	
Copper, total	0.00082	0.00040	mg/L	2019-05-08	
Iron, total	0.742	0.010	mg/L	2019-05-08	
Lead, total	0.00054	0.00020	mg/L	2019-05-08	
Lithium, total	0.00011	0.00010	mg/L	2019-05-08	
Magnesium, total	7.56	0.010	mg/L	2019-05-08	
Manganese, total	0.502	0.00020	mg/L	2019-05-08	
Mercury, total	< 0.000010	0.000010	mg/L	2019-05-07	
Molybdenum, total	0.00443	0.00010	mg/L	2019-05-08	
Nickel, total	0.00138	0.00040	mg/L	2019-05-08	
Phosphorus, total	0.196	0.050	mg/L	2019-05-08	
Potassium, total	0.73	0.10	mg/L	2019-05-08	
Selenium, total	< 0.00050	0.00050	mg/L	2019-05-08	
Silicon, total	7.4	1.0	mg/L	2019-05-08	
Silver, total	< 0.000050	0.000050	mg/L	2019-05-08	
Sodium, total	9.72	0.10	mg/L	2019-05-08	
Strontium, total	0.186	0.0010	mg/L	2019-05-08	
Sulfur, total	8.0	3.0	mg/L	2019-05-08	
Tellurium, total	< 0.00050	0.00050	mg/L	2019-05-08	
Thallium, total	0.000020	0.000020	mg/L	2019-05-08	
Thorium, total	< 0.00010	0.00010	mg/L	2019-05-08	
Tin, total	< 0.00020	0.00020	mg/L	2019-05-08	
Titanium, total	0.0142	0.0050	mg/L	2019-05-08	
Tungsten, total	< 0.0010	0.0010	mg/L	2019-05-08	
Uranium, total	0.000843	0.000020	mg/L	2019-05-08	
Vanadium, total	0.0019	0.0010	mg/L	2019-05-08	
Zinc, total	0.0062	0.0040	mg/L	2019-05-08	
Zirconium, total	0.00013	0.00010	mg/L	2019-05-08	

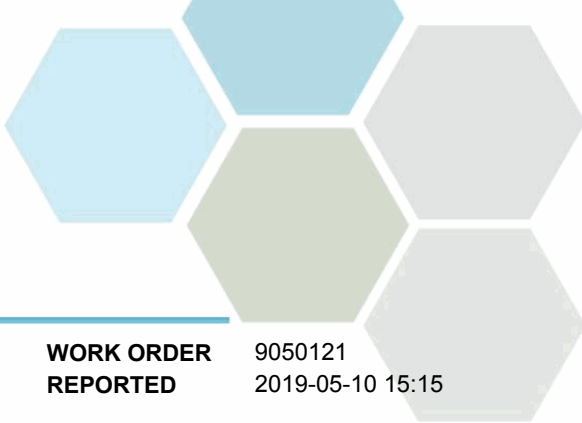
SB1 (9050121-05) | Matrix: Water | Sampled: 2019-04-30 11:30

Anions

Chloride	4.63	0.10	mg/L	2019-05-03	
Fluoride	< 0.10	0.10	mg/L	2019-05-03	
Nitrate (as N)	0.186	0.010	mg/L	2019-05-03	
Nitrite (as N)	< 0.010	0.010	mg/L	2019-05-03	
Sulfate	47.6	1.0	mg/L	2019-05-03	

BCMOE Aggregate Hydrocarbons

EPHw10-19	< 250	250	µg/L	2019-05-06	
EPHw19-32	< 250	250	µg/L	2019-05-06	
LEPHw	< 250	250	µg/L	N/A	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL	Units	Analyzed	Qualifier
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SB1 (9050121-05) | Matrix: Water | Sampled: 2019-04-30 11:30, Continued

BCMOE Aggregate Hydrocarbons, Continued

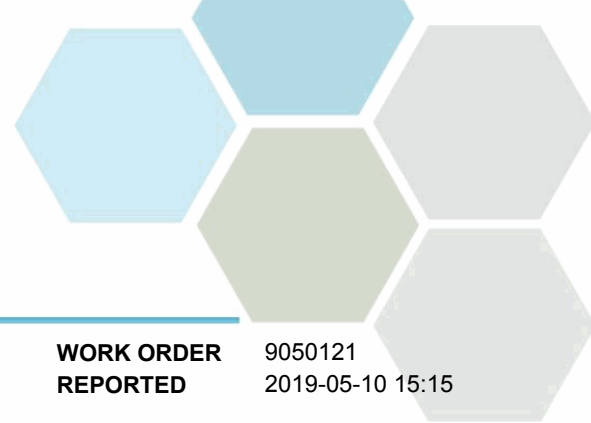
HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	78	60-140	%	2019-05-06	

Calculated Parameters

Hardness, Total (as CaCO3)	148	0.500	mg/L	N/A	
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Dissolved Metals

Aluminum, dissolved	0.0096	0.0050	mg/L	2019-05-08	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2019-05-08	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2019-05-08	
Barium, dissolved	0.0076	0.0050	mg/L	2019-05-08	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Boron, dissolved	0.0093	0.0050	mg/L	2019-05-08	
Cadmium, dissolved	0.000011	0.000010	mg/L	2019-05-08	
Calcium, dissolved	52.0	0.20	mg/L	2019-05-08	
Chromium, dissolved	0.00098	0.00050	mg/L	2019-05-08	
Cobalt, dissolved	0.00012	0.00010	mg/L	2019-05-08	
Copper, dissolved	0.00086	0.00040	mg/L	2019-05-08	
Iron, dissolved	< 0.010	0.010	mg/L	2019-05-08	
Lead, dissolved	< 0.00020	0.00020	mg/L	2019-05-08	
Lithium, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Magnesium, dissolved	4.37	0.010	mg/L	2019-05-08	
Manganese, dissolved	0.00046	0.00020	mg/L	2019-05-08	
Mercury, dissolved	< 0.000040	0.000040	mg/L	2019-05-08	CT5
Molybdenum, dissolved	0.00069	0.00010	mg/L	2019-05-08	
Nickel, dissolved	0.00220	0.00040	mg/L	2019-05-08	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2019-05-08	
Potassium, dissolved	0.34	0.10	mg/L	2019-05-08	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2019-05-08	
Silicon, dissolved	4.1	1.0	mg/L	2019-05-08	
Silver, dissolved	< 0.000050	0.000050	mg/L	2019-05-08	
Sodium, dissolved	3.75	0.10	mg/L	2019-05-08	
Strontium, dissolved	0.126	0.0010	mg/L	2019-05-08	
Sulfur, dissolved	17.3	3.0	mg/L	2019-05-08	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2019-05-08	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2019-05-08	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Tin, dissolved	< 0.00020	0.00020	mg/L	2019-05-08	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2019-05-08	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2019-05-08	
Uranium, dissolved	0.000545	0.000020	mg/L	2019-05-08	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2019-05-08	

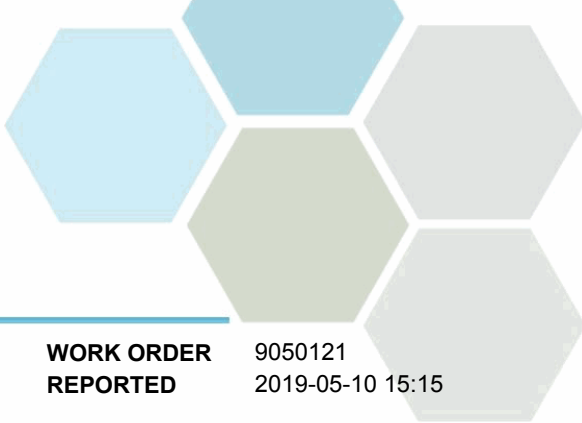


TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL	Units	Analyzed	Qualifier
SB1 (9050121-05) Matrix: Water Sampled: 2019-04-30 11:30, Continued					
<i>Dissolved Metals, Continued</i>					
Zinc, dissolved	< 0.0040	0.0040	mg/L	2019-05-08	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
<i>General Parameters</i>					
Alkalinity, Total (as CaCO3)	115	1.0	mg/L	2019-05-04	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2019-05-04	
Alkalinity, Bicarbonate (as CaCO3)	115	1.0	mg/L	2019-05-04	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2019-05-04	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2019-05-04	
Colour, True	< 5.0	5.0	CU	2019-05-03	
Conductivity (EC)	332	2.0	µS/cm	2019-05-07	
pH	7.18	0.10	pH units	2019-05-07	HT2
Solids, Total Suspended	95.1	2.0	mg/L	2019-05-07	
Turbidity	35.9	0.10	NTU	2019-05-03	
<i>Polycyclic Aromatic Hydrocarbons (PAH)</i>					
Acenaphthene	< 0.050	0.050	µg/L	2019-05-08	
Acenaphthylene	< 0.200	0.200	µg/L	2019-05-08	
Acridine	< 0.050	0.050	µg/L	2019-05-08	
Anthracene	< 0.010	0.010	µg/L	2019-05-08	
Benz(a)anthracene	< 0.010	0.010	µg/L	2019-05-08	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2019-05-08	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2019-05-08	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2019-05-08	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2019-05-08	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2019-05-08	
Chrysene	< 0.050	0.050	µg/L	2019-05-08	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2019-05-08	
Fluoranthene	< 0.030	0.030	µg/L	2019-05-08	
Fluorene	< 0.050	0.050	µg/L	2019-05-08	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2019-05-08	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2019-05-08	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2019-05-08	
Naphthalene	< 0.200	0.200	µg/L	2019-05-08	
Phenanthrene	< 0.100	0.100	µg/L	2019-05-08	
Pyrene	< 0.020	0.020	µg/L	2019-05-08	
Quinoline	< 0.050	0.050	µg/L	2019-05-08	
Surrogate: Acridine-d9	53	50-140	%	2019-05-08	
Surrogate: Naphthalene-d8	133	50-140	%	2019-05-08	
Surrogate: Perylene-d12	118	50-140	%	2019-05-08	
<i>Total Metals</i>					
Aluminum, total	1.91	0.0050	mg/L	2019-05-08	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

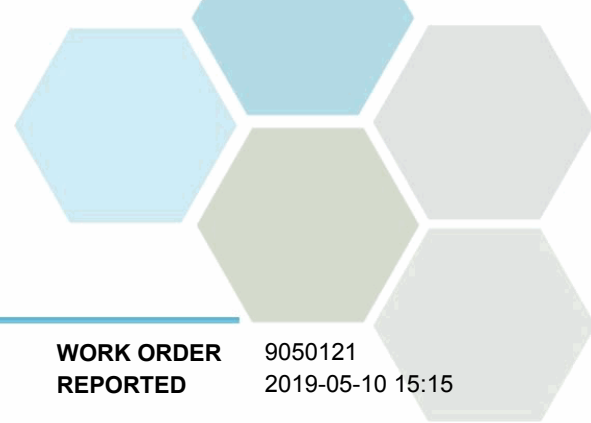
WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL	Units	Analyzed	Qualifier
SB1 (9050121-05) Matrix: Water Sampled: 2019-04-30 11:30, Continued					
<i>Total Metals, Continued</i>					
Antimony, total	< 0.00020	0.00020	mg/L	2019-05-08	
Arsenic, total	< 0.00050	0.00050	mg/L	2019-05-08	
Barium, total	0.0179	0.0050	mg/L	2019-05-08	
Beryllium, total	< 0.00010	0.00010	mg/L	2019-05-08	
Bismuth, total	< 0.00010	0.00010	mg/L	2019-05-08	
Boron, total	0.0095	0.0050	mg/L	2019-05-08	
Cadmium, total	0.000019	0.000010	mg/L	2019-05-08	
Calcium, total	56.6	0.20	mg/L	2019-05-08	
Chromium, total	0.00285	0.00050	mg/L	2019-05-08	
Cobalt, total	0.00240	0.00010	mg/L	2019-05-08	
Copper, total	0.00601	0.00040	mg/L	2019-05-08	
Iron, total	2.37	0.010	mg/L	2019-05-08	
Lead, total	0.00176	0.00020	mg/L	2019-05-08	
Lithium, total	0.00068	0.00010	mg/L	2019-05-08	
Magnesium, total	5.23	0.010	mg/L	2019-05-08	
Manganese, total	0.0618	0.00020	mg/L	2019-05-08	
Mercury, total	< 0.000010	0.000010	mg/L	2019-05-07	
Molybdenum, total	0.00049	0.00010	mg/L	2019-05-08	
Nickel, total	0.00413	0.00040	mg/L	2019-05-08	
Phosphorus, total	0.084	0.050	mg/L	2019-05-08	
Potassium, total	0.50	0.10	mg/L	2019-05-08	
Selenium, total	< 0.00050	0.00050	mg/L	2019-05-08	
Silicon, total	7.1	1.0	mg/L	2019-05-08	
Silver, total	< 0.000050	0.000050	mg/L	2019-05-08	
Sodium, total	3.96	0.10	mg/L	2019-05-08	
Strontium, total	0.136	0.0010	mg/L	2019-05-08	
Sulfur, total	18.0	3.0	mg/L	2019-05-08	
Tellurium, total	< 0.00050	0.00050	mg/L	2019-05-08	
Thallium, total	< 0.000020	0.000020	mg/L	2019-05-08	
Thorium, total	< 0.00010	0.00010	mg/L	2019-05-08	
Tin, total	< 0.00020	0.00020	mg/L	2019-05-08	
Titanium, total	0.119	0.0050	mg/L	2019-05-08	
Tungsten, total	< 0.0010	0.0010	mg/L	2019-05-08	
Uranium, total	0.000639	0.000020	mg/L	2019-05-08	
Vanadium, total	0.0068	0.0010	mg/L	2019-05-08	
Zinc, total	0.0088	0.0040	mg/L	2019-05-08	
Zirconium, total	< 0.00010	0.00010	mg/L	2019-05-08	

