

QUARTERLY POST-CLOSURE REPORT

Cobble Hill Landfill Closure

PROJECT # : PRJ18074	File #: 18074- QR-1
REPORT #: 1	Date: January 26 th , 2021
SHA REPRESENTATIVES: Dr. Tony Sperling, P.Eng. Carly Wolfe, EIT Rahim Ghaidhar, GIT	Owner: Cobble Hill Holdings Ltd. Contractor: Allterra Construction Ltd.

Quarterly Reporting Requirements

Per Second Amended Spill Prevention Order (SPO) MO1701 Section 6:

Following completion of all closure activities in the approved Updated Final Closure Plan, the Named Parties must submit quarterly implementation reports to the Ministry on or immediately before the last day of March, June, September and December of each year, for the duration specified in the approved Updated Final Closure Plan. Implementation reports must include records of inspections, operations and maintenance of the Facility, records of the volumes of Leachate collected, stored and transported, including the name and location of the authorized facility(ies) receiving the Leachate, and environmental monitoring program records interpreted and certified by a Qualified Professional. Submissions must be made electronically to the following email inbox: EnvironmentalCompliance@gov.bc.ca.

1. Site Inspection

- Final Cover System: Appears to be in good condition.
- Ditching: Appears to be in good condition.
- Topsoil / Vegetation: Appears to be in good condition. Grass and vegetation established.
- Erosion: Mild erosion noted on north slope after large storm event. The area is being monitored but does not warrant repair at this time.
- Leachate Breakouts: None noted.
- Leachate Collection, Conveyance and Storage Facility: Appears to be in good condition. Operating as intended.
- Environmental Monitoring Infrastructure: Appears to be in good condition. All monitoring wells are operational.

Pictures detailing inspection results are shown at the end of this report.

2. Operations and Maintenance

- No maintenance occurred at the facility over the reporting period.

3. Leachate Management

- Total Leachate Collected: 48.04 m³
- Total Leachate Stored: 56.11 m³ (as of December 30, 2020)
- Total Leachate Transferred: 75.6 m³
- Name and location of the authorized facility(ies) receiving the leachate:
SPL Wastewater Recovery Center
995 Henry Eng Place
Langford, BC V9B 6B2

4. Environmental Monitoring Program (October 2020 to December 2020)

Tabulated analytical data and laboratory certificates for Q4 2020 sampling are attached. Piper plot analysis was conducted for MW19-01, 19-02, and MW-3S.

Parameters tested included general parameters, dissolved metals in groundwater, total metals in surface water, and hydrocarbons in groundwater.

Concentrations in groundwater and surface water for all parameters tested were below applicable standards and guidelines respectively.

Hydrogeochemical Facies

Major ions present in shallow groundwater wells (MW19-01, MW19-02, and MW-3S) and site leachate were plotted on Piper diagrams, attached to this report. Generally, groundwater wells show similar ionic characteristics to each other and differences with site leachate. Specifically, wells are clustered around calcium cations and bicarbonate anions to plot within a calcium bicarbonate type water quality typical of shallow groundwater with freshwater influence. In contrast, site leachate is characterized containing sodium/potassium

cations and chloride anions which plot as a sodium chloride type quality typical of deep marine groundwater sources. Piper plots are shown in the attachment. Trends are summarized below:

- Trends at MW19-01 show a move to calcium bicarbonate water quality as sediments likely introduced during the drilling process have been flushed out.
- Trends at MW19-02 remain consistent and show a calcium bicarbonate to calcium sulphate type water quality.
- Trends at MW-3S remain consistent and show a calcium bicarbonate type water quality.

Daily leachate volumes for Q4 2020 were recorded as shown in attached Table 6. As seen on Table 6, there are sporadic gaps in the daily readings, which is speculated to be related to the solar powered system which the data is extracted from. The inconsistency with the data is being investigated, including consultation with a solar energy specialist to see if there is a way to achieve more consistency with the readings. For this reporting period, the gaps in the data don't pose any significant impact on the analysis at this time. Leachate flow rates were calculated from the data collected and plotted against precipitation as shown in Figure 1. Daily precipitation values were obtained from the Lake Cowichan climate station, please note that the December 2020 precipitation data for this climate station was unavailable at the time of this report.

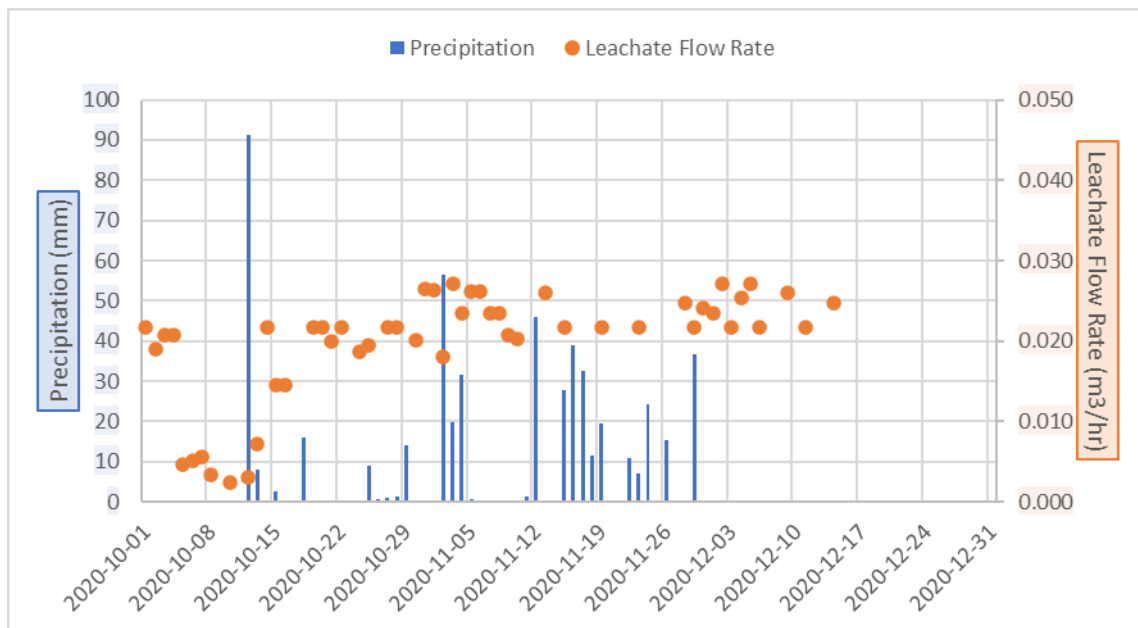


Figure 1: Cowichan Lake Weather Station Precipitation Data versus Site Leachate Flow

Reduction of leachate flow is noted from approximately October 5, 2020 to October 16, 2020 coinciding with leachate processing and off-site leachate removal. Average leachate flow rates were calculated in Q4 2020 at 0.025 m³/hr or 0.593 m³/day, approximately 17.8-18.4 m³/month. The average leachate flow rate calculated for Q4 excludes the reduced leachate flows noted from October 5th to October 16th, 2020 so as not to skew the result. Based on the data, there does not appear to be any correlation between precipitation and leachate flows, confirming that the capping system is working as designed.

The following represent monitoring items required per the Site's EMP dated June 24, 2020.

Monitoring Type	Monitoring Locations	Monitoring Parameters	Completed by SHA (Y/N)	SHA Notes
Groundwater Shallow Wells	MW19-01 MW19-02 MW-3S	Physical Tests Anions and Nutrients Dissolved Metals Groundwater Level Total Depth	Y	November 2020 hydrocarbon testing is included.
Groundwater Deep Wells	MW-01S/D MW-02 MW-3D MW-5S/D MW-06	Groundwater Level Total Depth	Y	October 2020 hydrocarbon re-sampling event is included. Samples included MW-2, MW-3D, MW-5D, MW6.
Seepage Blanket Wells	SB-1 SB-2 SB-3 SB-4	Physical Tests Anions and Nutrients Dissolved Metals Suite Hydrocarbons	Y	SB-4 was dry in November 2020.
Surface Water	SW-1	Physical Tests Anions and Nutrients Total Metals Suite	Y	Hydrocarbon testing was not required in November 2020.
Leachate Tank Quality	LE-1	Physical Tests Anions and Nutrients Total Metals Suite	Not Required in Q4 2020	Sampling occurred in Q3 2020.
Leak Detection Tank Volume and Quality	LD-1	Leak volume Physical Tests Anions and Nutrients Total Metals Suite	Y	Leachate removal occurred in Q4 2020 (Dry conditions at LD-1).
Leachate Storage Facility Secondary Liner Inspection	Leachate Storage Facility Secondary Liner	Visual Inspection of Secondary Liner	Y	No defects were noted.

Report prepared by:



Carly Wolfe, EIT
Bioreource Engineer



Rahim Gaidhar, GIT
Project Geoscientist

Report Reviewed by:



Dr. Tony Sperling, P.Eng.
President



Note: Report prepared by Sperling Hansen Associates Inc. If those in attendance have additions or objections to these notes, they should report back to Sperling Hansen Associates (SHA) within 3 days of receipt, otherwise, these notes will be considered a complete and accurate permanent record of this reporting period.

Attachments:

Groundwater Monitoring Well Water Levels
Piper Plots (MW19-01, MW19-02, MW3S)
Table 1: Analytical Results for Nutrients in Groundwater
Table 2: Analytical Results for Dissolved Metals in Groundwater
Table 3: Analytical Results for Hydrocabon and PAHs in Groundwater
Table 4: Analytical Results for Nutrients in Surface Water
Table 5: Analytical Results for Total Metals in Surface Water
Table 6: Q4 Daily Leachate Storage and Flow Rate Data
Certificate of Analysis



Picture #1: Groundwater monitoring well stand pipe



Picture #2: Surface water ditch on north crest



Picture #3: Surface water ditch on west crest



Picture #4: Surface water ditch on west crest



Picture #5: Northwest slope



Picture #6: North slope



Picture #7: Crest area



Picture #8: Leachate storage facility



Picture #9: Leachate storage facility and valve



Picture #10: Mild erosion on north slope after large storm event



Picture #11: Mild erosion on north slope after large storm event

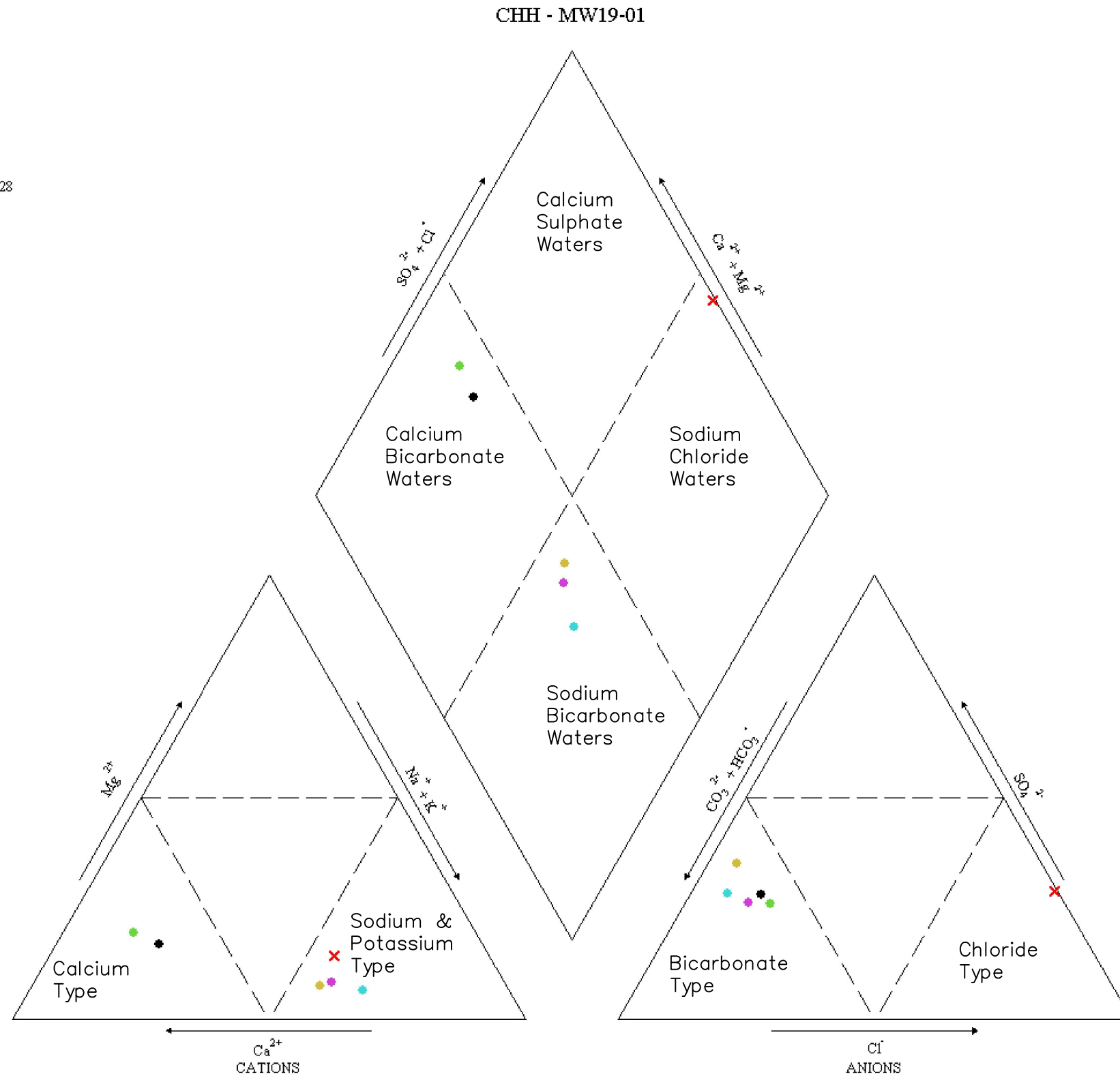


Groundwater Monitoring Well	Date	GEODETIC WATER LEVEL November 2020 (masl)	GEODETIC DTB November 2020 (masl)
MW 6	23-Nov-20	333.71	295.50
MW 1S	23-Nov-20	318.14	278.32
MW 1D	23-Nov-20	319.33	246.71
MW 5S	23-Nov-20	319.09	302.55
MW 5D	23-Nov-20	318.95	293.65
MW 3S	23-Nov-20	318.45	296.38
MW 2	23-Nov-20	318.92	279.41
MW 3D	23-Nov-20	318.81	273.65
MW19-01	23-Nov-20	325.65	320.77
MW19-02	23-Nov-20	325.33	319.93
SB1	23-Nov-20	326.13	325.54
SB2	23-Nov-20	326.46	325.74
SB3	23-Nov-20	326.59	326.25
SB4	23-Nov-20	Dry	Dry