SB2 (9050121-06) | Matrix: Water | Sampled: 2019-04-30 11:00

Anions

Chloride	45.3	0.10	mg/L	2019-05-03	
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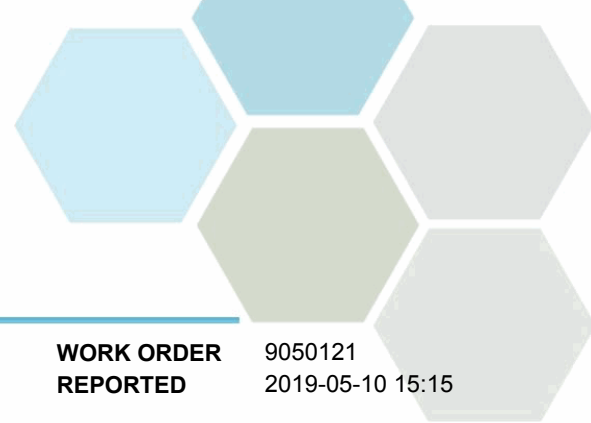


TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL	Units	Analyzed	Qualifier
SB2 (9050121-06) Matrix: Water Sampled: 2019-04-30 11:00, Continued					
<i>Anions, Continued</i>					
Fluoride	< 0.10	0.10	mg/L	2019-05-03	
Nitrate (as N)	0.174	0.010	mg/L	2019-05-03	
Nitrite (as N)	< 0.010	0.010	mg/L	2019-05-03	
Sulfate	60.4	1.0	mg/L	2019-05-03	
<i>BCMOE Aggregate Hydrocarbons</i>					
EPHw10-19	< 250	250	µg/L	2019-05-06	
EPHw19-32	< 250	250	µg/L	2019-05-06	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	69	60-140	%	2019-05-06	
<i>Calculated Parameters</i>					
Hardness, Total (as CaCO3)	239	0.500	mg/L	N/A	
<i>Dissolved Metals</i>					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2019-05-08	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2019-05-08	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2019-05-08	
Barium, dissolved	0.0094	0.0050	mg/L	2019-05-08	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Boron, dissolved	0.0173	0.0050	mg/L	2019-05-08	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2019-05-08	
Calcium, dissolved	77.8	0.20	mg/L	2019-05-08	
Chromium, dissolved	0.00104	0.00050	mg/L	2019-05-08	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Copper, dissolved	0.00091	0.00040	mg/L	2019-05-08	
Iron, dissolved	< 0.010	0.010	mg/L	2019-05-08	
Lead, dissolved	0.00025	0.00020	mg/L	2019-05-08	
Lithium, dissolved	0.00015	0.00010	mg/L	2019-05-08	
Magnesium, dissolved	10.9	0.010	mg/L	2019-05-08	
Manganese, dissolved	0.00077	0.00020	mg/L	2019-05-08	
Mercury, dissolved	< 0.000040	0.000040	mg/L	2019-05-08	CT5
Molybdenum, dissolved	0.00060	0.00010	mg/L	2019-05-08	
Nickel, dissolved	0.00059	0.00040	mg/L	2019-05-08	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2019-05-08	
Potassium, dissolved	1.18	0.10	mg/L	2019-05-08	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2019-05-08	
Silicon, dissolved	6.1	1.0	mg/L	2019-05-08	
Silver, dissolved	< 0.000050	0.000050	mg/L	2019-05-08	
Sodium, dissolved	26.6	0.10	mg/L	2019-05-08	
Strontium, dissolved	0.261	0.0010	mg/L	2019-05-08	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL	Units	Analyzed	Qualifier
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SB2 (9050121-06) | Matrix: Water | Sampled: 2019-04-30 11:00, Continued

Dissolved Metals, Continued

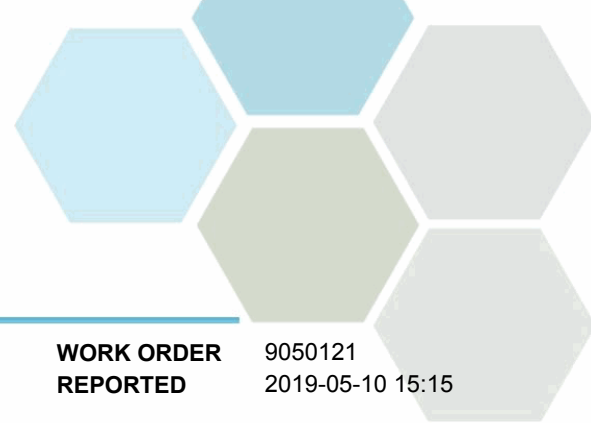
Sulfur, dissolved	22.0	3.0	mg/L	2019-05-08	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2019-05-08	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2019-05-08	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Tin, dissolved	< 0.00020	0.00020	mg/L	2019-05-08	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2019-05-08	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2019-05-08	
Uranium, dissolved	0.00127	0.000020	mg/L	2019-05-08	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2019-05-08	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2019-05-08	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	

General Parameters

Alkalinity, Total (as CaCO3)	184	1.0	mg/L	2019-05-04	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2019-05-04	
Alkalinity, Bicarbonate (as CaCO3)	184	1.0	mg/L	2019-05-04	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2019-05-04	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2019-05-04	
Colour, True	< 5.0	5.0	CU	2019-05-03	
Conductivity (EC)	615	2.0	µS/cm	2019-05-07	
pH	7.07	0.10	pH units	2019-05-07	HT2
Solids, Total Suspended	45.1	2.0	mg/L	2019-05-07	
Turbidity	42.6	0.10	NTU	2019-05-03	

Polycyclic Aromatic Hydrocarbons (PAH)

Acenaphthene	< 0.050	0.050	µg/L	2019-05-08	
Acenaphthylene	< 0.200	0.200	µg/L	2019-05-08	
Acridine	< 0.050	0.050	µg/L	2019-05-08	
Anthracene	< 0.010	0.010	µg/L	2019-05-08	
Benz(a)anthracene	< 0.015	0.010	µg/L	2019-05-08	RA3
Benzo(a)pyrene	< 0.022	0.010	µg/L	2019-05-08	RA3
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2019-05-08	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2019-05-08	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2019-05-08	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2019-05-08	
Chrysene	< 0.050	0.050	µg/L	2019-05-08	
Dibenz(a,h)anthracene	< 0.036	0.010	µg/L	2019-05-08	RA3
Fluoranthene	< 0.030	0.030	µg/L	2019-05-08	
Fluorene	< 0.050	0.050	µg/L	2019-05-08	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2019-05-08	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2019-05-08	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2019-05-08	
Naphthalene	< 0.200	0.200	µg/L	2019-05-08	

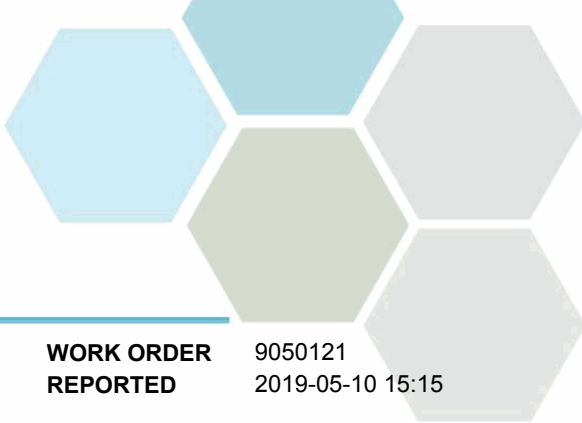


TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL	Units	Analyzed	Qualifier
SB2 (9050121-06) Matrix: Water Sampled: 2019-04-30 11:00, Continued					
<i>Polycyclic Aromatic Hydrocarbons (PAH), Continued</i>					
Phenanthrene	< 0.100	0.100	µg/L	2019-05-08	
Pyrene	< 0.020	0.020	µg/L	2019-05-08	
Quinoline	< 0.050	0.050	µg/L	2019-05-08	
Surrogate: Acridine-d9	75	50-140	%	2019-05-08	
Surrogate: Naphthalene-d8	113	50-140	%	2019-05-08	
Surrogate: Perylene-d12	108	50-140	%	2019-05-08	
Total Metals					
Aluminum, total	1.81	0.0050	mg/L	2019-05-08	
Antimony, total	< 0.00020	0.00020	mg/L	2019-05-08	
Arsenic, total	< 0.00050	0.00050	mg/L	2019-05-08	
Barium, total	0.0175	0.0050	mg/L	2019-05-08	
Beryllium, total	< 0.00010	0.00010	mg/L	2019-05-08	
Bismuth, total	< 0.00010	0.00010	mg/L	2019-05-08	
Boron, total	0.0196	0.0050	mg/L	2019-05-08	
Cadmium, total	0.000013	0.000010	mg/L	2019-05-08	
Calcium, total	81.4	0.20	mg/L	2019-05-08	
Chromium, total	0.00324	0.00050	mg/L	2019-05-08	
Cobalt, total	0.00160	0.00010	mg/L	2019-05-08	
Copper, total	0.00666	0.00040	mg/L	2019-05-08	
Iron, total	2.07	0.010	mg/L	2019-05-08	
Lead, total	0.00061	0.00020	mg/L	2019-05-08	
Lithium, total	0.00081	0.00010	mg/L	2019-05-08	
Magnesium, total	11.5	0.010	mg/L	2019-05-08	
Manganese, total	0.0813	0.00020	mg/L	2019-05-08	
Mercury, total	< 0.000010	0.000010	mg/L	2019-05-07	
Molybdenum, total	0.00076	0.00010	mg/L	2019-05-08	
Nickel, total	0.00248	0.00040	mg/L	2019-05-08	
Phosphorus, total	0.088	0.050	mg/L	2019-05-08	
Potassium, total	1.42	0.10	mg/L	2019-05-08	
Selenium, total	< 0.00050	0.00050	mg/L	2019-05-08	
Silicon, total	9.0	1.0	mg/L	2019-05-08	
Silver, total	< 0.000050	0.000050	mg/L	2019-05-08	
Sodium, total	27.0	0.10	mg/L	2019-05-08	
Strontium, total	0.273	0.0010	mg/L	2019-05-08	
Sulfur, total	22.8	3.0	mg/L	2019-05-08	
Tellurium, total	< 0.00050	0.00050	mg/L	2019-05-08	
Thallium, total	< 0.000020	0.000020	mg/L	2019-05-08	
Thorium, total	< 0.00010	0.00010	mg/L	2019-05-08	
Tin, total	< 0.00020	0.00020	mg/L	2019-05-08	
Titanium, total	0.116	0.0050	mg/L	2019-05-08	
Tungsten, total	< 0.0010	0.0010	mg/L	2019-05-08	
Uranium, total	0.00131	0.000020	mg/L	2019-05-08	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL	Units	Analyzed	Qualifier
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SB2 (9050121-06) | Matrix: Water | Sampled: 2019-04-30 11:00, Continued

Total Metals, Continued

Vanadium, total	0.0057	0.0010	mg/L	2019-05-08	
Zinc, total	0.0081	0.0040	mg/L	2019-05-08	
Zirconium, total	< 0.00010	0.00010	mg/L	2019-05-08	

LE-1 (9050121-07) | Matrix: Water | Sampled: 2019-04-30 13:30

Anions

Chloride	3250	0.10	mg/L	2019-05-03	
Fluoride	< 1.00	0.10	mg/L	2019-05-03	RA1
Nitrate (as N)	1.60	0.010	mg/L	2019-05-03	
Nitrite (as N)	< 0.100	0.010	mg/L	2019-05-03	RA1
Sulfate	1730	1.0	mg/L	2019-05-03	

BCMOE Aggregate Hydrocarbons

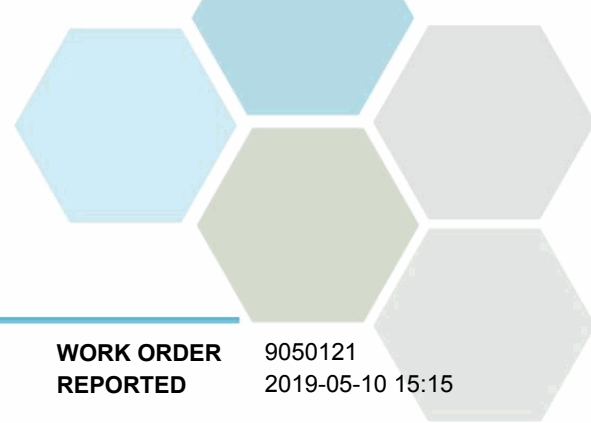
EPHw10-19	314	250	µg/L	2019-05-08	
EPHw19-32	326	250	µg/L	2019-05-08	
LEPHw	314	250	µg/L	N/A	
HEPHw	326	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	76	60-140	%	2019-05-08	