X:\PRJ\PRJ18\PRJ18074 - COBBLE HILL LANDFILL - CLOSURE PLAN UPDATE & IMPLEMENTATION\06_AUTOCAD DRAWINGS\CONCEPTUAL\CHH PIPER PLOT.DWG 12/16/2020 2:55 PM

EXPLANATION

- 2019-12-19
- 2020-01-21
- 2020-03-20
- 2020-08-28
- 2020-11-23
- ✗ Leachate 2020-08-28



SPERLING
HANSEN
ASSOCIATES

Landfill Services Group
 • Landfill Siting
 • Design & Operations Plans
 • Landfill Closure
 • Environmental Monitoring
 #8 - 1228 Keith Road East
 North Vancouver, B.C. V7J 1J3

CLIENT:
COBBLE HILL HOLDINGS LTD

PROJECT:
COBBLE HILL HOLDINGS LTD Q4 2020
REPORT

TITLE:
PIPER PLOT - MW19-01

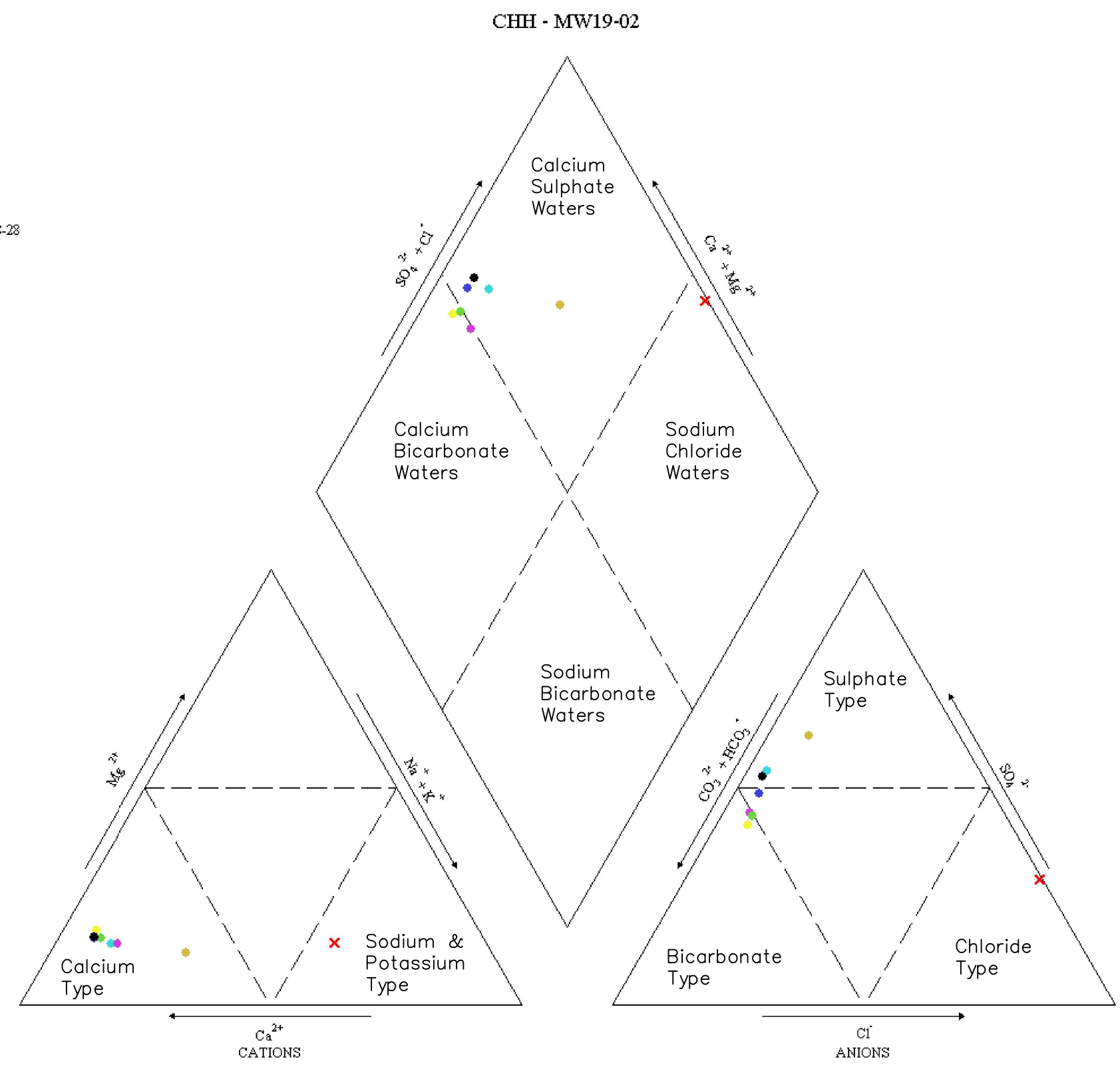
SCALE: NA	DATE: 2020/12/01 <small>yyyy/mm/dd</small>	PROJECT NO: PRJ 18074
DESIGNED NA	DRAWING NO: FIGURE A	
DRAWN RG		
CHECKED TS		



Landfill Services Group
 • Landfill Siting
 • Design & Operations Plans
 • Landfill Closure
 • Environmental Monitoring
 #8 - 1225 Keith Road East
 North Vancouver, B.C. V7J 1J3

X:\IPRJ\18\IPRJ18074 - COBBLE HILL LANDFILL - CLOSURE PLAN UPDATE & IMPLEMENTATION\06 AUTOCAD DRAWINGS\CONCEPTUAL\CHH PIPER PLOT.DWG 12/16/2020 2:55 PM

- EXPLANATION
- 2019-12-19
 - 2020-01-21
 - 2020-02-21
 - 2020-03-20
 - 2020-06-01
 - 2020-08-27
 - 2020-11-23
 - ✗ Leachate 2020-08-28



CLIENT:
 COBBLE HILL HOLDINGS LTD

PROJECT:
 COBBLE HILL HOLDINGS LTD Q4 2020 REPORT

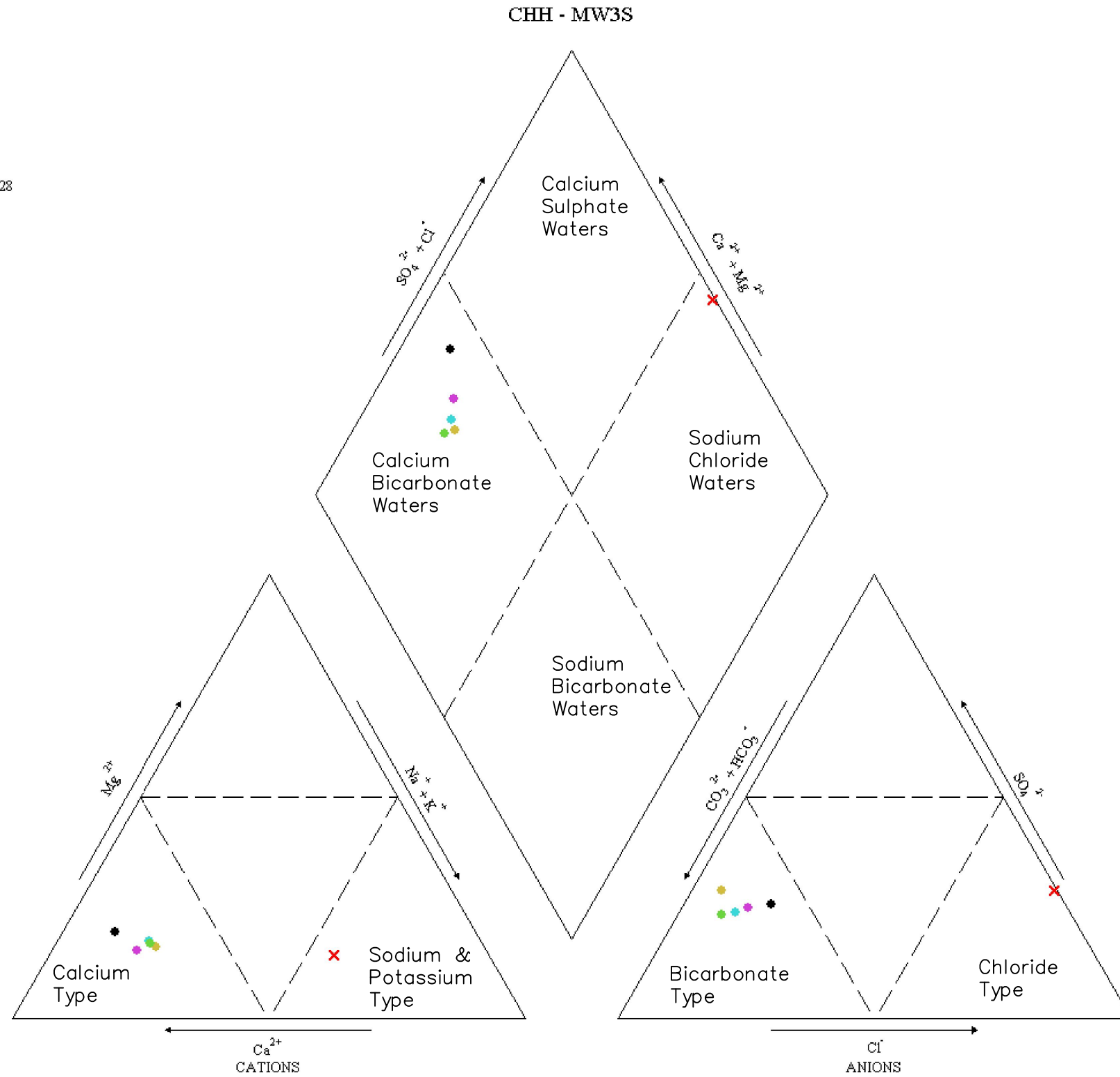
TITLE:
PIPER PLOT - MW19-02

SCALE: NA	DATE: 2020/12/01 <small>yyyymmdd</small>	PROJECT NO: PRJ 18074
DESIGNED NA	DRAWING NO: FIGURE B	
DRAWN RG		
CHECKED TS		

X:\IPRJ\IPRJ18\IPRJ18074 - COBBLE HILL LANDFILL - CLOSURE PLAN UPDATE & IMPLEMENTATION\06 AUTOCAD DRAWINGS\CONCEPTUAL\CHH PIPER PLOT.DWG 12/16/2020 2:56 PM

EXPLANATION

- 2017-09-25
- 2018-07-30
- 2019-06-30
- 2020-08-27
- 2020-11-23
- ✗ Leachate 2020-08-28



Landfill Services Group
 • Landfill Siting
 • Design & Operations Plans
 • Landfill Closure
 • Environmental Monitoring
 #8 - 1225 Keith Road East
 North Vancouver, B.C. V7J 1J3

CLIENT:
 COBBLE HILL HOLDINGS LTD

PROJECT:
 COBBLE HILL HOLDINGS LTD Q4 2020 REPORT

TITLE:
PIPER PLOT - MW-3S

SCALE: NA	DATE: 2020/12/01 <small>yyyy/mm/dd</small>	PROJECT NO: PRJ 18074
DESIGNED NA	DRAWING NO: FIGURE C	
DRAWN RG		
CHECKED TS		



Table 1: Analytical Results for Nutrients in Groundwater

Sample Location	CSR Standards ⁽¹⁾		MW 3S	SB1	SB2	SB2-X	RPD	SB3	MW19-01	MW19-02
	As-built Well Depths to Bottom (mbgs)		24.72	9.25	9.76	9.76		9.90	11.86	8.97
Sample ID			20K2557-08	20K2557-03	20K2557-04	20K2557-07		20K2557-05	20K2557-01	20K2557-02
Date Sampled	Aquatic Life	Drinking Water	2020-11-23	2020-11-23	2020-11-23	2020-11-23		2020-11-23	2020-11-23	2020-11-23
Physical Tests										
Colour, True (TCU)	-	-					-			
Conductivity (uS/cm)	-	-	386	335	541	534	1%	829	630	642
Hardness (as CaCO3) mg/L	-	-	190	161	243	242	0%	441	283	327
pH (pH Units)	-	-	7.89	7.4	7.35	7.42	1%	7.05	7.57	7.41
Total Dissolved Solids mg/L	-	-	230	206	309	317	3%	548	381	431
Turbidity (NTU)	-	-	12.3	20	23.9	22.1	8%	12.8	468	77.2
Anions and Nutrients mg/L										
Alkalinity, Bicarbonate (as CaCO3)			114	105	187	188	1%	282	208	167
Alkalinity, Carbonate (as CaCO3)			<1.0	<1.0	<1.0	<1.0	*	<1.0	<1.0	<1.0
Chloride (Cl)	1500	250	19.6	7	35.8	35.1	2%	24.4	28.9	8.14
Fluoride (F)	2 (H < 50)	1.5								
	3 (H ≥ 50)		<0.10	<0.10	<0.10	<0.10	*	<0.10	<0.10	<0.10
Nitrate (as N)	400	10	<0.010	0.51	0.227	0.239	5%	1.49	0.325	1.51
Nitrite (as N) ⁽¹⁾ Cl <2 mg/L	0.2	3.2								
Cl 2 - <4 mg/L	0.4									
Cl 4 - <6 mg/L	0.6									
Cl 6 - <8 mg/L	0.8		<0.010							
Cl 8 - <10 mg/L	1									
Cl ≥ 10 mg/L	2		<0.010		<0.010	<0.010	*	<0.010	<0.010	<0.010
Sulfate (SO4)	1000	500	40.3	58.4	46.4	46.5	0%	143	79.3	157