Calculated Parameters

Hardness, Total (as CaCO3)	3170	0.500	mg/L	N/A	
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Dissolved Metals

Aluminum, dissolved	0.0154	0.0050	mg/L	2019-05-08	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2019-05-08	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2019-05-08	
Barium, dissolved	0.0108	0.0050	mg/L	2019-05-08	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Boron, dissolved	0.218	0.0050	mg/L	2019-05-08	
Cadmium, dissolved	0.000474	0.000010	mg/L	2019-05-08	
Calcium, dissolved	861	0.20	mg/L	2019-05-08	
Chromium, dissolved	0.00149	0.00050	mg/L	2019-05-08	
Cobalt, dissolved	0.00094	0.00010	mg/L	2019-05-08	
Copper, dissolved	0.00209	0.00040	mg/L	2019-05-08	
Iron, dissolved	< 0.010	0.010	mg/L	2019-05-08	
Lead, dissolved	< 0.00020	0.00020	mg/L	2019-05-08	
Lithium, dissolved	0.00022	0.00010	mg/L	2019-05-08	
Magnesium, dissolved	248	0.010	mg/L	2019-05-08	
Manganese, dissolved	12.1	0.00020	mg/L	2019-05-08	
Mercury, dissolved	0.000043	0.000040	mg/L	2019-05-08	CT5
Molybdenum, dissolved	0.00016	0.00010	mg/L	2019-05-08	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

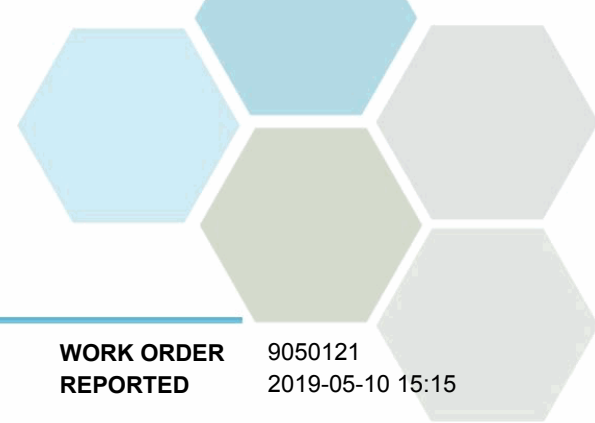
Analyte	Result	RL	Units	Analyzed	Qualifier
LE-1 (9050121-07) Matrix: Water Sampled: 2019-04-30 13:30, Continued					
<i>Dissolved Metals, Continued</i>					
Nickel, dissolved	0.00643	0.00040	mg/L	2019-05-08	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2019-05-08	
Potassium, dissolved	23.6	0.10	mg/L	2019-05-08	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2019-05-08	
Silicon, dissolved	7.1	1.0	mg/L	2019-05-08	
Silver, dissolved	0.000126	0.000050	mg/L	2019-05-08	
Sodium, dissolved	1830	0.10	mg/L	2019-05-08	
Strontium, dissolved	4.49	0.0010	mg/L	2019-05-08	
Sulfur, dissolved	720	3.0	mg/L	2019-05-08	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2019-05-08	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2019-05-08	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Tin, dissolved	< 0.00020	0.00020	mg/L	2019-05-08	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2019-05-08	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2019-05-08	
Uranium, dissolved	0.000057	0.000020	mg/L	2019-05-08	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2019-05-08	
Zinc, dissolved	0.0222	0.0040	mg/L	2019-05-08	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	

General Parameters

Alkalinity, Total (as CaCO3)	31.5	1.0	mg/L	2019-05-04	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2019-05-04	
Alkalinity, Bicarbonate (as CaCO3)	31.5	1.0	mg/L	2019-05-04	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2019-05-04	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2019-05-04	
Colour, True	< 5.0	5.0	CU	2019-05-03	
Conductivity (EC)	12100	2.0	µS/cm	2019-05-07	
pH	6.77	0.10	pH units	2019-05-07	HT2
Solids, Total Suspended	< 2.0	2.0	mg/L	2019-05-07	
Turbidity	< 0.10	0.10	NTU	2019-05-03	

Polycyclic Aromatic Hydrocarbons (PAH)

Acenaphthene	< 0.050	0.050	µg/L	2019-05-08	
Acenaphthylene	< 0.200	0.200	µg/L	2019-05-08	
Acridine	< 0.050	0.050	µg/L	2019-05-08	
Anthracene	< 0.010	0.010	µg/L	2019-05-08	
Benz(a)anthracene	< 0.010	0.010	µg/L	2019-05-08	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2019-05-08	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2019-05-08	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2019-05-08	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2019-05-08	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2019-05-08	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL	Units	Analyzed	Qualifier
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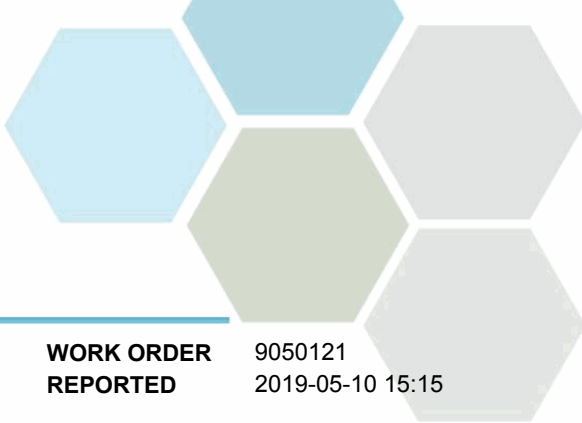
LE-1 (9050121-07) | Matrix: Water | Sampled: 2019-04-30 13:30, Continued

Polycyclic Aromatic Hydrocarbons (PAH), Continued

Chrysene	< 0.050	0.050	µg/L	2019-05-08	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2019-05-08	
Fluoranthene	< 0.030	0.030	µg/L	2019-05-08	
Fluorene	< 0.050	0.050	µg/L	2019-05-08	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2019-05-08	
1-Methylnaphthalene	0.108	0.100	µg/L	2019-05-08	
2-Methylnaphthalene	0.185	0.100	µg/L	2019-05-08	
Naphthalene	0.238	0.200	µg/L	2019-05-08	
Phenanthrene	< 0.100	0.100	µg/L	2019-05-08	
Pyrene	< 0.020	0.020	µg/L	2019-05-08	
Quinoline	< 0.050	0.050	µg/L	2019-05-08	
Surrogate: Acridine-d9	84	50-140	%	2019-05-08	
Surrogate: Naphthalene-d8	118	50-140	%	2019-05-08	
Surrogate: Perylene-d12	110	50-140	%	2019-05-08	

Total Metals

Aluminum, total	0.0417	0.0050	mg/L	2019-05-08	
Antimony, total	< 0.00020	0.00020	mg/L	2019-05-08	
Arsenic, total	< 0.00050	0.00050	mg/L	2019-05-08	
Barium, total	0.0121	0.0050	mg/L	2019-05-08	
Beryllium, total	< 0.00010	0.00010	mg/L	2019-05-08	
Bismuth, total	< 0.00010	0.00010	mg/L	2019-05-08	
Boron, total	0.253	0.0050	mg/L	2019-05-08	
Cadmium, total	0.000544	0.000010	mg/L	2019-05-08	
Calcium, total	919	0.20	mg/L	2019-05-08	
Chromium, total	0.00156	0.00050	mg/L	2019-05-08	
Cobalt, total	0.00096	0.00010	mg/L	2019-05-08	
Copper, total	0.00219	0.00040	mg/L	2019-05-08	
Iron, total	0.012	0.010	mg/L	2019-05-08	
Lead, total	< 0.00020	0.00020	mg/L	2019-05-08	
Lithium, total	0.00022	0.00010	mg/L	2019-05-08	
Magnesium, total	249	0.010	mg/L	2019-05-08	
Manganese, total	12.3	0.00020	mg/L	2019-05-08	
Mercury, total	< 0.000010	0.000010	mg/L	2019-05-07	
Molybdenum, total	0.00017	0.00010	mg/L	2019-05-08	
Nickel, total	0.00662	0.00040	mg/L	2019-05-08	
Phosphorus, total	< 0.050	0.050	mg/L	2019-05-08	
Potassium, total	23.9	0.10	mg/L	2019-05-08	
Selenium, total	< 0.00050	0.00050	mg/L	2019-05-08	
Silicon, total	7.1	1.0	mg/L	2019-05-08	
Silver, total	0.000078	0.000050	mg/L	2019-05-08	
Sodium, total	1860	0.10	mg/L	2019-05-08	
Strontium, total	4.77	0.0010	mg/L	2019-05-08	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL	Units	Analyzed	Qualifier
LE-1 (9050121-07) Matrix: Water Sampled: 2019-04-30 13:30, Continued					
<i>Total Metals, Continued</i>					
Sulfur, total	719	3.0	mg/L	2019-05-08	
Tellurium, total	< 0.00050	0.00050	mg/L	2019-05-08	
Thallium, total	< 0.000020	0.000020	mg/L	2019-05-08	
Thorium, total	< 0.00010	0.00010	mg/L	2019-05-08	
Tin, total	0.00036	0.00020	mg/L	2019-05-08	
Titanium, total	< 0.0050	0.0050	mg/L	2019-05-08	
Tungsten, total	< 0.0010	0.0010	mg/L	2019-05-08	
Uranium, total	0.000056	0.000020	mg/L	2019-05-08	
Vanadium, total	< 0.0010	0.0010	mg/L	2019-05-08	
Zinc, total	0.0242	0.0040	mg/L	2019-05-08	
Zirconium, total	< 0.00010	0.00010	mg/L	2019-05-08	

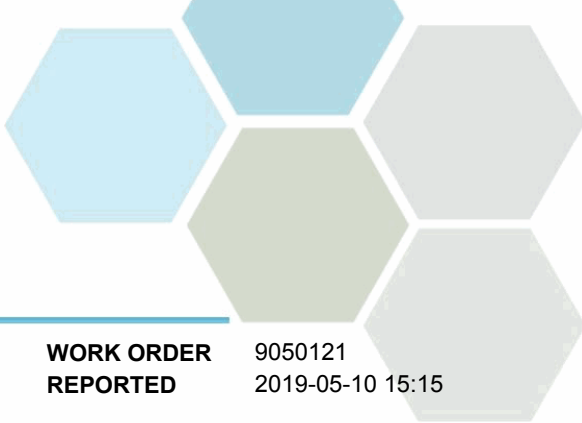
SW1 (9050121-08) | Matrix: Water | Sampled: 2019-04-30 12:30

<i>Anions</i>					
Chloride	12.4	0.10	mg/L	2019-05-03	
Fluoride	< 0.10	0.10	mg/L	2019-05-03	
Nitrate (as N)	0.308	0.010	mg/L	2019-05-03	
Nitrite (as N)	< 0.010	0.010	mg/L	2019-05-03	
Sulfate	86.2	1.0	mg/L	2019-05-03	

<i>BCMOE Aggregate Hydrocarbons</i>					
EPHw10-19	453	250	µg/L	2019-05-08	
EPHw19-32	467	250	µg/L	2019-05-08	
LEPHw	452	250	µg/L	N/A	
HEPHw	467	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	71	60-140	%	2019-05-08	

<i>Calculated Parameters</i>					
Chromium, Trivalent	< 0.00100	0.00100	mg/L	N/A	
Hardness, Total (as CaCO3)	198	0.500	mg/L	N/A	

<i>Dissolved Metals</i>					
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2019-05-08	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2019-05-08	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2019-05-08	
Barium, dissolved	0.0118	0.0050	mg/L	2019-05-08	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Boron, dissolved	0.0121	0.0050	mg/L	2019-05-08	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2019-05-08	
Calcium, dissolved	64.4	0.20	mg/L	2019-05-08	
Chromium, dissolved	0.00126	0.00050	mg/L	2019-05-08	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL	Units	Analyzed	Qualifier
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SW1 (9050121-08) | Matrix: Water | Sampled: 2019-04-30 12:30, Continued