Notes: Refer to Table Endnotes (attached)



Table 2: Analytical Results for Dissolved Metals in Groundwater

Sample Location	CSR Standards ⁽¹⁾		MW 3S	SB1	SB2	SB2-X	RPD	SB3	MW19-01	MW19-02	
As-built Well Depths (mbgs)			24.72	9.25	9.76	9.76		9.9	11.86	8.97	
Sample ID			20K2557-08	20K2557-03	20K2557-04	20K2557-07		20K2557-05	20K2557-01	20K2557-02	
			MW 3S	SB1	SB2	SB2-X		SB3	MW19-01	MW19-02	
Date Sampled	Aquatic Life	Drinking Water	2020-11-23	2020-11-23	2020-11-23	2020-11-23		2020-11-23	2020-11-23	2020-11-23	
Physical Tests mg/L											
Hardness (as CaCO3)	-	-	190	161	243	242	0%	441	283	327	
Dissolved Metals mg/L											
Aluminum (Al)-Dissolved	-	9.5	0.0068	0.005	<0.0050	<0.0050	*	0.0054	<0.0050	<0.0050	
Antimony (Sb)-Dissolved	0.2	0.006	<0.00020	<0.00020	<0.00020	<0.00020	*	<0.00020	<0.00020	<0.00020	
Arsenic (As)-Dissolved	0.05	0.01	0.00173	<0.00050	<0.00050	<0.00050	*	<0.00050	0.00051	<0.00050	
Barium (Ba)-Dissolved	10	1	0.0333	0.0093	0.0114	0.011	*	0.0166	0.02	0.0196	
Beryllium (Be)-Dissolved	0.0015	0.008	<0.00010	<0.00010	<0.00010	<0.00010	*	<0.00010	<0.00010	<0.00010	
Bismuth (Bi)-Dissolved	-	-	<0.00010	<0.00010	<0.00010	<0.00010	*	<0.00010	<0.00010	<0.00010	
Boron (B)-Dissolved	12	5	<0.0500	<0.0500	<0.0500	<0.0500	*	<0.0500	<0.0500	<0.0500	
Cadmium (Cd)-Dissolved	0.0005 (H<30)	0.005									
	0.0015 (H=30-<90)										
	0.0025 (H=90-<150)										
	0.0035 (H=150-<210)		<0.000010	0.000027	0.000013	<0.000010	*	0.000058	0.000019	0.000014	
Calcium (Ca)-Dissolved	-	-	59.3	51.9	74.8	74.7	0%	144	89.5	109	
Chromium (Cr)-Dissolved	0.01	0.05	<0.00050	<0.00050	<0.00050	<0.00050	*	<0.00050	<0.00050	<0.00050	
Cobalt (Co)-Dissolved	0.04	0.001	0.0004	0.00011	<0.00010	<0.00010	*	0.00014	0.00054	<0.00010	
Copper (Cu)-Dissolved	0.02 (H<50)	1									
	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)				0.00097						
	0.08 (H=175-<200)		<0.00040								
Iron (Fe)-Dissolved	-	6.5	0.238	<0.010	<0.010	<0.010	*	<0.010	0.0037	<0.010	
Lead (Pb)-Dissolved	0.04 (H<50)	0.01									
	0.05 (H=50-<100)										
	0.06 (H=100-<200)		<0.00020	<0.00020							
	0.11 (H=200-<300)				<0.00020	<0.00020	*	<0.00020	<0.00020	<0.00020	
Lithium (Li)-Dissolved	-	0.008	<0.00010	0.00023	0.00033	0.0003	*	0.00029	0.005	0.00011	
Magnesium (Mg)-Dissolved	-	-	10	7.53	13.6	13.4	1%	19.9	14.5	13.4	
Manganese (Mn)-Dissolved	-	1.5	0.448	0.0013	0.0159	0.016	1%	0.171	0.29	0.00659	
Mercury (Hg)-Dissolved	0.00025	0.001	-	-	-	-	-	-	-	-	
Molybdenum (Mo)-Dissolved	10	0.25	0.00349	0.00062	0.00046	0.00047	*	0.00054	0.0021	0.00089	
Nickel (Ni)-Dissolved	0.25 (H<60)	0.08									
	0.65 (H=60-<120)										
	1.1 (H=120-<180)			0.00803							
	1.5 (H=180->)		0.0026		0.0017	0.00152	*	0.00359	0.00395	<0.00040	
Phosphorus(P)-Dissolved	-	-	0.124	<0.050	<0.050	<0.050	*	<0.050	<0.050	<0.050	
Potassium (K)-Dissolved	-	-	0.65	0.63	0.97	0.95	2%	1	1.7	0.92	
Selenium (Se)-Dissolved	0.02	0.01	<0.00050	<0.00050	<0.00050	<0.00050	*	<0.00050	<0.00050	<0.00050	
Silicon (Si)-Dissolved	-	-	7.3	4.6	6	5.9	2%	7.1	6.8	5.3	
Silver (Ag)-Dissolved	0.0005 (H<=100)	0.02									
	0.015 (H>100)		<0.000050	<0.000050	<0.000050	<0.000050	*	<0.000050	<0.000050	<0.000050	
Sodium (Na)-Dissolved	-	200	9.58	7.68	20.5	20	2%	11.9	31.8	10.8	
Strontium (Sr)-Dissolved	-	-	0.315	0.142	0.235	0.235	0%	0.362	0.317	0.279	
Sulfur (S)-Dissolved	-	-	14.2	21.6	16	15.8	1%	50.3	32.5	56.1	
Tellurium (Te)-Dissolved	-	-	<0.00050	<0.00050	<0.00050	<0.00050	*	<0.00050	<0.00050	<0.00050	
Thallium (Tl)-Dissolved	0.003	-	<0.000020	<0.000020	<0.000020	<0.000020	*	<0.000020	<0.000020	<0.000020	
Thorium (Th)-Dissolved	-	-	<0.00010	<0.00010	<0.00010	<0.00010	*	<0.00010	<0.00010	<0.00010	
Tin (Sn)-Dissolved	-	2.5	<0.00020	0.00075	0.0002	0.00022	*	<0.00020	<0.00020	<0.00020	
Titanium (Ti)-Dissolved	1	-	<0.0050	<0.0050	<0.0050	<0.0050	*	<0.0050	<0.0050	<0.0050	
Tungsten (W)-Dissolved	-	-	<0.0010	<0.0010	<0.0010	<0.0010	*	<0.0010	0.0113	0.04	
Uranium (U)-Dissolved	0.085	0.02	0.000725	0.000459	0.000788	0.000778	1%	0.00169	0.00367	0.00155	
Vanadium (V)-Dissolved	-	0.02	<0.0010	<0.0010	<0.0010	<0.0010	*	<0.0010	<0.0010	<0.0010	
Zinc (Zn)-Dissolved	0.075 (H<90)	3									
	0.150 (H=90-<100)										
	0.900 (H=100-<200)		0.0893	0.0294							
	1.650 (H=200-<300)				0.0153	0.015	*	<0.0040	<0.0040	<0.0040	
Zirconium (Zr)-Dissolved	-	-	<0.00010	<0.00010	<0.00010	<0.00010	*	<0.00010	<0.00010	<0.00010	

Notes: Refer to Table Endnotes (attached)



Table 3: Analytical Results for Hydrocarbons and PAHs in Groundwater

Sample Location	CSR Standards ⁽¹⁾		FIELD BLANK	MW-3D	MW-2	MW-5D	MW-5X	RPD	MW-6	MW19-01	MW19-02	MW 3S
As-built Well Depths (mbgs)			-	46m	43m	39m	39m		47m	11.86	8.97	22.42
Sample ID			20J0343-06	20J0343-02	20J0343-01	20J0343-03	20J0343-05		20J0343-04	20K2557-01	20K2557-02	20K2557-08
			SHA-FB	SHA-MW3D	SHA-MW2	SHA-MW5D	SHA-MW5X		SHA-MW6	MW19-01	MW19-02	MW 3S
Date Sampled	Aquatic Life	Drinking Water	2020-10-02	2020-10-02	2020-10-02	2020-10-02	2020-10-02	2020-10-02	2020-10-02	2020-11-23	2020-11-23	2020-11-23
Hydrocarbons ug/L												
EPH10-19	5000	5000	<250	<250	<250	<250	<250	*	<250	<250	<250	<250
EPH10-19 (SG)	5000	5000										
EPH19-32	-	-	<250	<250	<250	599	559	*	299	<250	<250	<250
EPH19-32 (SG)	-	-										
LEPH	500	-	<250	<250	<250	<250	<250	*	<250	<250	<250	<250
HEPH	-	-	<250	<250	<250	599	558	*	299	<250	<250	<250
Polycyclic Aromatic Hydrocarbons ug/L												
Acenaphthene	60	-	<0.050	<0.050	<0.050	<0.050	<0.050	*	<0.050	<0.050	<0.050	<0.050
Acenaphthylene	-	-	<0.200	<0.200	<0.200	<0.200	<0.200	*	<0.200	<0.200	<0.200	<0.200
Acridine	0.5	-	<0.050	<0.050	<0.050	<0.050	<0.140	*	<0.068	<0.050	<0.050	<0.050
Anthracene	1	-	<0.010	<0.014	<0.010	<0.022	<0.010	*	<0.082	<0.010	<0.010	<0.010
Benzo(a)anthracene	1	-	<0.010	<0.010	<0.010	<0.010	<0.010	*	<0.010	<0.010	<0.010	<0.010
Benzo(a)pyrene	0.1	0.01	<0.010	<0.010	<0.010	<0.010	<0.010	*	<0.010	<0.010	<0.010	<0.010
Benzo(b)fluoranthene	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b+j)fluoranthene	-	-	<0.050	<0.050	<0.050	<0.050	<0.050	*	<0.050	<0.050	<0.050	<0.050
Benzo(g,h,i)perylene	-	-	<0.050	<0.050	<0.050	<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	<0.050	<0.050	<0.050
2-Chloronaphthalene	-	-	<0.100	<0.100	<0.100	<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	<0.050	<0.050	<0.050
Dibenz(a,h)anthracene	-	-	<0.010	<0.010	<0.010	<0.010	<0.010	*	<0.010	<0.010	<0.010	<0.010
Fluoranthene	2	-	<0.030	<0.030	<0.030	0.033	0.042	*	<0.030	<0.030	<0.030	<0.030
Fluorene	120	-	<0.050	<0.050	<0.050	<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	<0.050	<0.050	<0.050
1-Methylnaphthalene	-	-	<0.100	<0.100	<0.100	<0.100	<0.100	*	<0.100	<0.100	<0.100	<0.100
2-Methylnaphthalene	-	-	<0.100	<0.100	<0.100	<0.100	<0.100	*	<0.100	<0.100	<0.100	<0.100
Naphthalene	10	-	<0.200	<0.200	<0.200	<0.200	<0.200	*	<0.200	<0.200	<0.200	<0.200
Phenanthrene	3	-	<0.100	<0.100	<0.100	<0.100	<0.100	*	<0.100	<0.100	<0.100	<0.100
Pyrene	0.2	-	<0.020	<0.020	<0.020	0.045	0.06	*	<0.020	<0.020	<0.020	<0.020
Quinoline	34	-	<0.050	<0.050	<0.050	<0.050	<0.050	*	<0.050	<0.050	<0.050	<0.050

Notes: Refer to Table Endnotes (attached)



Analytical Table Footnotes: Analytical Results for Groundwater 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) BC CSR Schedule 3.2 with respect to Drinking Water (DW) and Freshwater Aquatic Life (AW).

(2) Standard is dissolved Chloride-dependent.