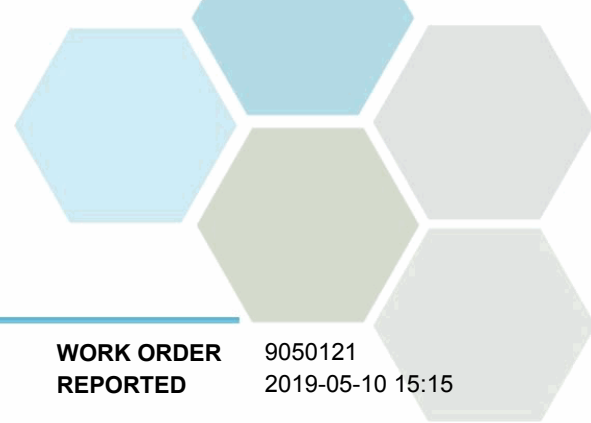
Dissolved Metals, Continued

Cobalt, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Copper, dissolved	0.00119	0.00040	mg/L	2019-05-08	
Iron, dissolved	< 0.010	0.010	mg/L	2019-05-08	
Lead, dissolved	< 0.00020	0.00020	mg/L	2019-05-08	
Lithium, dissolved	0.00013	0.00010	mg/L	2019-05-08	
Magnesium, dissolved	8.98	0.010	mg/L	2019-05-08	
Manganese, dissolved	0.00182	0.00020	mg/L	2019-05-08	
Mercury, dissolved	< 0.000040	0.000040	mg/L	2019-05-08	CT5
Molybdenum, dissolved	0.00074	0.00010	mg/L	2019-05-08	
Nickel, dissolved	0.00046	0.00040	mg/L	2019-05-08	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2019-05-08	
Potassium, dissolved	0.71	0.10	mg/L	2019-05-08	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2019-05-08	
Silicon, dissolved	5.3	1.0	mg/L	2019-05-08	
Silver, dissolved	< 0.000050	0.000050	mg/L	2019-05-08	
Sodium, dissolved	8.62	0.10	mg/L	2019-05-08	
Strontium, dissolved	0.180	0.0010	mg/L	2019-05-08	
Sulfur, dissolved	31.4	3.0	mg/L	2019-05-08	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2019-05-08	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2019-05-08	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	
Tin, dissolved	< 0.00020	0.00020	mg/L	2019-05-08	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2019-05-08	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2019-05-08	
Uranium, dissolved	0.000988	0.000020	mg/L	2019-05-08	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2019-05-08	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2019-05-08	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2019-05-08	

General Parameters

Alkalinity, Total (as CaCO3)	121	1.0	mg/L	2019-05-04	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2019-05-04	
Alkalinity, Bicarbonate (as CaCO3)	121	1.0	mg/L	2019-05-04	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2019-05-04	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2019-05-04	
Chromium, Hexavalent	< 0.0010	0.0010	mg/L	2019-05-10	
Colour, True	< 5.0	5.0	CU	2019-05-03	
Conductivity (EC)	444	2.0	µS/cm	2019-05-07	
pH	7.40	0.10	pH units	2019-05-07	HT2
Solids, Total Suspended	< 2.0	2.0	mg/L	2019-05-07	
Turbidity	0.46	0.10	NTU	2019-05-03	

Polycyclic Aromatic Hydrocarbons (PAH)



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL	Units	Analyzed	Qualifier
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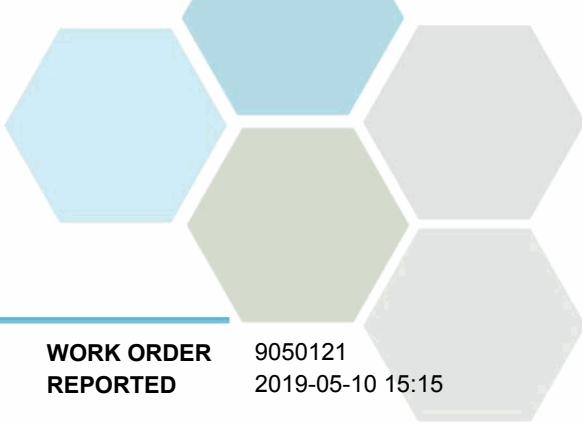
SW1 (9050121-08) | Matrix: Water | Sampled: 2019-04-30 12:30, Continued

Polycyclic Aromatic Hydrocarbons (PAH), Continued

Acenaphthene	< 0.050	0.050	µg/L	2019-05-08	
Acenaphthylene	< 0.200	0.200	µg/L	2019-05-08	
Acridine	< 0.050	0.050	µg/L	2019-05-08	
Anthracene	< 0.010	0.010	µg/L	2019-05-08	
Benz(a)anthracene	< 0.010	0.010	µg/L	2019-05-08	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2019-05-08	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2019-05-08	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2019-05-08	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2019-05-08	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2019-05-08	
Chrysene	< 0.050	0.050	µg/L	2019-05-08	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2019-05-08	
Fluoranthene	< 0.030	0.030	µg/L	2019-05-08	
Fluorene	< 0.050	0.050	µg/L	2019-05-08	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2019-05-08	
1-Methylnaphthalene	0.158	0.100	µg/L	2019-05-08	
2-Methylnaphthalene	0.270	0.100	µg/L	2019-05-08	
Naphthalene	0.363	0.200	µg/L	2019-05-08	
Phenanthrene	< 0.100	0.100	µg/L	2019-05-08	
Pyrene	< 0.020	0.020	µg/L	2019-05-08	
Quinoline	< 0.050	0.050	µg/L	2019-05-08	
Surrogate: Acridine-d9	83	50-140	%	2019-05-08	
Surrogate: Naphthalene-d8	117	50-140	%	2019-05-08	
Surrogate: Perylene-d12	113	50-140	%	2019-05-08	

Total Metals

Aluminum, total	0.0340	0.0050	mg/L	2019-05-08	
Antimony, total	< 0.00020	0.00020	mg/L	2019-05-08	
Arsenic, total	< 0.00050	0.00050	mg/L	2019-05-08	
Barium, total	0.0113	0.0050	mg/L	2019-05-08	
Beryllium, total	< 0.00010	0.00010	mg/L	2019-05-08	
Bismuth, total	< 0.00010	0.00010	mg/L	2019-05-08	
Boron, total	0.0158	0.0050	mg/L	2019-05-08	
Cadmium, total	< 0.000010	0.000010	mg/L	2019-05-08	
Calcium, total	65.4	0.20	mg/L	2019-05-08	
Chromium, total	0.00098	0.00050	mg/L	2019-05-08	
Cobalt, total	< 0.00010	0.00010	mg/L	2019-05-08	
Copper, total	0.00124	0.00040	mg/L	2019-05-08	
Iron, total	0.012	0.010	mg/L	2019-05-08	
Lead, total	< 0.00020	0.00020	mg/L	2019-05-08	
Lithium, total	0.00013	0.00010	mg/L	2019-05-08	
Magnesium, total	8.70	0.010	mg/L	2019-05-08	
Manganese, total	0.00389	0.00020	mg/L	2019-05-08	



TEST RESULTS

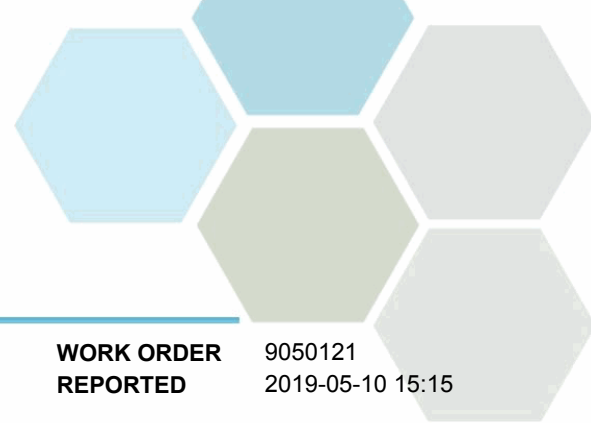
REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL	Units	Analyzed	Qualifier
SW1 (9050121-08) Matrix: Water Sampled: 2019-04-30 12:30, Continued					
<i>Total Metals, Continued</i>					
Mercury, total	< 0.000010	0.000010	mg/L	2019-05-07	
Molybdenum, total	0.00072	0.00010	mg/L	2019-05-08	
Nickel, total	0.00047	0.00040	mg/L	2019-05-08	
Phosphorus, total	< 0.050	0.050	mg/L	2019-05-08	
Potassium, total	0.70	0.10	mg/L	2019-05-08	
Selenium, total	< 0.00050	0.00050	mg/L	2019-05-08	
Silicon, total	5.1	1.0	mg/L	2019-05-08	
Silver, total	< 0.000050	0.000050	mg/L	2019-05-08	
Sodium, total	8.66	0.10	mg/L	2019-05-08	
Strontium, total	0.182	0.0010	mg/L	2019-05-08	
Sulfur, total	31.5	3.0	mg/L	2019-05-08	
Tellurium, total	< 0.00050	0.00050	mg/L	2019-05-08	
Thallium, total	< 0.000020	0.000020	mg/L	2019-05-08	
Thorium, total	< 0.00010	0.00010	mg/L	2019-05-08	
Tin, total	< 0.00020	0.00020	mg/L	2019-05-08	
Titanium, total	< 0.0050	0.0050	mg/L	2019-05-08	
Tungsten, total	< 0.0010	0.0010	mg/L	2019-05-08	
Uranium, total	0.000963	0.000020	mg/L	2019-05-08	
Vanadium, total	< 0.0010	0.0010	mg/L	2019-05-08	
Zinc, total	< 0.0040	0.0040	mg/L	2019-05-08	
Zirconium, total	< 0.00010	0.00010	mg/L	2019-05-08	

Sample Qualifiers:

- CT5 This sample has been incorrectly preserved for Mercury analysis
- 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.
- RA3 The Reporting Limit has been raised due to comparable level detected in the blank(s).



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Allterra Construction
P17-932

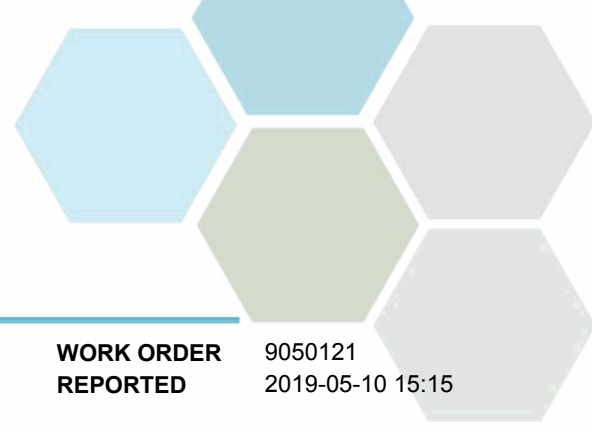
WORK ORDER REPORTED 9050121
2019-05-10 15:15

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



APPENDIX 1: SUPPORTING INFORMATION

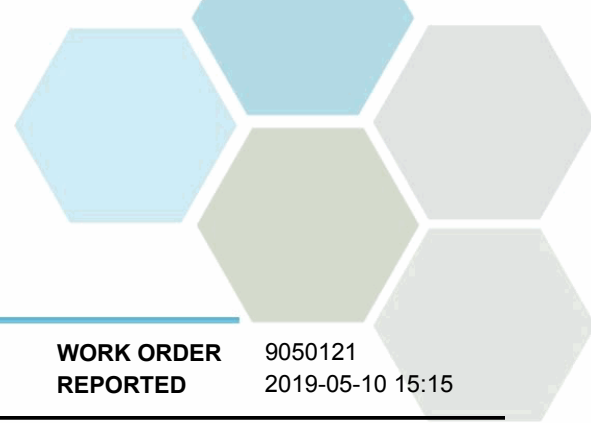
REPORTED TO Allterra Construction
PROJECT P17-932

WORK ORDER 9050121
REPORTED 2019-05-10 15:15

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.

Results in **Bold** indicate values that are above CARO's method reporting limits. Any results that are above regulatory limits are highlighted **red**. Please note that results will only be highlighted red if the regulatory limits are included on the CARO report. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager: bshaw@caro.ca



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

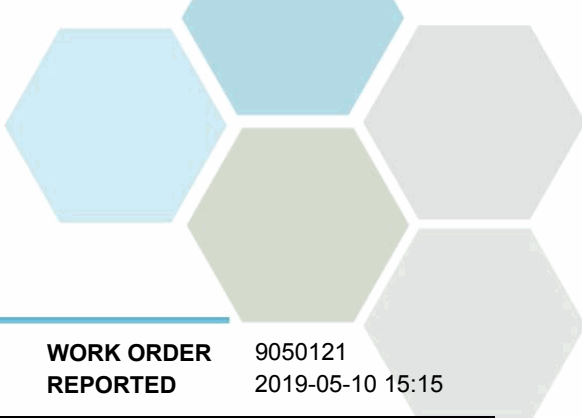
WORK ORDER REPORTED 9050121
2019-05-10 15:15

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
Anions, Batch B9E0126									
Blank (B9E0126-BLK1)			Prepared: 2019-05-02, Analyzed: 2019-05-02						
Chloride	< 0.10	0.10 mg/L							
Fluoride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
Sulfate	< 1.0	1.0 mg/L							
Blank (B9E0126-BLK2)			Prepared: 2019-05-02, Analyzed: 2019-05-02						
Chloride	< 0.10	0.10 mg/L							
Fluoride	< 0.10	0.10 mg/L							
Nitrate (as N)	< 0.010	0.010 mg/L							
Nitrite (as N)	< 0.010	0.010 mg/L							
Sulfate	< 1.0	1.0 mg/L							
LCS (B9E0126-BS1)			Prepared: 2019-05-02, Analyzed: 2019-05-02						
Chloride	16.0	0.10 mg/L	16.0		100	90-110			
Fluoride	3.92	0.10 mg/L	4.00		98	88-108			
Nitrate (as N)	4.09	0.010 mg/L	4.00		102	93-108			
Nitrite (as N)	2.00	0.010 mg/L	2.00		100	85-114			
Sulfate	16.1	1.0 mg/L	16.0		101	91-109			
LCS (B9E0126-BS2)			Prepared: 2019-05-02, Analyzed: 2019-05-02						
Chloride	16.1	0.10 mg/L	16.0		101	90-110			
Fluoride	4.01	0.10 mg/L	4.00		100	88-108			
Nitrate (as N)	4.05	0.010 mg/L	4.00		101	93-108			
Nitrite (as N)	1.87	0.010 mg/L	2.00		94	85-114			
Sulfate	16.1	1.0 mg/L	16.0		100	91-109			
BCMOE Aggregate Hydrocarbons, Batch B9E0413									
Blank (B9E0413-BLK1)			Prepared: 2019-05-05, Analyzed: 2019-05-06						
EPHw10-19	< 250	250 µg/L							
EPHw19-32	< 250	250 µg/L							
Surrogate: 2-Methylnonane (EPH/F2-4)	375	µg/L	444		84	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 B9E0413, Continued

LCS (B9E0413-BS2)

Prepared: 2019-05-05, Analyzed: 2019-05-06

EPHw10-19	16200	250 µg/L	15400	105	70-130				
EPHw19-32	22500	250 µg/L	22100	102	70-130				
Surrogate: 2-Methylnonane (EPH/F2-4)	513	µg/L	444	115	60-140				

BCMOE Aggregate Hydrocarbons, Batch B9E0422

Blank (B9E0422-BLK1)

Prepared: 2019-05-06, Analyzed: 2019-05-08

EPHw10-19	< 250	250 µg/L							
EPHw19-32	< 250	250 µg/L							
Surrogate: 2-Methylnonane (EPH/F2-4)	304	µg/L	444	68	60-140				

LCS (B9E0422-BS2)

Prepared: 2019-05-06, Analyzed: 2019-05-08

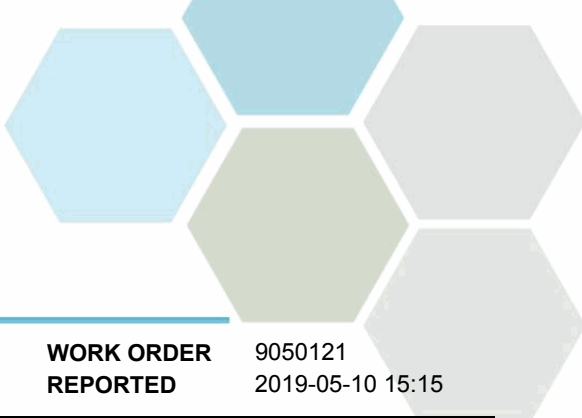
EPHw10-19	15300	250 µg/L	15400	99	70-130				
EPHw19-32	21300	250 µg/L	22100	96	70-130				
Surrogate: 2-Methylnonane (EPH/F2-4)	347	µg/L	444	78	60-140				

Dissolved Metals, Batch B9E0439

Blank (B9E0439-BLK1)

Prepared: 2019-05-08, Analyzed: 2019-05-08

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							



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 B9E0439, Continued

Blank (B9E0439-BLK1), Continued

Prepared: 2019-05-08, Analyzed: 2019-05-08

Zinc, dissolved	< 0.0040	0.0040 mg/L							
Zirconium, dissolved	< 0.00010	0.00010 mg/L							

Blank (B9E0439-BLK2)

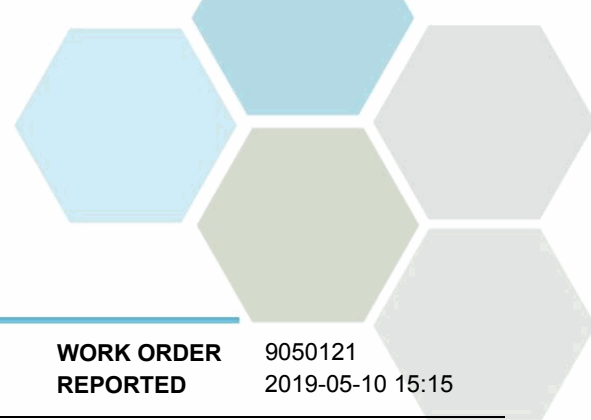
Prepared: 2019-05-08, Analyzed: 2019-05-08

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 (B9E0439-BS1)

Prepared: 2019-05-08, Analyzed: 2019-05-08

Aluminum, dissolved	0.0220	0.0050 mg/L	0.0200		110	80-120			
Antimony, dissolved	0.0219	0.00020 mg/L	0.0200		110	80-120			
Arsenic, dissolved	0.0214	0.00050 mg/L	0.0200		107	80-120			
Barium, dissolved	0.0210	0.0050 mg/L	0.0200		105	80-120			
Beryllium, dissolved	0.0212	0.00010 mg/L	0.0200		106	80-120			
Bismuth, dissolved	0.0213	0.00010 mg/L	0.0200		107	80-120			
Boron, dissolved	0.0192	0.0050 mg/L	0.0200		96	80-120			
Cadmium, dissolved	0.0194	0.000010 mg/L	0.0200		97	80-120			
Calcium, dissolved	1.92	0.20 mg/L	2.00		96	80-120			
Chromium, dissolved	0.0203	0.00050 mg/L	0.0200		102	80-120			
Cobalt, dissolved	0.0207	0.00010 mg/L	0.0200		103	80-120			
Copper, dissolved	0.0213	0.00040 mg/L	0.0200		107	80-120			



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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 B9E0439, Continued

LCS (B9E0439-BS1), Continued

Prepared: 2019-05-08, Analyzed: 2019-05-08

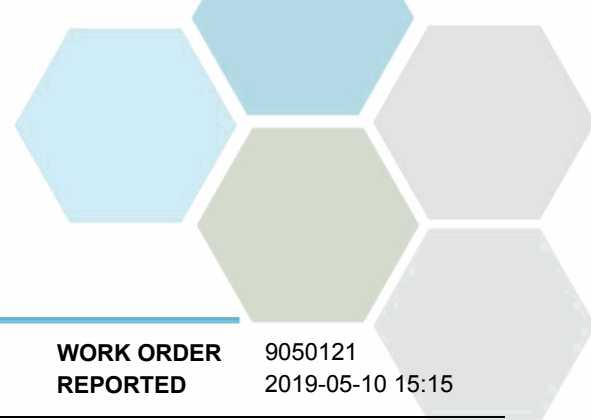
Iron, dissolved	1.89	0.010 mg/L	2.00		94	80-120			
Lead, dissolved	0.0209	0.00020 mg/L	0.0200		104	80-120			
Lithium, dissolved	0.0202	0.00010 mg/L	0.0200		101	80-120			
Magnesium, dissolved	2.07	0.010 mg/L	2.00		104	80-120			
Manganese, dissolved	0.0197	0.00020 mg/L	0.0200		98	80-120			
Mercury, dissolved	0.000909	0.000040 mg/L	0.00100		91	80-120			
Molybdenum, dissolved	0.0202	0.00010 mg/L	0.0200		101	80-120			
Nickel, dissolved	0.0208	0.00040 mg/L	0.0200		104	80-120			
Phosphorus, dissolved	1.90	0.050 mg/L	2.00		95	80-120			
Potassium, dissolved	1.93	0.10 mg/L	2.00		97	80-120			
Selenium, dissolved	0.0207	0.00050 mg/L	0.0200		104	80-120			
Silicon, dissolved	1.9	1.0 mg/L	2.00		93	80-120			
Silver, dissolved	0.0208	0.000050 mg/L	0.0200		104	80-120			
Sodium, dissolved	1.80	0.10 mg/L	2.00		90	80-120			
Strontium, dissolved	0.0200	0.0010 mg/L	0.0200		100	80-120			
Sulfur, dissolved	4.7	3.0 mg/L	5.00		95	80-120			
Tellurium, dissolved	0.0241	0.00050 mg/L	0.0200		120	80-120			
Thallium, dissolved	0.0211	0.000020 mg/L	0.0200		106	80-120			
Thorium, dissolved	0.0204	0.00010 mg/L	0.0200		102	80-120			
Tin, dissolved	0.0199	0.00020 mg/L	0.0200		100	80-120			
Titanium, dissolved	0.0215	0.0050 mg/L	0.0200		108	80-120			
Tungsten, dissolved	0.0207	0.0010 mg/L	0.0200		103	80-120			
Uranium, dissolved	0.0221	0.000020 mg/L	0.0200		111	80-120			
Vanadium, dissolved	0.0205	0.0010 mg/L	0.0200		102	80-120			
Zinc, dissolved	0.0211	0.0040 mg/L	0.0200		106	80-120			
Zirconium, dissolved	0.0217	0.00010 mg/L	0.0200		109	80-120			

Duplicate (B9E0439-DUP1)

Source: 9050121-01

Prepared: 2019-05-08, Analyzed: 2019-05-08

Aluminum, dissolved	< 0.0050	0.0050 mg/L	< 0.0050					11	
Antimony, dissolved	0.00035	0.00020 mg/L	0.00031					20	
Arsenic, dissolved	0.00586	0.00050 mg/L	0.00583				< 1	8	
Barium, dissolved	0.0863	0.0050 mg/L	0.0868				< 1	7	
Beryllium, dissolved	< 0.00010	0.00010 mg/L	< 0.00010					14	
Bismuth, dissolved	< 0.00010	0.00010 mg/L	< 0.00010					20	
Boron, dissolved	0.0618	0.0050 mg/L	0.0620				< 1	13	
Cadmium, dissolved	< 0.000010	0.000010 mg/L	< 0.000010					20	
Calcium, dissolved	167	0.20 mg/L	169				1	8	
Chromium, dissolved	0.00093	0.00050 mg/L	0.00092					14	
Cobalt, dissolved	0.00229	0.00010 mg/L	0.00228				< 1	10	
Copper, dissolved	< 0.00040	0.00040 mg/L	< 0.00040					20	
Iron, dissolved	4.23	0.010 mg/L	4.24				< 1	14	
Lead, dissolved	< 0.00020	0.00020 mg/L	< 0.00020					20	
Lithium, dissolved	0.00953	0.00010 mg/L	0.00973				2	14	
Magnesium, dissolved	34.8	0.010 mg/L	35.0				< 1	6	
Manganese, dissolved	2.03	0.00020 mg/L	2.03				< 1	9	
Mercury, dissolved	< 0.000040	0.000040 mg/L	< 0.000040					20	
Molybdenum, dissolved	0.00066	0.00010 mg/L	0.00065				< 1	19	
Nickel, dissolved	0.00160	0.00040 mg/L	0.00152					20	
Phosphorus, dissolved	< 0.050	0.050 mg/L	< 0.050					14	
Potassium, dissolved	3.17	0.10 mg/L	3.17				< 1	8	
Selenium, dissolved	< 0.00050	0.00050 mg/L	< 0.00050					20	
Silicon, dissolved	12.4	1.0 mg/L	12.6				2	12	
Silver, dissolved	< 0.000050	0.000050 mg/L	< 0.000050					20	
Sodium, dissolved	57.4	0.10 mg/L	57.3				< 1	6	
Strontium, dissolved	0.662	0.0010 mg/L	0.663				< 1	6	
Sulfur, dissolved	19.9	3.0 mg/L	19.8				< 1	20	



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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 B9E0439, Continued

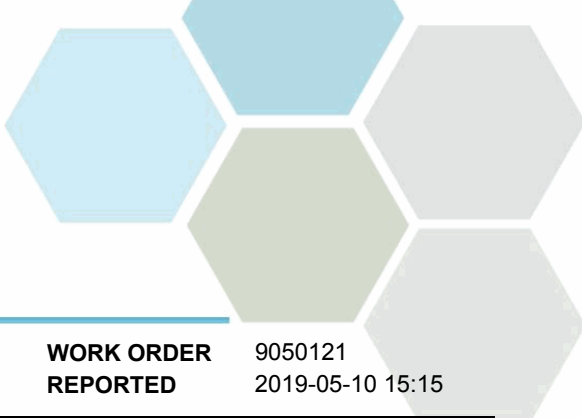
Duplicate (B9E0439-DUP1), Continued		Source: 9050121-01		Prepared: 2019-05-08, Analyzed: 2019-05-08					
Tellurium, dissolved	< 0.00050	0.00050	mg/L	< 0.00050					20
Thallium, dissolved	< 0.000020	0.000020	mg/L	< 0.000020					13
Thorium, dissolved	< 0.00010	0.00010	mg/L	< 0.00010					20
Tin, dissolved	< 0.00020	0.00020	mg/L	< 0.00020					20
Titanium, dissolved	< 0.0050	0.0050	mg/L	< 0.0050					20
Tungsten, dissolved	< 0.0010	0.0010	mg/L	< 0.0010					20
Uranium, dissolved	0.00593	0.000020	mg/L	0.00596			< 1		14
Vanadium, dissolved	< 0.0010	0.0010	mg/L	< 0.0010					20
Zinc, dissolved	< 0.0040	0.0040	mg/L	< 0.0040					11
Zirconium, dissolved	0.00020	0.00010	mg/L	0.00021					20