BOLD, UNDERLINE

Laboratory Detection Limit exceeds one or more applicable Standard

BLUE SHADING

Concentration greater than CSR Aquatic Life (AW) Standard

BOLD, BEIGE TEXT

Concentration greater than CSR Drinking Water (DW) Standard

			SHA-SW-1	SHA-SW-1	SHA-SW-1
Table 4: Analytical Results for Nutrients in Surface Water					
Laboratory ID			20J1821-01	20K2557-06	20L1813-01
Sample ID	BC DRINKING WATER QUALITY GUIDELINES	BC FRESHWATER AQUATIC LIFE WATER QUALITY GUIDELINES	SW-1	SW1	SW1
Date Sampled/Time			2020-10-19	2020-11-23	2020-12-15
Physical Tests					
Total Dissolved Solids (mg/L)	-	-	325	-	214
Total Suspended Solids (mg/L)	-	25 mg/L above background (24-hr during clear flow)	<2.0	-	<2.0
pH	7-10.5	6.5-9	7.62	7.8	7.89
Conductivity (uS/cm)	-	-	450	359	360
Hardness (as CaCO3)	-	-	206	173	188
Turbidity (NTU)	Δ1 NTU	8 NTU above background (24-hr during clear flow)	0.44	0.58	0.54
Anions and Nutrients mg/L					
Alkalinity Bicarbonate (as CaCO3)	<10 high sensitivity to acid inputs 10-20 moderate sensitivity to acid inputs >20 low sensitivity to acid inputs		97.5	101	118
Alkalinity Carbonate (as CaCO3)			<1.0	<1.0	<1.0
Acid Sensitivity			Low	Low	Low
Chloride (Cl)	250 mg/L	600 mg/L (instant max), 150 mg/L (30-day average)	14	10.9	8.6
Fluoride (F)	1.5 mg/L (instant max) 1.0 mg/L (30-day average)	0.4 (Hardness <10mg/L) Hardness-Dependent AW (Hardness is > 10mg/L) ⁽¹⁾	<0.10	<0.10	<0.10
Nitrate (as N)	45 mg/L	32.8 mg/L (instant maximum) 3.0 mg/L (30-day average)	0.512	0.641	0.545
Nitrite (as N) ⁽²⁾	3 mg/L	Cl > 10 mg/L 0.6 mg/L (MAX), 0.2 mg/L (30-day average)	<0.010	<0.010	<0.010
Sulfate (SO4) H 0-30 mg/L	500 mg/L	128 mg/L (30-day average)			
H 31 - 75 mg/L		218 mg/L (30-day average)			
H 76 - 180 mg/L		309 mg/L (30-day average)		69	
H 181 - 250 mg/L		429 mg/L (30-day average)		102	69.7
H > 250 mg/L		TBD			

Notes: Refer to Table Endnotes (attached)

Table 5: Analytical Results for Total Metals in Surface Water			SHA-SW-1	SHA-SW-1	SHA-SW-1
Laboratory ID			20J1821-01	20K2557-06	20L1813-01
Sample ID	BC DRINKING WATER QUALITY GUIDELINES	BC FRESHWATER AQUATIC LIFE WATER QUALITY GUIDELINES	SW-1	SW1	SW1
Date Sampled/Time			2020-10-19	2020-11-23	2020-12-15
Physical Tests					
Hardness (as CaCO3) (mg/L)	-	-	206	173	188
pH	7-10.5	6.5-9	7.62	7.8	7.89
Total Metals (mg/L)					
Aluminum (Al)-Total	0.2	-	0.0188	0.0249	0.0331
Antimony (Sb)-Total	-	-	<0.00020	0.00022	0.00021
Arsenic (As)-Total	0.01	0.005	<0.00050	<0.00050	<0.00050
Barium (Ba)-Total	-	-	0.0125	0.0097	0.0097
Beryllium (Be)-Total	-	-	<0.00010	<0.00010	<0.00010
Bismuth, total	-	-	<0.00010	<0.00010	<0.00010
Boron (B)-Total	5	1.2	<0.0500	<0.0500	<0.0500
Cadmium (Cd)-Total	-	-	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	-	-	66.8	57.1	61
Chromium (Cr)-Total	-	-	<0.00050	<0.00050	<0.00050
Chromium (Cr(III))	-	-	-	-	-
Chromium (Cr(VI))	-	-	-	-	-
Cobalt (Co)-Total	-	0.110 (Short Term), 0.004 (Long Term Average)	<0.00010	<0.00010	<0.00010
Copper (Cu)-Total	0.5	Hardness-Dependent ⁽³⁾	0.00175	0.00158	0.00499
		Hardness-Dependent BCAWQG to protect AW ⁽³⁾ (instant max)	0.0214	0.0183	0.0197
		Hardness-Dependent BCAWQG to protect AW ⁽³⁾ (30-d average)	0.0082	0.0069	0.0075
Iron (Fe)-Total	-	1	0.014	0.026	0.024
Lead (Pb)-Total	0.01	Hardness-Dependent ⁽³⁾	<0.00020	0.00023	0.00029
		Hardness-Dependent BCAWQG to protect AW ⁽³⁾ (instant max)	0.2049	0.1640	0.1824
		Hardness-Dependent BCAWQG to protect AW ⁽³⁾ (30-d average)	0.0113	0.0097	0.0104
Lithium (Li)-Total	-	-	0.00013	0.00013	0.00013
Magnesium (Mg)-Total	-	-	9.51	8.33	8.61
Manganese (Mn)-Total	-	Hardness-Dependent ⁽³⁾	0.00184	0.0011	0.00138
		Hardness-Dependent BCAWQG to protect AW ⁽³⁾ (instant max)	2.8	2.4	2.6
		Hardness-Dependent BCAWQG to protect AW ⁽³⁾ (30-d average)	1.5	1.4	1.4
Mercury (Hg)-Total	0.001	0.00002	-	-	-
Molybdenum (Mo)-Total	0.25	51 (instant max) 2 (30-d average)	0.00094	0.00073	0.0007
Nickel (Ni)-Total	-	0.025 (Hardness-Dependent ⁽³⁾ BCAWWQG to protect AW H<60mg/L)	0.00072	0.00044	0.00059
		Calculated Hardness-Dependent ⁽³⁾ BCAWWQG to protect AW 60SH180 mg/L CaCO3	0.165	0.145	0.154
Phosphorus(P)-Total	-	-	<0.050	<0.050	<0.050
Potassium (K)-Total	-	-	0.79	0.75	0.7
Selenium (Se)-Total	0.01	0.002	<0.00050	<0.00050	<0.00050
Silicon (Si)-Total	-	-	6.6	5.3	5.8
Silver (Ag)-Total	-	HARDNESS <100mg/L 0.0001 (SHORT TERM), 0.00005 (LONG TERM), HARDNESS >100mg/L 0.003 (SHORT TERM), 0.0015 (LONG TERM)	<0.000050	<0.000050	<0.000050
Sodium (Na)-Total	-	-	9.48	9	8.57
Strontium (Sr)-Total	-	-	0.186	0.153	0.158
Sulfur (S)-Total	-	-	41	23.6	21.7
Tellurium (Te)-Total	-	-	<0.00050	<0.00050	<0.00050
Thallium (Tl)-Total	-	-	<0.00020	<0.00020	<0.00020
Thorium (Th)-Total	-	-	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	-	-	<0.00020	<0.00020	<0.00020
Titanium (Ti)-Total	-	-	<0.0050	<0.0050	<0.0050
Tungsten (W)-Total	-	-	<0.0010	<0.0010	<0.0010
Uranium (U)-Total	-	-	0.00126	0.000953	0.00103
Vanadium (V)-Total	-	-	0.0017	0.0011	0.0012
Zinc (Zn)-Total	5.0	Hardness >90 mg/L	<0.0040	<0.0040	0.0044
		Hardness-Dependent BCAWQG to protect AW ⁽³⁾ (instant max)	0.120	0.095	0.107
		Hardness-Dependent BCAWQG to protect AW ⁽³⁾ (30-d average)	0.095	0.070	0.081
Zirconium (Zr)-Total	-	-	<0.00010	<0.00010	<0.00010



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 Sc

Table 6: Q4 Daily Leachate Storage and Flow Rate Data

Date	Time	Total Leachate Stored (m ³)	Calculated Flow Rate* (m ³ /hr)
2020-10-01	23:52	57.89	0.02171
2020-10-02	23:52	58.34	0.01899
2020-10-03	23:52	58.84	0.02080
2020-10-04	20:52	59.27	0.02067
2020-10-05	23:11	59.58	0.00465
2020-10-06	23:20	59.69	0.00517
2020-10-07	23:12	59.82	0.00566
2020-10-08	18:12	59.88	0.00343
2020-10-09	-	-	-
2020-10-10	23:52	60.34	0.00241
2020-10-11	-	-	-
2020-10-12	23:24	60.38	0.00310
2020-10-13	2:24	60.40	0.00724
2020-10-14	22:59	33.12	0.02171
2020-10-15	12:25	33.38	0.01447
2020-10-16	14:30	10.59	0.01447
2020-10-17	-	-	-
2020-10-18	-	-	-
2020-10-19	13:07	12.04	0.02170
2020-10-20	22:19	12.74	0.02171
2020-10-21	21:36	13.19	0.01990
2020-10-22	21:07	13.65	0.02171
2020-10-23	-	-	-
2020-10-24	23:40	14.67	0.01861
2020-10-25	20:32	15.08	0.01953
2020-10-26	-	-	-
2020-10-27	15:36	15.91	0.02171
2020-10-28	14:54	16.45	0.02171
2020-10-29	-	-	-
2020-10-30	23:50	17.71	0.02016
2020-10-31	23:51	18.18	0.02653
2020-11-01	23:52	18.71	0.02636
2020-11-02	23:53	19.21	0.01809
2020-11-03	3:53	19.31	0.02713
2020-11-04	23:25	20.33	0.02338
2020-11-05	23:25	20.96	0.02623
2020-11-06	23:25	21.59	0.02623
2020-11-07	23:25	22.16	0.02351
2020-11-08	23:25	22.72	0.02351
2020-11-09	23:25	23.22	0.02080
2020-11-10	14:25	23.52	0.02026
2020-11-11	-	-	-
2020-11-12	-	-	-
2020-11-13	21:28	25.43	0.02605
2020-11-14	-	-	-
2020-11-15	13:10	26.41	0.02171
2020-11-16	-	-	-
2020-11-17	-	-	-
2020-11-18	-	-	-
2020-11-19	13:23	28.93	0.02171
2020-11-20	-	-	-
2020-11-21	-	-	-
2020-11-22	-	-	-
2020-11-23	17:02	31.38	0.02171
2020-11-24	-	-	-
2020-11-25	12:51	32.53	-
2020-11-26	-	-	-
2020-11-27	-	-	-
2020-11-28	18:22	34.40	0.02481
2020-11-29	12:58	34.83	0.02170
2020-11-30	21:21	35.68	0.02412
2020-12-01	22:53	36.29	0.02351
2020-12-02	22:53	36.96	0.02713
2020-12-03	0:53	36.98	0.02170
2020-12-04	23:57	38.18	0.02532
2020-12-05	22:59	38.76	0.02713
2020-12-06	14:15	39.13	0.02171
2020-12-07	-	-	-
2020-12-08	-	-	-
2020-12-09	21:29	41.28	0.02605
2020-12-10	-	-	-
2020-12-11	13:40	42.39	0.02171
2020-12-12	-	-	-
2020-12-13	-	-	-
2020-12-14	18:11	44.41	0.02481
2020-12-15	-	-	-
2020-12-16	23:23	45.86	0.10388
2020-12-17	23:23	46.62	0.03165
2020-12-18	23:23	47.31	0.02894
2020-12-19	10:23	47.64	0.01480
2020-12-20	-	-	-
2020-12-21	-	-	-
2020-12-22	-	-	-
2020-12-23	-	-	-
2020-12-24	-	-	-
2020-12-25	-	-	-
2020-12-26	-	-	-
2020-12-27	-	-	-
2020-12-28	-	-	-
2020-12-29	-	-	-
2020-12-30	14:50	56.11	0.02171

Average leachate flow rate (m³/hr) 0.02473

	Reduction of leachate flow coinciding with leachate processing and off-site leachate removal
	Data not included in average leachate flow rate calculation
	No reading available



CERTIFICATE OF ANALYSIS

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

ATTENTION Ray Lam

PO NUMBER 17-932

PROJECT 17-932

PROJECT INFO

WORK ORDER 20K2557

RECEIVED / TEMP 2020-11-24 10:23 / 4°C

REPORTED 2020-12-01 16:56

COC NUMBER B86140

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/IEC 17025:2017 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.

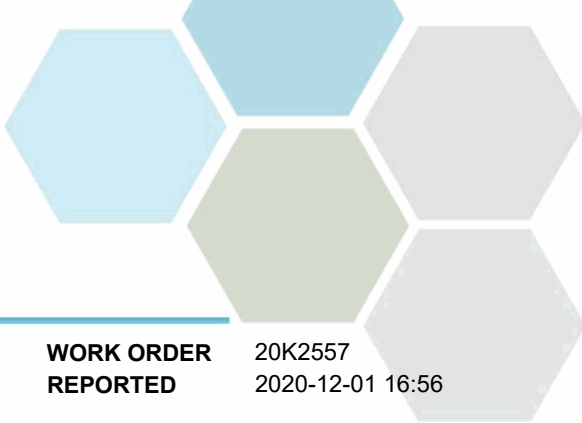
If you have any questions or concerns, please contact me at nyjpp@caro.ca

Authorized By:

Nicole Yipp
Team Lead, Client Service

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

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

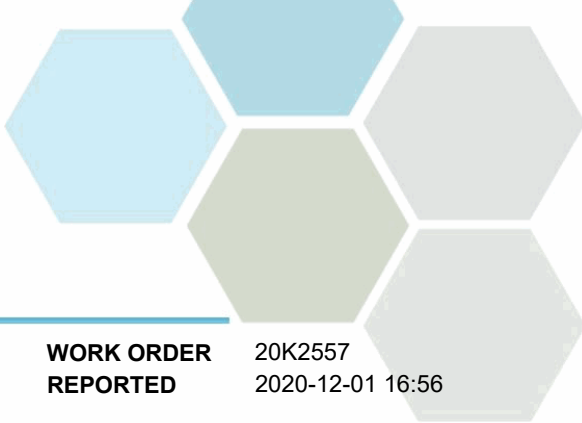


TEST RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL	Units	Analyzed	Qualifier
MW19-01 (20K2557-01) Matrix: Water Sampled: 2020-11-23 11:45					
Anions					
Chloride	28.9	0.10	mg/L	2020-11-25	
Fluoride	< 0.10	0.10	mg/L	2020-11-25	
Nitrate (as N)	0.325	0.010	mg/L	2020-11-25	
Nitrite (as N)	< 0.010	0.010	mg/L	2020-11-25	
Sulfate	79.3	1.0	mg/L	2020-11-25	
BCMOE Aggregate Hydrocarbons					
EPHw10-19	< 250	250	µg/L	2020-11-28	
EPHw19-32	< 250	250	µg/L	2020-11-28	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	74	60-126	%	2020-11-28	
Calculated Parameters					
Hardness, Total (as CaCO3)	283	0.500	mg/L	N/A	
Dissolved Metals					
Lithium, dissolved	0.00500	0.00010	mg/L	2020-11-27	
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2020-11-27	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2020-11-27	
Arsenic, dissolved	0.00051	0.00050	mg/L	2020-11-27	
Barium, dissolved	0.0200	0.0050	mg/L	2020-11-27	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	
Boron, dissolved	< 0.0500	0.0500	mg/L	2020-11-27	
Cadmium, dissolved	0.000019	0.000010	mg/L	2020-11-27	
Calcium, dissolved	89.5	0.20	mg/L	2020-11-27	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Cobalt, dissolved	0.00054	0.00010	mg/L	2020-11-27	
Copper, dissolved	0.00061	0.00040	mg/L	2020-11-27	
Iron, dissolved	0.037	0.010	mg/L	2020-11-27	
Lead, dissolved	< 0.00020	0.00020	mg/L	2020-11-27	
Magnesium, dissolved	14.5	0.010	mg/L	2020-11-27	
Manganese, dissolved	0.290	0.00020	mg/L	2020-11-27	
Molybdenum, dissolved	0.00210	0.00010	mg/L	2020-11-27	
Nickel, dissolved	0.00395	0.00040	mg/L	2020-11-27	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2020-11-27	
Potassium, dissolved	1.70	0.10	mg/L	2020-11-27	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Silicon, dissolved	6.8	1.0	mg/L	2020-11-27	
Silver, dissolved	< 0.000050	0.000050	mg/L	2020-11-27	
Sodium, dissolved	31.8	0.10	mg/L	2020-11-27	
Strontium, dissolved	0.317	0.0010	mg/L	2020-11-27	
Sulfur, dissolved	32.5	3.0	mg/L	2020-11-27	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL	Units	Analyzed	Qualifier
---------	--------	----	-------	----------	-----------

MW19-01 (20K2557-01) | Matrix: Water | Sampled: 2020-11-23 11:45, Continued

Dissolved Metals, Continued

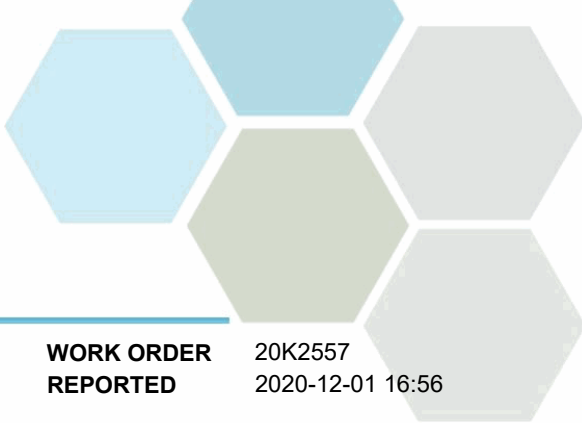
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2020-11-27	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	
Tin, dissolved	< 0.00020	0.00020	mg/L	2020-11-27	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2020-11-27	
Tungsten, dissolved	0.0113	0.0010	mg/L	2020-11-27	
Uranium, dissolved	0.00367	0.000020	mg/L	2020-11-27	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2020-11-27	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2020-11-27	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	

General Parameters

Alkalinity, Total (as CaCO3)	208	1.0	mg/L	2020-11-27	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2020-11-27	
Alkalinity, Bicarbonate (as CaCO3)	208	1.0	mg/L	2020-11-27	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2020-11-27	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2020-11-27	
Conductivity (EC)	630	2.0	µS/cm	2020-11-27	
pH	7.57	0.10	pH units	2020-11-27	HT2
Solids, Total Dissolved	381	15	mg/L	2020-11-26	
Turbidity	468	0.10	NTU	2020-11-25	

Polycyclic Aromatic Hydrocarbons (PAH)

Acenaphthene	< 0.050	0.050	µg/L	2020-11-28	
Acenaphthylene	< 0.200	0.200	µg/L	2020-11-28	
Acridine	< 0.050	0.050	µg/L	2020-11-28	
Anthracene	< 0.010	0.010	µg/L	2020-11-28	
Benz(a)anthracene	< 0.010	0.010	µg/L	2020-11-28	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2020-11-28	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2020-11-28	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2020-11-28	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2020-11-28	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2020-11-28	
Chrysene	< 0.050	0.050	µg/L	2020-11-28	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2020-11-28	
Fluoranthene	< 0.030	0.030	µg/L	2020-11-28	
Fluorene	< 0.050	0.050	µg/L	2020-11-28	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2020-11-28	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2020-11-28	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2020-11-28	
Naphthalene	< 0.200	0.200	µg/L	2020-11-28	
Phenanthrene	< 0.100	0.100	µg/L	2020-11-28	
Pyrene	< 0.020	0.020	µg/L	2020-11-28	
Quinoline	< 0.050	0.050	µg/L	2020-11-28	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL	Units	Analyzed	Qualifier
---------	--------	----	-------	----------	-----------

MW19-01 (20K2557-01) | Matrix: Water | Sampled: 2020-11-23 11:45, Continued

Polycyclic Aromatic Hydrocarbons (PAH), Continued

Surrogate: Acridine-d9	87	50-140	%	2020-11-28	
Surrogate: Naphthalene-d8	100	50-140	%	2020-11-28	
Surrogate: Perylene-d12	69	50-140	%	2020-11-28	

MW19-02 (20K2557-02) | Matrix: Water | Sampled: 2020-11-23 11:15

Anions

Chloride	8.14	0.10	mg/L	2020-11-25	
Fluoride	< 0.10	0.10	mg/L	2020-11-25	
Nitrate (as N)	1.51	0.010	mg/L	2020-11-25	
Nitrite (as N)	< 0.010	0.010	mg/L	2020-11-25	
Sulfate	157	1.0	mg/L	2020-11-25	

BCMOE Aggregate Hydrocarbons

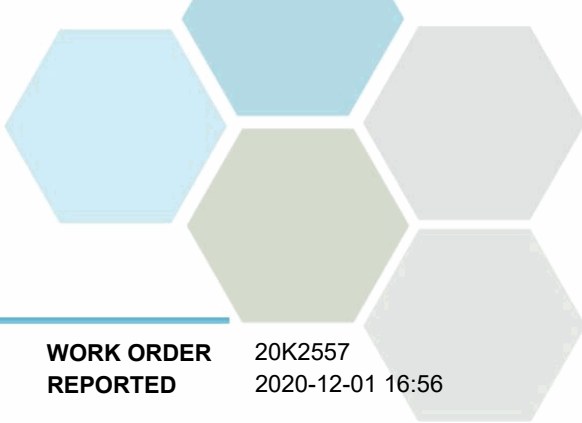
EPHw10-19	< 250	250	µg/L	2020-11-29	
EPHw19-32	< 250	250	µg/L	2020-11-29	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	74	60-126	%	2020-11-29	

Calculated Parameters

Hardness, Total (as CaCO3)	327	0.500	mg/L	N/A	
----------------------------	-----	-------	------	-----	--

Dissolved Metals

Lithium, dissolved	0.00011	0.00010	mg/L	2020-11-27	
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2020-11-27	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2020-11-27	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Barium, dissolved	0.0196	0.0050	mg/L	2020-11-27	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	
Boron, dissolved	< 0.0500	0.0500	mg/L	2020-11-27	
Cadmium, dissolved	0.000014	0.000010	mg/L	2020-11-27	
Calcium, dissolved	109	0.20	mg/L	2020-11-27	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	
Copper, dissolved	0.00091	0.00040	mg/L	2020-11-27	
Iron, dissolved	< 0.010	0.010	mg/L	2020-11-27	
Lead, dissolved	< 0.00020	0.00020	mg/L	2020-11-27	
Magnesium, dissolved	13.4	0.010	mg/L	2020-11-27	
Manganese, dissolved	0.00659	0.00020	mg/L	2020-11-27	
Molybdenum, dissolved	0.00089	0.00010	mg/L	2020-11-27	
Nickel, dissolved	< 0.00040	0.00040	mg/L	2020-11-27	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2020-11-27	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL	Units	Analyzed	Qualifier
---------	--------	----	-------	----------	-----------

MW19-02 (20K2557-02) | Matrix: Water | Sampled: 2020-11-23 11:15, Continued

Dissolved Metals, Continued

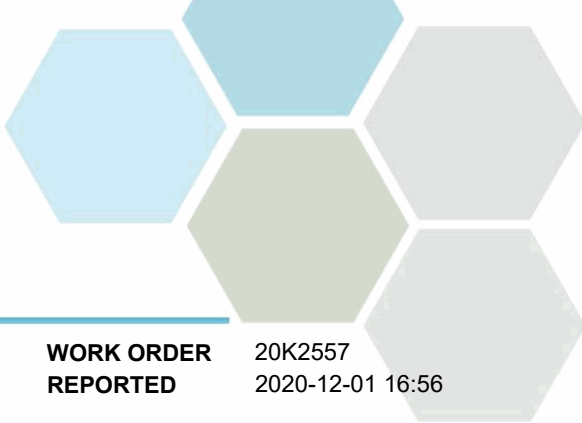
Potassium, dissolved	0.92	0.10	mg/L	2020-11-27	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Silicon, dissolved	5.3	1.0	mg/L	2020-11-27	
Silver, dissolved	< 0.000050	0.000050	mg/L	2020-11-27	
Sodium, dissolved	10.8	0.10	mg/L	2020-11-27	
Strontium, dissolved	0.279	0.0010	mg/L	2020-11-27	
Sulfur, dissolved	56.1	3.0	mg/L	2020-11-27	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2020-11-27	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	
Tin, dissolved	< 0.00020	0.00020	mg/L	2020-11-27	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2020-11-27	
Tungsten, dissolved	0.0040	0.0010	mg/L	2020-11-27	
Uranium, dissolved	0.00155	0.000020	mg/L	2020-11-27	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2020-11-27	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2020-11-27	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	

General Parameters

Alkalinity, Total (as CaCO3)	167	1.0	mg/L	2020-11-27	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2020-11-27	
Alkalinity, Bicarbonate (as CaCO3)	167	1.0	mg/L	2020-11-27	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2020-11-27	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2020-11-27	
Conductivity (EC)	642	2.0	µS/cm	2020-11-27	
pH	7.41	0.10	pH units	2020-11-27	HT2
Solids, Total Dissolved	431	15	mg/L	2020-11-26	
Turbidity	77.2	0.10	NTU	2020-11-25	

Polycyclic Aromatic Hydrocarbons (PAH)

Acenaphthene	< 0.050	0.050	µg/L	2020-11-29	
Acenaphthylene	< 0.200	0.200	µg/L	2020-11-29	
Acridine	< 0.050	0.050	µg/L	2020-11-29	
Anthracene	< 0.010	0.010	µg/L	2020-11-29	
Benz(a)anthracene	< 0.010	0.010	µg/L	2020-11-29	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2020-11-29	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2020-11-29	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2020-11-29	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2020-11-29	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2020-11-29	
Chrysene	< 0.050	0.050	µg/L	2020-11-29	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2020-11-29	
Fluoranthene	< 0.030	0.030	µg/L	2020-11-29	
Fluorene	< 0.050	0.050	µg/L	2020-11-29	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL	Units	Analyzed	Qualifier
MW19-02 (20K2557-02) Matrix: Water Sampled: 2020-11-23 11:15, Continued					
<i>Polycyclic Aromatic Hydrocarbons (PAH), Continued</i>					
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2020-11-29	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2020-11-29	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2020-11-29	
Naphthalene	< 0.200	0.200	µg/L	2020-11-29	
Phenanthrene	< 0.100	0.100	µg/L	2020-11-29	
Pyrene	< 0.020	0.020	µg/L	2020-11-29	
Quinoline	< 0.050	0.050	µg/L	2020-11-29	
Surrogate: Acridine-d9	93	50-140	%	2020-11-29	
Surrogate: Naphthalene-d8	75	50-140	%	2020-11-29	
Surrogate: Perylene-d12	86	50-140	%	2020-11-29	

SB1 (20K2557-03) | Matrix: Water | Sampled: 2020-11-23 15:00

Anions

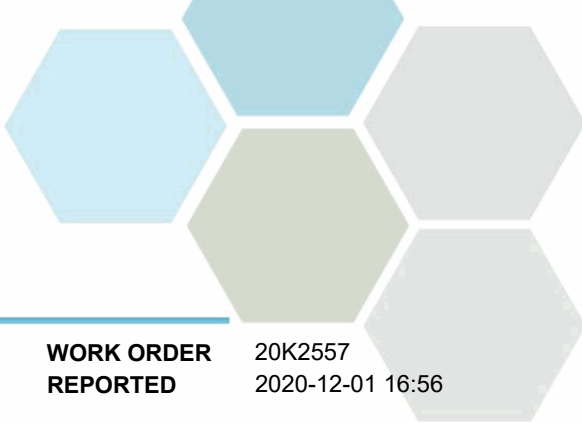
Chloride	7.00	0.10	mg/L	2020-11-25	
Fluoride	< 0.10	0.10	mg/L	2020-11-25	
Nitrate (as N)	0.510	0.010	mg/L	2020-11-25	
Nitrite (as N)	< 0.010	0.010	mg/L	2020-11-25	
Sulfate	58.4	1.0	mg/L	2020-11-25	

Calculated Parameters

Hardness, Total (as CaCO3)	161	0.500	mg/L	N/A	
----------------------------	------------	-------	------	-----	--