Reference (B9E0439-SRM1)		Prepared: 2019-05-08, Analyzed: 2019-05-08							
Aluminum, dissolved	0.224	0.0050	mg/L	0.233	96	79-114			
Antimony, dissolved	0.0501	0.00020	mg/L	0.0430	117	89-123			
Arsenic, dissolved	0.484	0.00050	mg/L	0.438	110	87-113			
Barium, dissolved	3.24	0.0050	mg/L	3.35	97	85-114			
Beryllium, dissolved	0.234	0.00010	mg/L	0.213	110	79-122			
Boron, dissolved	1.59	0.0050	mg/L	1.74	91	79-117			
Cadmium, dissolved	0.222	0.000010	mg/L	0.224	99	89-112			
Calcium, dissolved	7.37	0.20	mg/L	7.69	96	85-120			
Chromium, dissolved	0.448	0.00050	mg/L	0.437	103	87-113			
Cobalt, dissolved	0.133	0.00010	mg/L	0.128	104	90-117			
Copper, dissolved	0.867	0.00040	mg/L	0.844	103	90-115			
Iron, dissolved	1.22	0.010	mg/L	1.29	95	86-112			
Lead, dissolved	0.115	0.00020	mg/L	0.112	103	90-113			
Lithium, dissolved	0.103	0.00010	mg/L	0.104	99	77-127			
Magnesium, dissolved	6.79	0.010	mg/L	6.92	98	84-116			
Manganese, dissolved	0.333	0.00020	mg/L	0.345	96	85-113			
Molybdenum, dissolved	0.432	0.00010	mg/L	0.426	101	87-112			
Nickel, dissolved	0.872	0.00040	mg/L	0.840	104	90-114			
Phosphorus, dissolved	0.499	0.050	mg/L	0.495	101	74-119			
Potassium, dissolved	2.87	0.10	mg/L	3.19	90	78-119			
Selenium, dissolved	0.0367	0.00050	mg/L	0.0331	111	89-123			
Sodium, dissolved	18.9	0.10	mg/L	19.1	99	81-117			
Strontium, dissolved	0.931	0.0010	mg/L	0.916	102	82-111			
Thallium, dissolved	0.0407	0.000020	mg/L	0.0393	103	90-113			
Uranium, dissolved	0.257	0.000020	mg/L	0.266	97	87-113			
Vanadium, dissolved	0.884	0.0010	mg/L	0.869	102	85-110			
Zinc, dissolved	0.897	0.0040	mg/L	0.881	102	88-114			

General Parameters, Batch B9E0227

Blank (B9E0227-BLK1)		Prepared: 2019-05-03, Analyzed: 2019-05-03					
Colour, True	< 5.0	5.0	CU				
Blank (B9E0227-BLK2)		Prepared: 2019-05-03, Analyzed: 2019-05-03					
Colour, True	< 5.0	5.0	CU				
LCS (B9E0227-BS1)		Prepared: 2019-05-03, Analyzed: 2019-05-03					
Colour, True	20	5.0	CU	20.0	99	85-115	
LCS (B9E0227-BS2)		Prepared: 2019-05-03, Analyzed: 2019-05-03					
Colour, True	20	5.0	CU	20.0	98	85-115	

General Parameters, Batch B9E0246



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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 B9E0246, Continued

Blank (B9E0246-BLK1)

Prepared: 2019-05-03, Analyzed: 2019-05-03

Turbidity	< 0.10	0.10 NTU							
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General Parameters, Batch B9E0394

Blank (B9E0394-BLK1)

Prepared: 2019-05-04, Analyzed: 2019-05-04

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 (B9E0394-BLK2)

Prepared: 2019-05-04, Analyzed: 2019-05-04

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 (B9E0394-BS1)

Prepared: 2019-05-04, Analyzed: 2019-05-04

Alkalinity, Total (as CaCO3)	104	1.0 mg/L	100	104	92-106				
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LCS (B9E0394-BS2)

Prepared: 2019-05-04, Analyzed: 2019-05-04

Alkalinity, Total (as CaCO3)	104	1.0 mg/L	100	104	92-106				
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General Parameters, Batch B9E0546

Duplicate (B9E0546-DUP2)

Source: 9050121-08

Prepared: 2019-05-07, Analyzed: 2019-05-07

pH	7.49	0.10 pH units	7.40			1	4		HT2
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Reference (B9E0546-SRM1)

Prepared: 2019-05-07, Analyzed: 2019-05-07

pH	6.19	0.10 pH units	6.20			100	97.5-102.5		HT2
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General Parameters, Batch B9E0555

Blank (B9E0555-BLK1)

Prepared: 2019-05-07, Analyzed: 2019-05-07

Solids, Total Suspended	< 2.0	2.0 mg/L							
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Blank (B9E0555-BLK2)

Prepared: 2019-05-07, Analyzed: 2019-05-07

Solids, Total Suspended	< 2.0	2.0 mg/L							
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Blank (B9E0555-BLK3)

Prepared: 2019-05-07, Analyzed: 2019-05-07

Solids, Total Suspended	< 2.0	2.0 mg/L							
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LCS (B9E0555-BS1)

Prepared: 2019-05-07, Analyzed: 2019-05-07

Solids, Total Suspended	91.1	10.0 mg/L	100	91	83-107				
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LCS (B9E0555-BS2)

Prepared: 2019-05-07, Analyzed: 2019-05-07

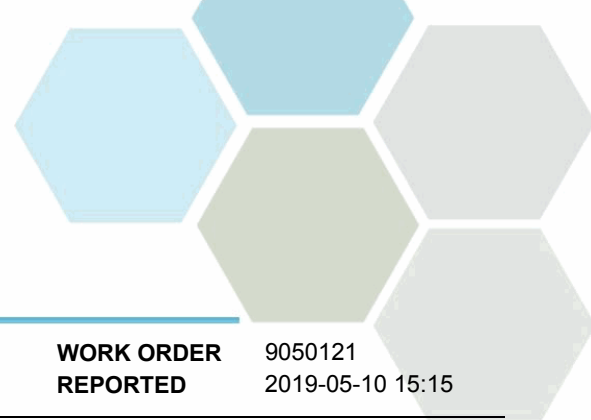
Solids, Total Suspended	90.1	10.0 mg/L	100	90	83-107				
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LCS (B9E0555-BS3)

Prepared: 2019-05-07, Analyzed: 2019-05-07

Solids, Total Suspended	97.1	10.0 mg/L	100	97	83-107				
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General Parameters, Batch B9E0568

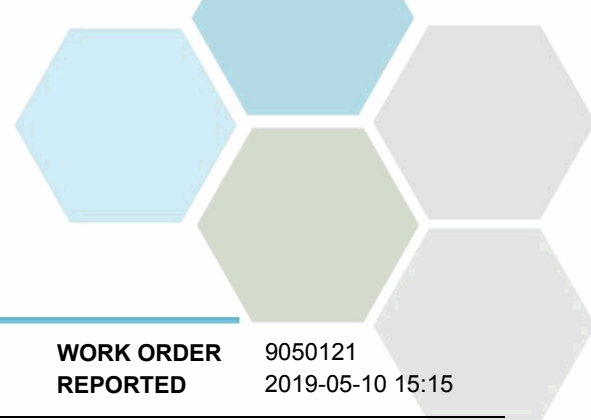


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B9E0568, Continued									
Blank (B9E0568-BLK1)			Prepared: 2019-05-07, Analyzed: 2019-05-07						
Conductivity (EC)	< 2.0	2.0 µS/cm							
LCS (B9E0568-BS1)			Prepared: 2019-05-07, Analyzed: 2019-05-07						
Conductivity (EC)	148	2.0 µS/cm	147		101	90-110			
Reference (B9E0568-SRM1)			Prepared: 2019-05-07, Analyzed: 2019-05-07						
Conductivity (EC)	1020	2.0 µS/cm	1000		102	95-105			
General Parameters, Batch B9E0894									
Blank (B9E0894-BLK1)			Prepared: 2019-05-10, Analyzed: 2019-05-10						
Chromium, Hexavalent	< 0.0010	0.0010 mg/L							
LCS (B9E0894-BS1)			Prepared: 2019-05-10, Analyzed: 2019-05-10						
Chromium, Hexavalent	0.0990	0.0010 mg/L	0.100		99	90-111			
Matrix Spike (B9E0894-MS1)			Source: 9050121-08		Prepared: 2019-05-10, Analyzed: 2019-05-10				
Chromium, Hexavalent	0.0947	0.0010 mg/L	0.100	< 0.0010	94	70-116			
Polycyclic Aromatic Hydrocarbons (PAH), Batch B9E0413									
Blank (B9E0413-BLK1)			Prepared: 2019-05-05, Analyzed: 2019-05-08						
Acenaphthene	< 0.050	0.050 µg/L							
Acenaphthylene	< 0.200	0.200 µg/L							
Acridine	0.072	0.050 µg/L							BLK
Anthracene	0.016	0.010 µg/L							BLK
Benzo(a)anthracene	0.041	0.010 µg/L							BLK
Benzo(a)pyrene	0.044	0.010 µg/L							BLK
Benzo(b+j)fluoranthene	0.103	0.050 µg/L							BLK
Benzo(g,h,i)perylene	0.054	0.050 µg/L							BLK
Benzo(k)fluoranthene	< 0.050	0.050 µg/L							
2-Chloronaphthalene	< 0.100	0.100 µg/L							
Chrysene	0.058	0.050 µg/L							BLK
Dibenz(a,h)anthracene	0.058	0.010 µg/L							BLK
Fluoranthene	0.039	0.030 µg/L							BLK
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	0.043	0.020 µg/L							BLK
Quinoline	< 0.050	0.050 µg/L							
Surrogate: Acridine-d9	3.14	µg/L	4.38		72	50-140			
Surrogate: Naphthalene-d8	4.97	µg/L	4.47		111	50-140			
Surrogate: Perylene-d12	5.10	µg/L	4.47		114	50-140			
LCS (B9E0413-BS1)			Prepared: 2019-05-05, Analyzed: 2019-05-08						
Acenaphthene	5.09	0.050 µg/L	4.40		116	58-125			
Acenaphthylene	5.29	0.200 µg/L	4.40		120	54-128			
Acridine	4.22	0.050 µg/L	4.44		95	50-112			
Anthracene	5.18	0.010 µg/L	4.44		117	66-125			
Benzo(a)anthracene	5.31	0.010 µg/L	4.44		119	59-123			
Benzo(a)pyrene	5.03	0.010 µg/L	4.40		114	62-116			
Benzo(b+j)fluoranthene	10.3	0.050 µg/L	8.89		116	69-121			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
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Polycyclic Aromatic Hydrocarbons (PAH), Batch B9E0413, Continued

LCS (B9E0413-BS1), Continued

Prepared: 2019-05-05, Analyzed: 2019-05-08

Benzo(g,h,i)perylene	5.41	0.050 µg/L	4.40		123	58-129			
Benzo(k)fluoranthene	5.27	0.050 µg/L	4.44		118	67-128			
2-Chloronaphthalene	4.91	0.100 µg/L	4.44		110	50-140			
Chrysene	5.23	0.050 µg/L	4.42		118	58-125			
Dibenz(a,h)anthracene	5.08	0.010 µg/L	4.42		115	58-126			
Fluoranthene	5.77	0.030 µg/L	4.36		132	67-133			
Fluorene	5.01	0.050 µg/L	4.40		114	55-122			
Indeno(1,2,3-cd)pyrene	4.29	0.050 µg/L	4.44		97	62-126			
1-Methylnaphthalene	4.89	0.100 µg/L	4.38		112	53-125			
2-Methylnaphthalene	4.86	0.100 µg/L	4.36		112	52-122			
Naphthalene	4.59	0.200 µg/L	4.44		103	50-130			
Phenanthrene	5.47	0.100 µg/L	4.40		124	67-127			
Pyrene	5.71	0.020 µg/L	4.44		129	68-133			
Quinoline	5.11	0.050 µg/L	4.44		115	51-140			
Surrogate: Acridine-d9	3.04	µg/L	4.38		69	50-140			
Surrogate: Naphthalene-d8	4.45	µg/L	4.47		100	50-140			
Surrogate: Perylene-d12	4.86	µg/L	4.47		109	50-140			

LCS Dup (B9E0413-BSD1)