Dissolved Metals

Lithium, dissolved	0.00023	0.00010	mg/L	2020-11-27	
Aluminum, dissolved	0.0050	0.0050	mg/L	2020-11-27	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2020-11-27	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Barium, dissolved	0.0093	0.0050	mg/L	2020-11-27	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	
Boron, dissolved	< 0.0500	0.0500	mg/L	2020-11-27	
Cadmium, dissolved	0.000027	0.000010	mg/L	2020-11-27	
Calcium, dissolved	51.9	0.20	mg/L	2020-11-27	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Cobalt, dissolved	0.00011	0.00010	mg/L	2020-11-27	
Copper, dissolved	0.00097	0.00040	mg/L	2020-11-27	
Iron, dissolved	< 0.010	0.010	mg/L	2020-11-27	
Lead, dissolved	< 0.00020	0.00020	mg/L	2020-11-27	
Magnesium, dissolved	7.53	0.010	mg/L	2020-11-27	
Manganese, dissolved	0.00130	0.00020	mg/L	2020-11-27	
Molybdenum, dissolved	0.00062	0.00010	mg/L	2020-11-27	
Nickel, dissolved	0.00803	0.00040	mg/L	2020-11-27	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL	Units	Analyzed	Qualifier
---------	--------	----	-------	----------	-----------

SB1 (20K2557-03) | Matrix: Water | Sampled: 2020-11-23 15:00, Continued

Dissolved Metals, Continued

Phosphorus, dissolved	< 0.050	0.050	mg/L	2020-11-27	
Potassium, dissolved	0.63	0.10	mg/L	2020-11-27	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Silicon, dissolved	4.6	1.0	mg/L	2020-11-27	
Silver, dissolved	< 0.000050	0.000050	mg/L	2020-11-27	
Sodium, dissolved	7.68	0.10	mg/L	2020-11-27	
Strontium, dissolved	0.142	0.0010	mg/L	2020-11-27	
Sulfur, dissolved	21.6	3.0	mg/L	2020-11-27	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2020-11-27	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	
Tin, dissolved	0.00075	0.00020	mg/L	2020-11-27	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2020-11-27	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2020-11-27	
Uranium, dissolved	0.000459	0.000020	mg/L	2020-11-27	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2020-11-27	
Zinc, dissolved	0.0294	0.0040	mg/L	2020-11-27	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	

General Parameters

Alkalinity, Total (as CaCO3)	105	1.0	mg/L	2020-11-27	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2020-11-27	
Alkalinity, Bicarbonate (as CaCO3)	105	1.0	mg/L	2020-11-27	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2020-11-27	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2020-11-27	
Conductivity (EC)	335	2.0	µS/cm	2020-11-27	
pH	7.40	0.10	pH units	2020-11-27	HT2
Solids, Total Dissolved	206	15	mg/L	2020-11-26	
Turbidity	20.0	0.10	NTU	2020-11-25	

SB2 (20K2557-04) | Matrix: Water | Sampled: 2020-11-23 13:30

Anions

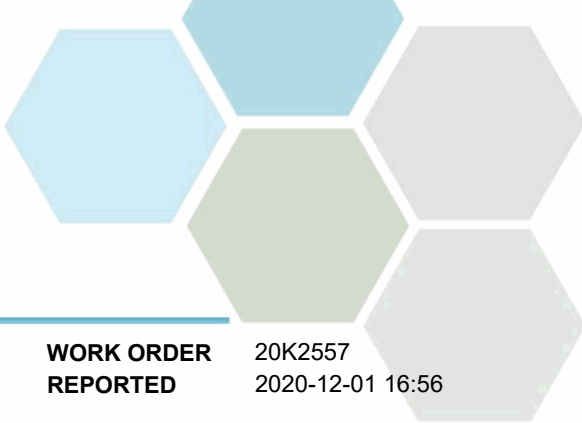
Chloride	35.8	0.10	mg/L	2020-11-25	
Fluoride	< 0.10	0.10	mg/L	2020-11-25	
Nitrate (as N)	0.227	0.010	mg/L	2020-11-25	
Nitrite (as N)	< 0.010	0.010	mg/L	2020-11-25	
Sulfate	46.4	1.0	mg/L	2020-11-25	

Calculated Parameters

Hardness, Total (as CaCO3)	243	0.500	mg/L	N/A	
----------------------------	------------	-------	------	-----	--

Dissolved Metals

Lithium, dissolved	0.00033	0.00010	mg/L	2020-11-27	
--------------------	----------------	---------	------	------------	--



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL	Units	Analyzed	Qualifier
---------	--------	----	-------	----------	-----------

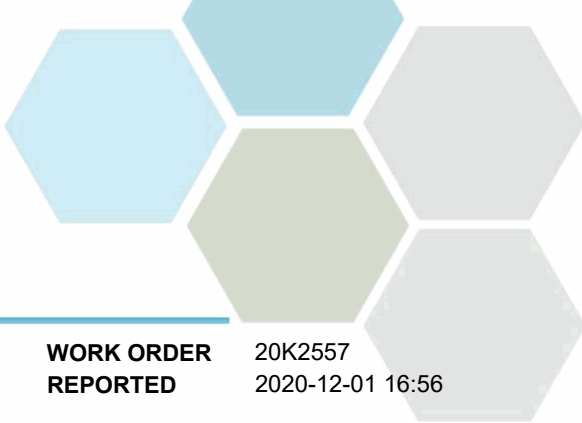
SB2 (20K2557-04) | Matrix: Water | Sampled: 2020-11-23 13:30, Continued

Dissolved Metals, Continued

Aluminum, dissolved	< 0.0050	0.0050	mg/L	2020-11-27	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2020-11-27	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Barium, dissolved	0.0114	0.0050	mg/L	2020-11-27	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	
Boron, dissolved	< 0.0500	0.0500	mg/L	2020-11-27	
Cadmium, dissolved	0.000013	0.000010	mg/L	2020-11-27	
Calcium, dissolved	74.8	0.20	mg/L	2020-11-27	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	
Copper, dissolved	0.00124	0.00040	mg/L	2020-11-27	
Iron, dissolved	< 0.010	0.010	mg/L	2020-11-27	
Lead, dissolved	< 0.00020	0.00020	mg/L	2020-11-27	
Magnesium, dissolved	13.6	0.010	mg/L	2020-11-27	
Manganese, dissolved	0.0159	0.00020	mg/L	2020-11-27	
Molybdenum, dissolved	0.00046	0.00010	mg/L	2020-11-27	
Nickel, dissolved	0.00170	0.00040	mg/L	2020-11-27	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2020-11-27	
Potassium, dissolved	0.97	0.10	mg/L	2020-11-27	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Silicon, dissolved	6.0	1.0	mg/L	2020-11-27	
Silver, dissolved	< 0.000050	0.000050	mg/L	2020-11-27	
Sodium, dissolved	20.5	0.10	mg/L	2020-11-27	
Strontium, dissolved	0.235	0.0010	mg/L	2020-11-27	
Sulfur, dissolved	16.0	3.0	mg/L	2020-11-27	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2020-11-27	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	
Tin, dissolved	0.00020	0.00020	mg/L	2020-11-27	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2020-11-27	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2020-11-27	
Uranium, dissolved	0.000788	0.000020	mg/L	2020-11-27	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2020-11-27	
Zinc, dissolved	0.0153	0.0040	mg/L	2020-11-27	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	

General Parameters

Alkalinity, Total (as CaCO3)	187	1.0	mg/L	2020-11-27	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2020-11-27	
Alkalinity, Bicarbonate (as CaCO3)	187	1.0	mg/L	2020-11-27	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2020-11-27	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2020-11-27	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL	Units	Analyzed	Qualifier
---------	--------	----	-------	----------	-----------

SB2 (20K2557-04) | Matrix: Water | Sampled: 2020-11-23 13:30, Continued

General Parameters, Continued

Conductivity (EC)	541	2.0	µS/cm	2020-11-27	
pH	7.35	0.10	pH units	2020-11-27	HT2
Solids, Total Dissolved	309	15	mg/L	2020-11-26	
Turbidity	23.9	0.10	NTU	2020-11-25	

SB3 (20K2557-05) | Matrix: Water | Sampled: 2020-11-23 14:45

Anions

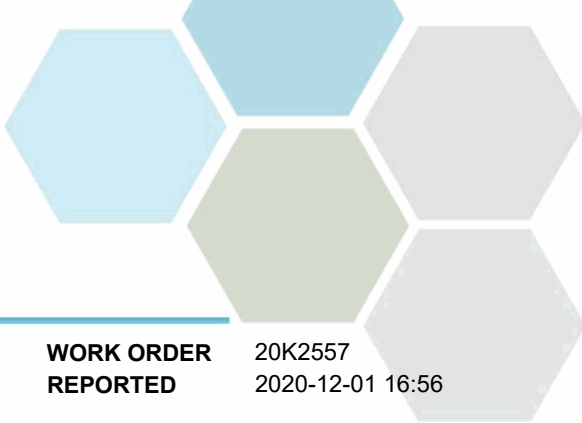
Chloride	24.4	0.10	mg/L	2020-11-25	
Fluoride	< 0.10	0.10	mg/L	2020-11-25	
Nitrate (as N)	1.49	0.010	mg/L	2020-11-25	
Nitrite (as N)	< 0.010	0.010	mg/L	2020-11-25	
Sulfate	143	1.0	mg/L	2020-11-25	

Calculated Parameters

Hardness, Total (as CaCO3)	441	0.500	mg/L	N/A	
----------------------------	-----	-------	------	-----	--

Dissolved Metals

Lithium, dissolved	0.00029	0.00010	mg/L	2020-11-27	
Aluminum, dissolved	0.0054	0.0050	mg/L	2020-11-27	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2020-11-27	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Barium, dissolved	0.0166	0.0050	mg/L	2020-11-27	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	
Boron, dissolved	< 0.0500	0.0500	mg/L	2020-11-27	
Cadmium, dissolved	0.000058	0.000010	mg/L	2020-11-27	
Calcium, dissolved	144	0.20	mg/L	2020-11-27	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Cobalt, dissolved	0.00014	0.00010	mg/L	2020-11-27	
Copper, dissolved	0.00191	0.00040	mg/L	2020-11-27	
Iron, dissolved	< 0.010	0.010	mg/L	2020-11-27	
Lead, dissolved	< 0.00020	0.00020	mg/L	2020-11-27	
Magnesium, dissolved	19.9	0.010	mg/L	2020-11-27	
Manganese, dissolved	0.171	0.00020	mg/L	2020-11-27	
Molybdenum, dissolved	0.00054	0.00010	mg/L	2020-11-27	
Nickel, dissolved	0.00359	0.00040	mg/L	2020-11-27	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2020-11-27	
Potassium, dissolved	1.00	0.10	mg/L	2020-11-27	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Silicon, dissolved	7.1	1.0	mg/L	2020-11-27	
Silver, dissolved	< 0.000050	0.000050	mg/L	2020-11-27	
Sodium, dissolved	11.9	0.10	mg/L	2020-11-27	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL	Units	Analyzed	Qualifier
---------	--------	----	-------	----------	-----------

SB3 (20K2557-05) | Matrix: Water | Sampled: 2020-11-23 14:45, Continued

Dissolved Metals, Continued

Strontium, dissolved	0.362	0.0010	mg/L	2020-11-27	
Sulfur, dissolved	50.3	3.0	mg/L	2020-11-27	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2020-11-27	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	
Tin, dissolved	< 0.00020	0.00020	mg/L	2020-11-27	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2020-11-27	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2020-11-27	
Uranium, dissolved	0.00169	0.000020	mg/L	2020-11-27	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2020-11-27	
Zinc, dissolved	0.0061	0.0040	mg/L	2020-11-27	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	

General Parameters

Alkalinity, Total (as CaCO3)	282	1.0	mg/L	2020-11-27	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2020-11-27	
Alkalinity, Bicarbonate (as CaCO3)	282	1.0	mg/L	2020-11-27	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2020-11-27	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2020-11-27	
Conductivity (EC)	829	2.0	µS/cm	2020-11-27	
pH	7.05	0.10	pH units	2020-11-27	HT2
Solids, Total Dissolved	548	15	mg/L	2020-11-26	
Turbidity	12.8	0.10	NTU	2020-11-25	

SW1 (20K2557-06) | Matrix: Water | Sampled: 2020-11-23 14:00

Anions

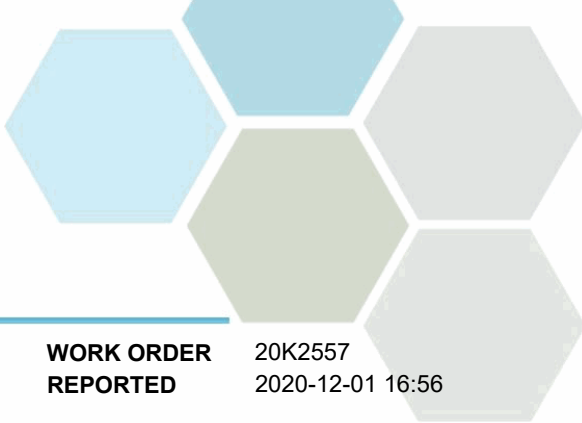
Chloride	10.9	0.10	mg/L	2020-11-25	
Fluoride	< 0.10	0.10	mg/L	2020-11-25	
Nitrate (as N)	0.641	0.010	mg/L	2020-11-25	
Nitrite (as N)	< 0.010	0.010	mg/L	2020-11-25	
Sulfate	69.0	1.0	mg/L	2020-11-25	

Calculated Parameters

Hardness, Total (as CaCO3)	173	0.500	mg/L	N/A	
----------------------------	-----	-------	------	-----	--

Dissolved Metals

Lithium, dissolved	0.00013	0.00010	mg/L	2020-11-27	
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2020-11-27	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2020-11-27	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Barium, dissolved	0.0087	0.0050	mg/L	2020-11-27	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL	Units	Analyzed	Qualifier
---------	--------	----	-------	----------	-----------

SW1 (20K2557-06) | Matrix: Water | Sampled: 2020-11-23 14:00, Continued

Dissolved Metals, Continued

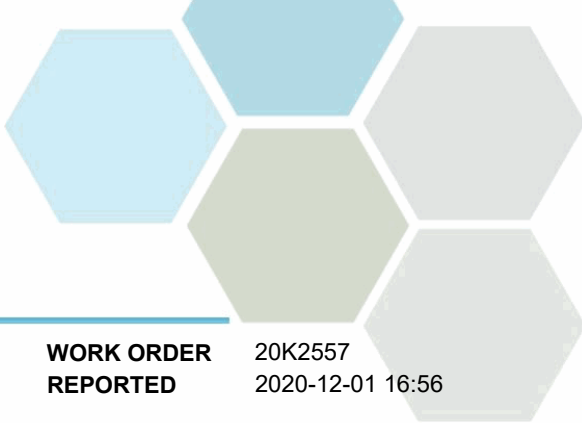
Boron, dissolved	< 0.0500	0.0500	mg/L	2020-11-27	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2020-11-27	
Calcium, dissolved	55.8	0.20	mg/L	2020-11-27	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	
Copper, dissolved	0.00116	0.00040	mg/L	2020-11-27	
Iron, dissolved	< 0.010	0.010	mg/L	2020-11-27	
Lead, dissolved	< 0.00020	0.00020	mg/L	2020-11-27	
Magnesium, dissolved	8.06	0.010	mg/L	2020-11-27	
Manganese, dissolved	< 0.00020	0.00020	mg/L	2020-11-27	
Molybdenum, dissolved	0.00068	0.00010	mg/L	2020-11-27	
Nickel, dissolved	< 0.00040	0.00040	mg/L	2020-11-27	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2020-11-27	
Potassium, dissolved	0.70	0.10	mg/L	2020-11-27	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Silicon, dissolved	4.5	1.0	mg/L	2020-11-27	
Silver, dissolved	< 0.000050	0.000050	mg/L	2020-11-27	
Sodium, dissolved	8.03	0.10	mg/L	2020-11-27	
Strontium, dissolved	0.148	0.0010	mg/L	2020-11-27	
Sulfur, dissolved	24.5	3.0	mg/L	2020-11-27	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2020-11-27	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	
Tin, dissolved	< 0.00020	0.00020	mg/L	2020-11-27	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2020-11-27	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2020-11-27	
Uranium, dissolved	0.000942	0.000020	mg/L	2020-11-27	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2020-11-27	
Zinc, dissolved	< 0.0040	0.0040	mg/L	2020-11-27	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	

General Parameters

Alkalinity, Total (as CaCO3)	101	1.0	mg/L	2020-11-27	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2020-11-27	
Alkalinity, Bicarbonate (as CaCO3)	101	1.0	mg/L	2020-11-27	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2020-11-27	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2020-11-27	
Conductivity (EC)	359	2.0	µS/cm	2020-11-27	
pH	7.80	0.10	pH units	2020-11-27	HT2
Solids, Total Suspended	< 2.0	2.0	mg/L	2020-11-25	
Turbidity	0.58	0.10	NTU	2020-11-25	

Total Metals

Aluminum, total	0.0249	0.0050	mg/L	2020-11-29	
-----------------	---------------	--------	------	------------	--



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

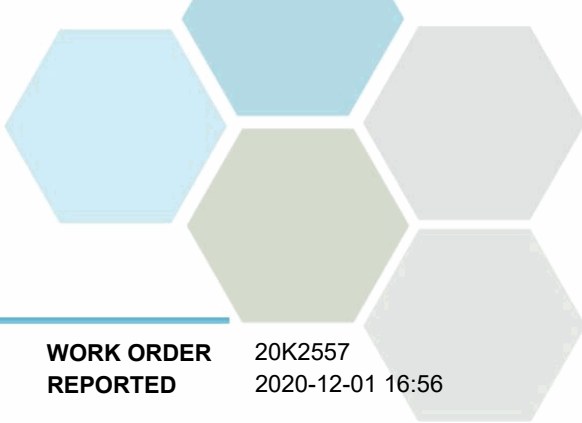
WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL	Units	Analyzed	Qualifier
SW1 (20K2557-06) Matrix: Water Sampled: 2020-11-23 14:00, Continued					
<i>Total Metals, Continued</i>					
Antimony, total	0.00022	0.00020	mg/L	2020-11-29	
Arsenic, total	< 0.00050	0.00050	mg/L	2020-11-29	
Barium, total	0.0097	0.0050	mg/L	2020-11-29	
Beryllium, total	< 0.00010	0.00010	mg/L	2020-11-29	
Bismuth, total	< 0.00010	0.00010	mg/L	2020-11-29	
Boron, total	< 0.0500	0.0500	mg/L	2020-11-29	
Cadmium, total	< 0.000010	0.000010	mg/L	2020-11-29	
Calcium, total	57.1	0.20	mg/L	2020-11-29	
Chromium, total	< 0.00050	0.00050	mg/L	2020-11-29	
Cobalt, total	< 0.00010	0.00010	mg/L	2020-11-29	
Copper, total	0.00158	0.00040	mg/L	2020-11-29	
Iron, total	0.026	0.010	mg/L	2020-11-29	
Lead, total	0.00023	0.00020	mg/L	2020-11-29	
Lithium, total	0.00013	0.00010	mg/L	2020-11-29	
Magnesium, total	8.33	0.010	mg/L	2020-11-29	
Manganese, total	0.00110	0.00020	mg/L	2020-11-29	
Molybdenum, total	0.00073	0.00010	mg/L	2020-11-29	
Nickel, total	0.00044	0.00040	mg/L	2020-11-29	
Phosphorus, total	< 0.050	0.050	mg/L	2020-11-29	
Potassium, total	0.75	0.10	mg/L	2020-11-29	
Selenium, total	< 0.00050	0.00050	mg/L	2020-11-29	
Silicon, total	5.3	1.0	mg/L	2020-11-29	
Silver, total	< 0.000050	0.000050	mg/L	2020-11-29	
Sodium, total	9.00	0.10	mg/L	2020-11-29	
Strontium, total	0.153	0.0010	mg/L	2020-11-29	
Sulfur, total	23.6	3.0	mg/L	2020-11-29	
Tellurium, total	< 0.00050	0.00050	mg/L	2020-11-29	
Thallium, total	< 0.000020	0.000020	mg/L	2020-11-29	
Thorium, total	< 0.00010	0.00010	mg/L	2020-11-29	
Tin, total	< 0.00020	0.00020	mg/L	2020-11-29	
Titanium, total	< 0.0050	0.0050	mg/L	2020-11-29	
Tungsten, total	< 0.0010	0.0010	mg/L	2020-11-29	
Uranium, total	0.000953	0.000020	mg/L	2020-11-29	
Vanadium, total	0.0011	0.0010	mg/L	2020-11-29	
Zinc, total	< 0.0040	0.0040	mg/L	2020-11-29	
Zirconium, total	< 0.00010	0.00010	mg/L	2020-11-29	

SB2-X (20K2557-07) | Matrix: Water | Sampled: 2020-11-23 13:30

Anions

Chloride	35.1	0.10	mg/L	2020-11-25	
Fluoride	< 0.10	0.10	mg/L	2020-11-25	
Nitrate (as N)	0.239	0.010	mg/L	2020-11-25	

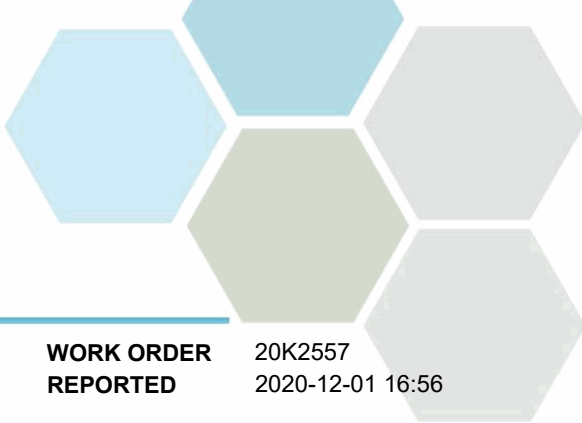


TEST RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL	Units	Analyzed	Qualifier
SB2-X (20K2557-07) Matrix: Water Sampled: 2020-11-23 13:30, Continued					
<i>Anions, Continued</i>					
Nitrite (as N)	< 0.010	0.010	mg/L	2020-11-25	
Sulfate	46.5	1.0	mg/L	2020-11-25	
<i>Calculated Parameters</i>					
Hardness, Total (as CaCO3)	242	0.500	mg/L	N/A	
<i>Dissolved Metals</i>					
Lithium, dissolved	0.00030	0.00010	mg/L	2020-11-27	
Aluminum, dissolved	< 0.0050	0.0050	mg/L	2020-11-27	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2020-11-27	
Arsenic, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Barium, dissolved	0.0110	0.0050	mg/L	2020-11-27	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	
Boron, dissolved	< 0.0500	0.0500	mg/L	2020-11-27	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2020-11-27	
Calcium, dissolved	74.7	0.20	mg/L	2020-11-27	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Cobalt, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	
Copper, dissolved	0.00126	0.00040	mg/L	2020-11-27	
Iron, dissolved	< 0.010	0.010	mg/L	2020-11-27	
Lead, dissolved	< 0.00020	0.00020	mg/L	2020-11-27	
Magnesium, dissolved	13.4	0.010	mg/L	2020-11-27	
Manganese, dissolved	0.0160	0.00020	mg/L	2020-11-27	
Molybdenum, dissolved	0.00047	0.00010	mg/L	2020-11-27	
Nickel, dissolved	0.00152	0.00040	mg/L	2020-11-27	
Phosphorus, dissolved	< 0.050	0.050	mg/L	2020-11-27	
Potassium, dissolved	0.95	0.10	mg/L	2020-11-27	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Silicon, dissolved	5.9	1.0	mg/L	2020-11-27	
Silver, dissolved	< 0.000050	0.000050	mg/L	2020-11-27	
Sodium, dissolved	20.0	0.10	mg/L	2020-11-27	
Strontium, dissolved	0.235	0.0010	mg/L	2020-11-27	
Sulfur, dissolved	15.8	3.0	mg/L	2020-11-27	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2020-11-27	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	
Tin, dissolved	0.00022	0.00020	mg/L	2020-11-27	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2020-11-27	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2020-11-27	
Uranium, dissolved	0.000778	0.000020	mg/L	2020-11-27	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2020-11-27	
Zinc, dissolved	0.0150	0.0040	mg/L	2020-11-27	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL	Units	Analyzed	Qualifier
SB2-X (20K2557-07) Matrix: Water Sampled: 2020-11-23 13:30, Continued					
General Parameters					
Alkalinity, Total (as CaCO3)	188	1.0	mg/L	2020-11-27	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2020-11-27	
Alkalinity, Bicarbonate (as CaCO3)	188	1.0	mg/L	2020-11-27	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2020-11-27	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2020-11-27	
Conductivity (EC)	534	2.0	µS/cm	2020-11-27	
pH	7.42	0.10	pH units	2020-11-27	HT2
Solids, Total Dissolved	317	15	mg/L	2020-11-26	
Turbidity	22.1	0.10	NTU	2020-11-25	

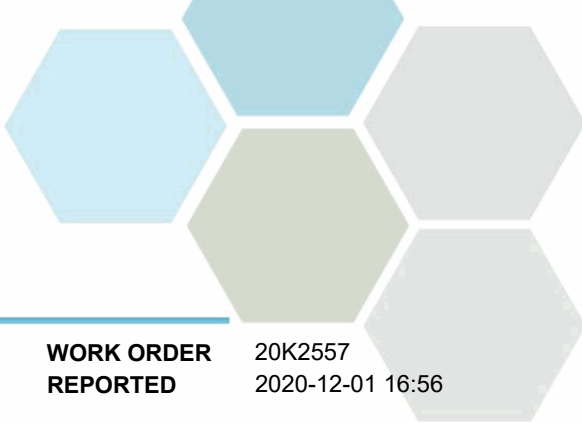
MW 3S (20K2557-08) | Matrix: Water | Sampled: 2020-11-23 13:45

Anions					
Chloride	19.6	0.10	mg/L	2020-11-25	
Fluoride	< 0.10	0.10	mg/L	2020-11-25	
Nitrate (as N)	< 0.010	0.010	mg/L	2020-11-25	
Nitrite (as N)	< 0.010	0.010	mg/L	2020-11-25	
Sulfate	40.3	1.0	mg/L	2020-11-25	

BCMOE Aggregate Hydrocarbons					
EPHw10-19	< 250	250	µg/L	2020-11-28	
EPHw19-32	< 250	250	µg/L	2020-11-28	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	80	60-126	%	2020-11-28	

Calculated Parameters					
Hardness, Total (as CaCO3)	190	0.500	mg/L	N/A	

Dissolved Metals					
Lithium, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	
Aluminum, dissolved	0.0068	0.0050	mg/L	2020-11-27	
Antimony, dissolved	< 0.00020	0.00020	mg/L	2020-11-27	
Arsenic, dissolved	0.00173	0.00050	mg/L	2020-11-27	
Barium, dissolved	0.0333	0.0050	mg/L	2020-11-27	
Beryllium, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	
Bismuth, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	
Boron, dissolved	< 0.0500	0.0500	mg/L	2020-11-27	
Cadmium, dissolved	< 0.000010	0.000010	mg/L	2020-11-27	
Calcium, dissolved	59.3	0.20	mg/L	2020-11-27	
Chromium, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Cobalt, dissolved	0.00040	0.00010	mg/L	2020-11-27	
Copper, dissolved	< 0.00040	0.00040	mg/L	2020-11-27	
Iron, dissolved	0.238	0.010	mg/L	2020-11-27	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL	Units	Analyzed	Qualifier
---------	--------	----	-------	----------	-----------