Prepared: 2019-05-05, Analyzed: 2019-05-08

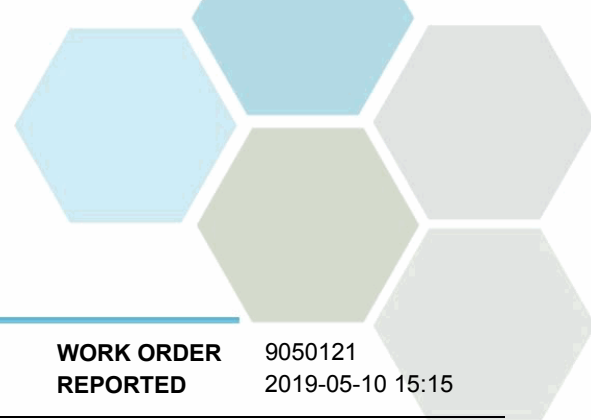
Acenaphthene	5.27	0.050 µg/L	4.40		120	58-125	3	16	
Acenaphthylene	5.47	0.200 µg/L	4.40		124	54-128	3	16	
Acridine	4.19	0.050 µg/L	4.44		94	50-112	< 1	26	
Anthracene	5.18	0.010 µg/L	4.44		116	66-125	< 1	14	
Benzo(a)anthracene	5.34	0.010 µg/L	4.44		120	59-123	< 1	23	
Benzo(a)pyrene	5.04	0.010 µg/L	4.40		115	62-116	< 1	16	
Benzo(b+j)fluoranthene	10.3	0.050 µg/L	8.89		116	69-121	< 1	14	
Benzo(g,h,i)perylene	5.27	0.050 µg/L	4.40		120	58-129	3	25	
Benzo(k)fluoranthene	5.32	0.050 µg/L	4.44		120	67-128	< 1	18	
2-Chloronaphthalene	4.98	0.100 µg/L	4.44		112	50-140	1	30	
Chrysene	5.25	0.050 µg/L	4.42		119	58-125	< 1	24	
Dibenz(a,h)anthracene	4.95	0.010 µg/L	4.42		112	58-126	2	23	
Fluoranthene	5.64	0.030 µg/L	4.36		129	67-133	2	18	
Fluorene	5.13	0.050 µg/L	4.40		117	55-122	2	16	
Indeno(1,2,3-cd)pyrene	4.76	0.050 µg/L	4.44		107	62-126	10	22	
1-Methylnaphthalene	5.10	0.100 µg/L	4.38		116	53-125	4	16	
2-Methylnaphthalene	5.05	0.100 µg/L	4.36		116	52-122	4	17	
Naphthalene	4.93	0.200 µg/L	4.44		111	50-130	7	18	
Phenanthrene	5.49	0.100 µg/L	4.40		125	67-127	< 1	14	
Pyrene	5.65	0.020 µg/L	4.44		127	68-133	1	18	
Quinoline	5.38	0.050 µg/L	4.44		121	51-140	5	12	
Surrogate: Acridine-d9	3.08	µg/L	4.38		70	50-140			
Surrogate: Naphthalene-d8	4.70	µg/L	4.47		105	50-140			
Surrogate: Perylene-d12	4.94	µg/L	4.47		110	50-140			

Polycyclic Aromatic Hydrocarbons (PAH), Batch B9E0422

Blank (B9E0422-BLK1)

Prepared: 2019-05-06, Analyzed: 2019-05-08

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

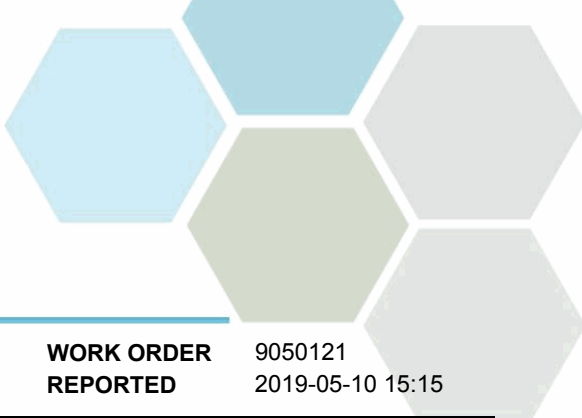


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Polycyclic Aromatic Hydrocarbons (PAH), Batch B9E0422, Continued									
Blank (B9E0422-BLK1), Continued					Prepared: 2019-05-06, Analyzed: 2019-05-08				
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	3.17	µg/L	4.38		72	50-140			
Surrogate: Naphthalene-d8	5.40	µg/L	4.47		121	50-140			
Surrogate: Perylene-d12	5.51	µg/L	4.47		123	50-140			
LCS (B9E0422-BS1)					Prepared: 2019-05-06, Analyzed: 2019-05-08				
Acenaphthene	5.06	0.050 µg/L	4.40		115	58-125			
Acenaphthylene	5.15	0.200 µg/L	4.40		117	54-128			
Acridine	4.56	0.050 µg/L	4.44		103	50-112			
Anthracene	5.13	0.010 µg/L	4.44		115	66-125			
Benz(a)anthracene	5.12	0.010 µg/L	4.44		115	59-123			
Benzo(a)pyrene	5.04	0.010 µg/L	4.40		115	62-116			
Benzo(b+j)fluoranthene	9.66	0.050 µg/L	8.89		109	69-121			
Benzo(g,h,i)perylene	5.06	0.050 µg/L	4.40		115	58-129			
Benzo(k)fluoranthene	5.19	0.050 µg/L	4.44		117	67-128			
2-Chloronaphthalene	4.58	0.100 µg/L	4.44		103	50-140			
Chrysene	5.13	0.050 µg/L	4.42		116	58-125			
Dibenz(a,h)anthracene	4.73	0.010 µg/L	4.42		107	58-126			
Fluoranthene	5.41	0.030 µg/L	4.36		124	67-133			
Fluorene	5.02	0.050 µg/L	4.40		114	55-122			
Indeno(1,2,3-cd)pyrene	4.19	0.050 µg/L	4.44		94	62-126			
1-Methylnaphthalene	5.07	0.100 µg/L	4.38		116	53-125			
2-Methylnaphthalene	5.11	0.100 µg/L	4.36		117	52-122			
Naphthalene	5.30	0.200 µg/L	4.44		119	50-130			
Phenanthrene	5.30	0.100 µg/L	4.40		121	67-127			
Pyrene	5.29	0.020 µg/L	4.44		119	68-133			
Quinoline	5.51	0.050 µg/L	4.44		124	51-140			
Surrogate: Acridine-d9	3.63	µg/L	4.38		83	50-140			
Surrogate: Naphthalene-d8	5.65	µg/L	4.47		126	50-140			
Surrogate: Perylene-d12	5.43	µg/L	4.47		122	50-140			
LCS Dup (B9E0422-BSD1)					Prepared: 2019-05-06, Analyzed: 2019-05-08				
Acenaphthene	4.82	0.050 µg/L	4.40		110	58-125	5	16	
Acenaphthylene	4.94	0.200 µg/L	4.40		112	54-128	4	16	
Acridine	4.40	0.050 µg/L	4.44		99	50-112	4	26	
Anthracene	4.98	0.010 µg/L	4.44		112	66-125	3	14	
Benz(a)anthracene	5.07	0.010 µg/L	4.44		114	59-123	< 1	23	
Benzo(a)pyrene	4.92	0.010 µg/L	4.40		112	62-116	2	16	
Benzo(b+j)fluoranthene	9.61	0.050 µg/L	8.89		108	69-121	< 1	14	
Benzo(g,h,i)perylene	4.75	0.050 µg/L	4.40		108	58-129	6	25	
Benzo(k)fluoranthene	5.09	0.050 µg/L	4.44		114	67-128	2	18	
2-Chloronaphthalene	4.34	0.100 µg/L	4.44		98	50-140	5	30	
Chrysene	5.08	0.050 µg/L	4.42		115	58-125	1	24	
Dibenz(a,h)anthracene	4.62	0.010 µg/L	4.42		105	58-126	2	23	



APPENDIX 2: QUALITY CONTROL RESULTS

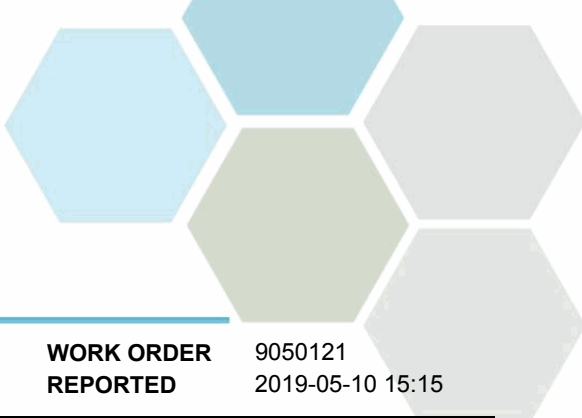
REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Polycyclic Aromatic Hydrocarbons (PAH), Batch B9E0422, Continued									
LCS Dup (B9E0422-BSD1), Continued					Prepared: 2019-05-06, Analyzed: 2019-05-08				
Fluoranthene	5.28	0.030 µg/L	4.36		121	67-133	2	18	
Fluorene	4.81	0.050 µg/L	4.40		109	55-122	4	16	
Indeno(1,2,3-cd)pyrene	4.06	0.050 µg/L	4.44		91	62-126	3	22	
1-Methylnaphthalene	4.76	0.100 µg/L	4.38		109	53-125	6	16	
2-Methylnaphthalene	4.79	0.100 µg/L	4.36		110	52-122	6	17	
Naphthalene	4.93	0.200 µg/L	4.44		111	50-130	7	18	
Phenanthrene	5.13	0.100 µg/L	4.40		117	67-127	3	14	
Pyrene	5.19	0.020 µg/L	4.44		117	68-133	2	18	
Quinoline	5.47	0.050 µg/L	4.44		123	51-140	< 1	12	
Surrogate: Acridine-d9	3.57	µg/L	4.38		81	50-140			
Surrogate: Naphthalene-d8	5.32	µg/L	4.47		119	50-140			
Surrogate: Perylene-d12	5.37	µg/L	4.47		120	50-140			

Total Metals, Batch B9E0452

Blank (B9E0452-BLK1)			Prepared: 2019-05-06, Analyzed: 2019-05-08						
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							



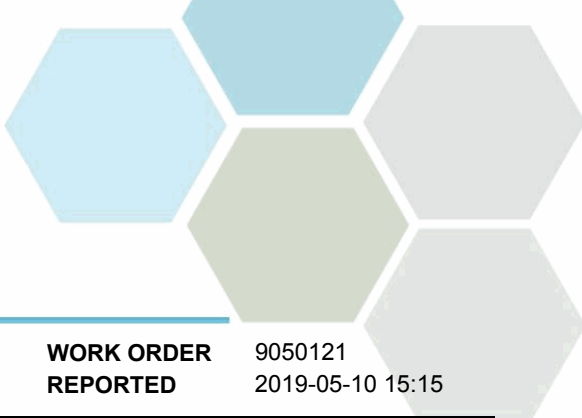
APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B9E0452, Continued									
Blank (B9E0452-BLK2)					Prepared: 2019-05-06, Analyzed: 2019-05-08				
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 (B9E0452-BLK3)					Prepared: 2019-05-06, Analyzed: 2019-05-08				
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							

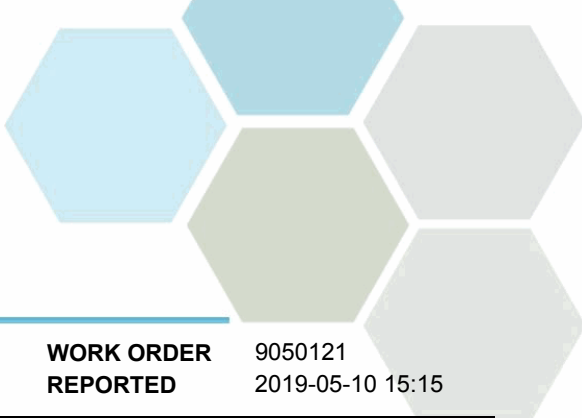


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B9E0452, Continued									
Blank (B9E0452-BLK3), Continued					Prepared: 2019-05-06, Analyzed: 2019-05-08				
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 (B9E0452-BS1)					Prepared: 2019-05-06, Analyzed: 2019-05-08				
Aluminum, total	0.0225	0.0050 mg/L	0.0200		112	80-120			
Antimony, total	0.0224	0.00020 mg/L	0.0200		112	80-120			
Arsenic, total	0.0216	0.00050 mg/L	0.0200		108	80-120			
Barium, total	0.0214	0.0050 mg/L	0.0200		107	80-120			
Beryllium, total	0.0213	0.00010 mg/L	0.0200		107	80-120			
Bismuth, total	0.0215	0.00010 mg/L	0.0200		108	80-120			
Boron, total	0.0202	0.0050 mg/L	0.0200		101	80-120			
Cadmium, total	0.0219	0.000010 mg/L	0.0200		110	80-120			
Calcium, total	2.05	0.20 mg/L	2.00		103	80-120			
Chromium, total	0.0206	0.00050 mg/L	0.0200		103	80-120			
Cobalt, total	0.0209	0.00010 mg/L	0.0200		105	80-120			
Copper, total	0.0217	0.00040 mg/L	0.0200		108	80-120			
Iron, total	1.90	0.010 mg/L	2.00		95	80-120			
Lead, total	0.0211	0.00020 mg/L	0.0200		105	80-120			
Lithium, total	0.0216	0.00010 mg/L	0.0200		108	80-120			
Magnesium, total	2.12	0.010 mg/L	2.00		106	80-120			
Manganese, total	0.0201	0.00020 mg/L	0.0200		100	80-120			
Molybdenum, total	0.0206	0.00010 mg/L	0.0200		103	80-120			
Nickel, total	0.0211	0.00040 mg/L	0.0200		105	80-120			
Phosphorus, total	2.09	0.050 mg/L	2.00		104	80-120			
Potassium, total	1.96	0.10 mg/L	2.00		98	80-120			
Selenium, total	0.0219	0.00050 mg/L	0.0200		109	80-120			
Silicon, total	2.0	1.0 mg/L	2.00		101	80-120			
Silver, total	0.0215	0.000050 mg/L	0.0200		108	80-120			
Sodium, total	1.85	0.10 mg/L	2.00		92	80-120			
Strontium, total	0.0213	0.0010 mg/L	0.0200		106	80-120			
Sulfur, total	5.6	3.0 mg/L	5.00		111	80-120			
Tellurium, total	0.0240	0.00050 mg/L	0.0200		120	80-120			
Thallium, total	0.0214	0.000020 mg/L	0.0200		107	80-120			
Thorium, total	0.0208	0.00010 mg/L	0.0200		104	80-120			
Tin, total	0.0223	0.00020 mg/L	0.0200		112	80-120			
Titanium, total	0.0212	0.0050 mg/L	0.0200		106	80-120			
Tungsten, total	0.0205	0.0010 mg/L	0.0200		103	80-120			
Uranium, total	0.0226	0.000020 mg/L	0.0200		113	80-120			

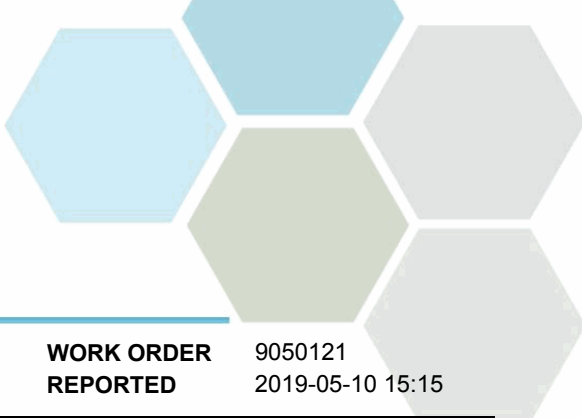


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B9E0452, Continued									
LCS (B9E0452-BS1), Continued					Prepared: 2019-05-06, Analyzed: 2019-05-08				
Vanadium, total	0.0217	0.0010 mg/L	0.0200		109	80-120			
Zinc, total	0.0236	0.0040 mg/L	0.0200		118	80-120			
Zirconium, total	0.0214	0.00010 mg/L	0.0200		107	80-120			
Duplicate (B9E0452-DUP1)					Source: 9050121-01 Prepared: 2019-05-06, Analyzed: 2019-05-08				
Aluminum, total	0.0862	0.0050 mg/L		0.0844			2	20	
Antimony, total	0.00059	0.00020 mg/L		0.00062				20	
Arsenic, total	0.00627	0.00050 mg/L		0.00615			2	15	
Barium, total	0.110	0.0050 mg/L		0.108			2	9	
Beryllium, total	< 0.00010	0.00010 mg/L		< 0.00010				16	
Bismuth, total	< 0.00010	0.00010 mg/L		< 0.00010				20	
Boron, total	0.0759	0.0050 mg/L		0.0741			2	20	
Cadmium, total	0.000037	0.000010 mg/L		0.000042				20	
Calcium, total	178	0.20 mg/L		174			2	12	
Chromium, total	0.00153	0.00050 mg/L		0.00142				12	
Cobalt, total	0.00408	0.00010 mg/L		0.00400			2	13	
Copper, total	0.00154	0.00040 mg/L		0.00160				20	
Iron, total	5.47	0.010 mg/L		5.36			2	18	
Lead, total	0.00042	0.00020 mg/L		0.00042				20	
Lithium, total	0.0103	0.00010 mg/L		0.0101			2	19	
Magnesium, total	35.4	0.010 mg/L		34.5			3	10	
Manganese, total	2.05	0.00020 mg/L		2.02			2	13	
Molybdenum, total	0.00132	0.00010 mg/L		0.00135			2	20	
Nickel, total	0.00842	0.00040 mg/L		0.00821			2	20	
Phosphorus, total	0.061	0.050 mg/L		0.056				20	
Potassium, total	3.18	0.10 mg/L		3.13			2	13	
Selenium, total	< 0.00050	0.00050 mg/L		< 0.00050				20	
Silicon, total	12.6	1.0 mg/L		12.4			2	11	
Silver, total	< 0.000050	0.000050 mg/L		< 0.000050				18	
Sodium, total	58.2	0.10 mg/L		56.5			3	10	
Strontium, total	0.690	0.0010 mg/L		0.674			2	9	
Sulfur, total	21.9	3.0 mg/L		21.0			5	20	
Tellurium, total	< 0.00050	0.00050 mg/L		< 0.00050				20	
Thallium, total	0.000048	0.000020 mg/L		0.000051				20	
Thorium, total	< 0.00010	0.00010 mg/L		< 0.00010				18	
Tin, total	0.00080	0.00020 mg/L		0.00080				20	
Titanium, total	0.0051	0.0050 mg/L		< 0.0050				20	
Tungsten, total	< 0.0010	0.0010 mg/L		< 0.0010				20	
Uranium, total	0.00563	0.000020 mg/L		0.00562			< 1	14	
Vanadium, total	0.0011	0.0010 mg/L		0.0011				17	
Zinc, total	0.0071	0.0040 mg/L		0.0068				8	
Zirconium, total	0.00016	0.00010 mg/L		0.00013				20	
Reference (B9E0452-SRM1)					Prepared: 2019-05-06, Analyzed: 2019-05-08				
Aluminum, total	0.301	0.0050 mg/L		0.303			99	82-114	
Antimony, total	0.0556	0.00020 mg/L		0.0511			109	88-115	
Arsenic, total	0.128	0.00050 mg/L		0.118			108	88-111	
Barium, total	0.840	0.0050 mg/L		0.823			102	83-110	
Beryllium, total	0.0541	0.00010 mg/L		0.0496			109	80-119	
Boron, total	3.93	0.0050 mg/L		3.45			114	80-118	
Cadmium, total	0.0535	0.000010 mg/L		0.0495			108	90-110	
Calcium, total	11.3	0.20 mg/L		11.6			97	85-113	
Chromium, total	0.263	0.00050 mg/L		0.250			105	88-111	
Cobalt, total	0.0405	0.00010 mg/L		0.0377			107	90-114	
Copper, total	0.528	0.00040 mg/L		0.486			109	90-117	
Iron, total	0.483	0.010 mg/L		0.488			99	90-116	



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
P17-932

WORK ORDER REPORTED 9050121
2019-05-10 15:15

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B9E0452, Continued									
Reference (B9E0452-SRM1), Continued					Prepared: 2019-05-06, Analyzed: 2019-05-08				
Lead, total	0.210	0.00020 mg/L	0.204		103	90-110			
Lithium, total	0.429	0.00010 mg/L	0.403		106	79-118			
Magnesium, total	3.99	0.010 mg/L	3.79		105	88-116			
Manganese, total	0.108	0.00020 mg/L	0.109		99	88-108			
Molybdenum, total	0.206	0.00010 mg/L	0.198		104	88-110			
Nickel, total	0.259	0.00040 mg/L	0.249		104	90-112			
Phosphorus, total	0.257	0.050 mg/L	0.227		113	72-118			
Potassium, total	7.01	0.10 mg/L	7.21		97	87-116			
Selenium, total	0.128	0.00050 mg/L	0.121		105	90-122			
Sodium, total	7.97	0.10 mg/L	7.54		106	86-118			
Strontium, total	0.401	0.0010 mg/L	0.375		107	86-110			
Thallium, total	0.0850	0.000020 mg/L	0.0805		106	90-113			
Uranium, total	0.0316	0.000020 mg/L	0.0306		103	88-112			
Vanadium, total	0.404	0.0010 mg/L	0.386		105	87-110			
Zinc, total	2.71	0.0040 mg/L	2.49		109	90-113			

Total Metals, Batch B9E0496

Blank (B9E0496-BLK1)					Prepared: 2019-05-06, Analyzed: 2019-05-07				
Mercury, total	< 0.000010	0.000010 mg/L							
Blank (B9E0496-BLK2)					Prepared: 2019-05-06, Analyzed: 2019-05-07				
Mercury, total	< 0.000010	0.000010 mg/L							
Duplicate (B9E0496-DUP2)			Source: 9050121-03		Prepared: 2019-05-06, Analyzed: 2019-05-07				
Mercury, total	< 0.000010	0.000010 mg/L		< 0.000010				20	
Matrix Spike (B9E0496-MS2)			Source: 9050121-04		Prepared: 2019-05-06, Analyzed: 2019-05-07				
Mercury, total	0.000199	0.000010 mg/L	0.000250	< 0.000010	79	70-130			
Reference (B9E0496-SRM1)					Prepared: 2019-05-06, Analyzed: 2019-05-07				
Mercury, total	0.00464	0.000010 mg/L	0.00489		95	80-120			
Reference (B9E0496-SRM2)					Prepared: 2019-05-06, Analyzed: 2019-05-07				
Mercury, total	0.00418	0.000010 mg/L	0.00489		85	80-120			

QC Qualifiers:

- BLK Analyte concentration in the Method Blank is above the Reporting Limit (RL).
- 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.

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: 8 TAT: 5	CARO Analytical Services #110 - 4011 Viking Way Richmond, BC V6V 2K9 Phone: (604) 279-1499 Fax: (604) 279-1599	Number: April 2019 Shipped via: Maximum Express Tracking #: SDG:

#	Client information	Analyses	Containers
# 1	MW6 04/30/2019 10:15 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 04/30/2019 11:45 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 04/30/2019 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)

Submission Key G121-IAR-263P		SUBMITTED :5/1/2019 8:20:56 AM		Page 2 of 3
# 4	MW2 04/30/2019 13:00 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)	
# 5	SB1 04/30/2019 11:30 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)	
# 6	SB2 04/30/2019 11:00 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)	
# 7	LE-1 04/30/2019 13:30 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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#	SW1	Analyses	Containers
8	04/30/2019 12:30 Grab / Water	Alkalinity, all (KEL) TAT: 5 Anions in Water by IC, 5 Analytes (KEL) TAT: 5 Colour, True - 456 nm (KEL) TAT: 5 Conductivity in Water (RMD) TAT: 5 L/HEPH in Water (RMD) TAT: 5 Mercury, diss 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	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)

Relinquished by	Date/Time	Accepted by	Date/Time

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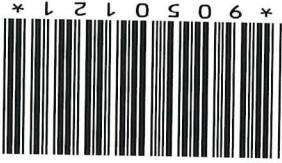
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Client Information Alterra Construction 2158 Millstream Road Victoria, BC V9B 6H4 Phone: (250) 508-0726 Fax:	Project Information Number: [none] Sample count: 8 TAT: 5	Laboratory Information CARO Analytical Services #110 - 4011 Viking Way Richmond, BC V6V 2K9 Phone: (604) 279-1499 Fax: (604) 279-1599	COC Information Number: April 2019 Shipped Via: Maximum Exp Tracking #: _____ SDG: _____
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# 1 MW6 04/30/2019 10:15 Grab / Water	Analyses Alkalinity, all (KEL) TAT: 5 Anions in Water by IC, 5 Analyses (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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# 2 MW3S 04/30/2019 11:45 Grab / Water	Analyses Alkalinity, all (KEL) TAT: 5 Anions in Water by IC, 5 Analyses (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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# 3 MW3D 04/30/2019 12:15 Grab / Water	Analyses Alkalinity, all (KEL) TAT: 5 Anions in Water by IC, 5 Analyses (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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Novex
 05/01/19 1:52 pm
 14°C w/ Ice

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#	Analyses	Containers
# 4 MW2 04/30/2019 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)
# 5 SB1 04/30/2019 11:30 Grab / Water	Alkalinity, all (KEL) TAT: 5 Anions in Water by IC, 5 Analytes (KEL) TAT: 5 Colour, True - 456 nm (KEL) TAT: 5 Conductivity in Water (RMD) TAT: 5 L/HEPH in Water (RMD) TAT: 5 Mercury, diss 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)
# 6 SB2 04/30/2019 11:00 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)
# 7 LE-1 04/30/2019 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)

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#	Relinquished by	Date/Time	Accepted by	Date/Time
8	SW1 04/30/2019 12:30 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 +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)	