MW 3S (20K2557-08) | Matrix: Water | Sampled: 2020-11-23 13:45, Continued

Dissolved Metals, Continued

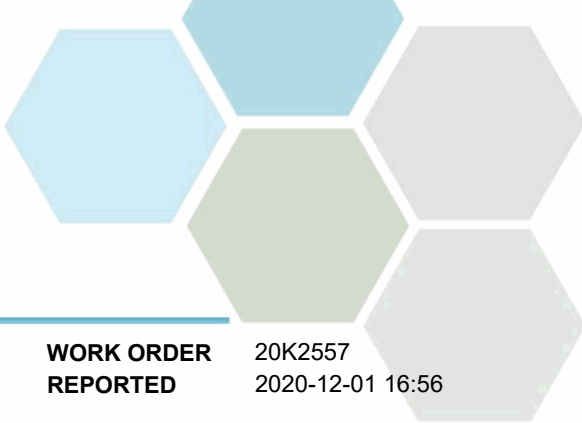
Lead, dissolved	< 0.00020	0.00020	mg/L	2020-11-27	
Magnesium, dissolved	10.0	0.010	mg/L	2020-11-27	
Manganese, dissolved	0.448	0.00020	mg/L	2020-11-27	
Molybdenum, dissolved	0.00349	0.00010	mg/L	2020-11-27	
Nickel, dissolved	0.00260	0.00040	mg/L	2020-11-27	
Phosphorus, dissolved	0.124	0.050	mg/L	2020-11-27	
Potassium, dissolved	0.65	0.10	mg/L	2020-11-27	
Selenium, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Silicon, dissolved	7.3	1.0	mg/L	2020-11-27	
Silver, dissolved	< 0.000050	0.000050	mg/L	2020-11-27	
Sodium, dissolved	9.58	0.10	mg/L	2020-11-27	
Strontium, dissolved	0.315	0.0010	mg/L	2020-11-27	
Sulfur, dissolved	14.2	3.0	mg/L	2020-11-27	
Tellurium, dissolved	< 0.00050	0.00050	mg/L	2020-11-27	
Thallium, dissolved	< 0.000020	0.000020	mg/L	2020-11-27	
Thorium, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	
Tin, dissolved	< 0.00020	0.00020	mg/L	2020-11-27	
Titanium, dissolved	< 0.0050	0.0050	mg/L	2020-11-27	
Tungsten, dissolved	< 0.0010	0.0010	mg/L	2020-11-27	
Uranium, dissolved	0.000725	0.000020	mg/L	2020-11-27	
Vanadium, dissolved	< 0.0010	0.0010	mg/L	2020-11-27	
Zinc, dissolved	0.0893	0.0040	mg/L	2020-11-27	
Zirconium, dissolved	< 0.00010	0.00010	mg/L	2020-11-27	

General Parameters

Alkalinity, Total (as CaCO3)	114	1.0	mg/L	2020-11-27	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2020-11-27	
Alkalinity, Bicarbonate (as CaCO3)	114	1.0	mg/L	2020-11-27	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2020-11-27	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2020-11-27	
Conductivity (EC)	386	2.0	µS/cm	2020-11-27	
pH	7.89	0.10	pH units	2020-11-27	HT2
Solids, Total Dissolved	230	15	mg/L	2020-11-26	
Turbidity	12.3	0.10	NTU	2020-11-25	

Polycyclic Aromatic Hydrocarbons (PAH)

Acenaphthene	< 0.050	0.050	µg/L	2020-11-28	
Acenaphthylene	< 0.200	0.200	µg/L	2020-11-28	
Acridine	< 0.050	0.050	µg/L	2020-11-28	
Anthracene	< 0.010	0.010	µg/L	2020-11-28	
Benz(a)anthracene	< 0.010	0.010	µg/L	2020-11-28	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2020-11-28	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2020-11-28	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2020-11-28	



TEST RESULTS

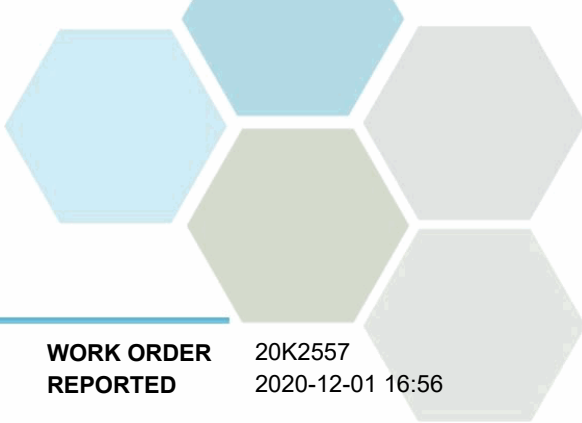
REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL	Units	Analyzed	Qualifier
MW 3S (20K2557-08) Matrix: Water Sampled: 2020-11-23 13:45, Continued					
<i>Polycyclic Aromatic Hydrocarbons (PAH), Continued</i>					
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2020-11-28	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2020-11-28	
Chrysene	< 0.050	0.050	µg/L	2020-11-28	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2020-11-28	
Fluoranthene	< 0.030	0.030	µg/L	2020-11-28	
Fluorene	< 0.050	0.050	µg/L	2020-11-28	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2020-11-28	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2020-11-28	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2020-11-28	
Naphthalene	< 0.200	0.200	µg/L	2020-11-28	
Phenanthrene	< 0.100	0.100	µg/L	2020-11-28	
Pyrene	< 0.020	0.020	µg/L	2020-11-28	
Quinoline	< 0.050	0.050	µg/L	2020-11-28	
Surrogate: Acridine-d9	74	50-140	%	2020-11-28	
Surrogate: Naphthalene-d8	103	50-140	%	2020-11-28	
Surrogate: Perylene-d12	74	50-140	%	2020-11-28	

Sample Qualifiers:

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



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Allterra Construction
17-932

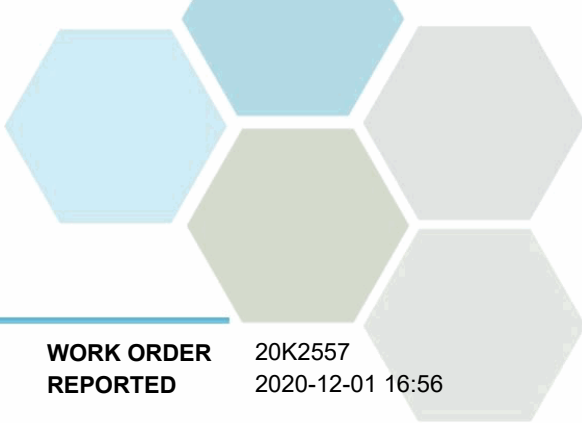
WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analysis Description	Method Ref.	Technique	Accredited	Location
Alkalinity in Water	SM 2320 B* (2017)	Titration with H2SO4	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Conductivity in Water	SM 2510 B (2017)	Conductivity Meter	✓	Kelowna
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 (2017)	Calculation: 2.497 [diss Ca] + 4.118 [diss Mg]	✓	N/A
HEPHw in Water	BCMOE LEPH/HEPH	Calculation		N/A
LEPHw in Water	BCMOE LEPH/HEPH	Calculation		N/A
pH in Water	SM 4500-H+ B (2017)	Electrometry	✓	Kelowna
Polycyclic Aromatic Hydrocarbons in Water	EPA 3511* / EPA 8270D	Hexane MicroExtraction (Base/Neutral) / GC-MSD (SIM)	✓	Richmond
Solids, Total Dissolved in Water	SM 2540 C* (2017)	Gravimetry (Dried at 103-105C)	✓	Kelowna
Solids, Total Suspended in Water	SM 2540 D* (2017)	Gravimetry (Dried at 103-105C)	✓	Kelowna
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 (2017)	Nephelometry	✓	Kelowna

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

Glossary of Terms:

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



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO Allterra Construction
PROJECT 17-932

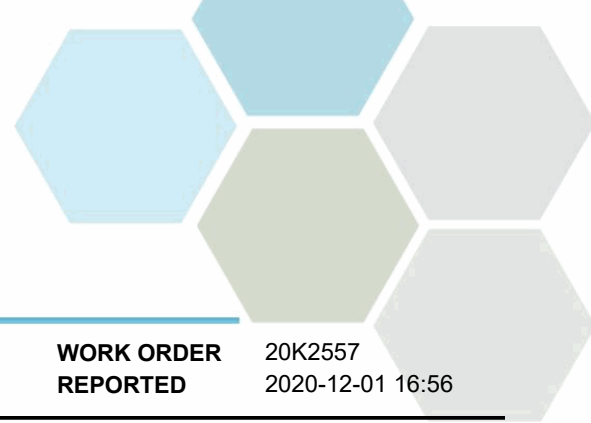
WORK ORDER 20K2557
REPORTED 2020-12-01 16:56

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 or once samples expire, whichever comes first. Longer hold is possible if 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: nyipp@caro.ca

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20K2557
2020-12-01 16:56

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 B0K2151

Blank (B0K2151-BLK1)			Prepared: 2020-11-25, Analyzed: 2020-11-25						
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 (B0K2151-BLK2)			Prepared: 2020-11-25, Analyzed: 2020-11-25						
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							

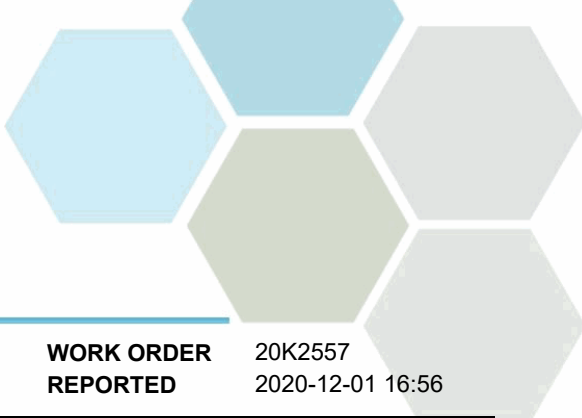
LCS (B0K2151-BS1)			Prepared: 2020-11-25, Analyzed: 2020-11-25						
Chloride	16.0	0.10 mg/L	16.0		100	90-110			
Fluoride	4.03	0.10 mg/L	4.00		101	88-108			
Nitrate (as N)	4.02	0.010 mg/L	4.00		101	90-110			
Nitrite (as N)	2.01	0.010 mg/L	2.00		100	85-115			
Sulfate	16.1	1.0 mg/L	16.0		100	90-110			

LCS (B0K2151-BS2)			Prepared: 2020-11-25, Analyzed: 2020-11-25						
Chloride	16.0	0.10 mg/L	16.0		100	90-110			
Fluoride	4.04	0.10 mg/L	4.00		101	88-108			
Nitrate (as N)	4.00	0.010 mg/L	4.00		100	90-110			
Nitrite (as N)	2.00	0.010 mg/L	2.00		100	85-115			
Sulfate	16.0	1.0 mg/L	16.0		100	90-110			

BCMOE Aggregate Hydrocarbons, Batch B0K2498

Blank (B0K2498-BLK1)			Prepared: 2020-11-27, Analyzed: 2020-11-27						
EPHw10-19	< 250	250 µg/L							
EPHw19-32	< 250	250 µg/L							
Surrogate: 2-Methylnonane (EPH/F2-4)	329	µg/L	444		74	60-126			

LCS (B0K2498-BS2)			Prepared: 2020-11-27, Analyzed: 2020-11-27						
EPHw10-19	11300	250 µg/L	15500		73	70-117			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
---------	--------	----------	-------------	---------------	-------	-----------	-------	-----------	-----------

BCMOE Aggregate Hydrocarbons, Batch B0K2498, Continued

LCS (B0K2498-BS2), Continued

Prepared: 2020-11-27, Analyzed: 2020-11-27

EPHw19-32	15700	250 µg/L	22100		71	70-113			
Surrogate: 2-Methylnonane (EPH/F2-4)	336	µg/L	444		76	60-126			

LCS Dup (B0K2498-BSD2)

Prepared: 2020-11-27, Analyzed: 2020-11-27

EPHw10-19	9610	250 µg/L	15500		62	70-117	16	20	SPK1
EPHw19-32	13200	250 µg/L	22100		60	70-113	17	20	SPK1
Surrogate: 2-Methylnonane (EPH/F2-4)	293	µg/L	444		66	60-126			

BCMOE Aggregate Hydrocarbons, Batch B0K2542

Blank (B0K2542-BLK1)

Prepared: 2020-11-28, Analyzed: 2020-11-28

EPHw10-19	< 250	250 µg/L							
EPHw19-32	< 250	250 µg/L							
Surrogate: 2-Methylnonane (EPH/F2-4)	325	µg/L	444		73	60-126			

LCS (B0K2542-BS2)

Prepared: 2020-11-28, Analyzed: 2020-11-28

EPHw10-19	11900	250 µg/L	15500		77	70-117			
EPHw19-32	16400	250 µg/L	22100		74	70-113			
Surrogate: 2-Methylnonane (EPH/F2-4)	363	µg/L	444		82	60-126			

LCS Dup (B0K2542-BSD2)

Prepared: 2020-11-28, Analyzed: 2020-11-28

EPHw10-19	11700	250 µg/L	15500		75	70-117	2	20	
EPHw19-32	16300	250 µg/L	22100		74	70-113	< 1	20	
Surrogate: 2-Methylnonane (EPH/F2-4)	440	µg/L	444		99	60-126			

BCMOE Aggregate Hydrocarbons, Batch B0K2579

Blank (B0K2579-BLK1)

Prepared: 2020-11-29, Analyzed: 2020-11-29

EPHw10-19	< 250	250 µg/L							
EPHw19-32	< 250	250 µg/L							
Surrogate: 2-Methylnonane (EPH/F2-4)	355	µg/L	444		80	60-126			

LCS (B0K2579-BS2)

Prepared: 2020-11-29, Analyzed: 2020-11-29

EPHw10-19	14700	250 µg/L	15500		95	70-117			
EPHw19-32	20900	250 µg/L	22100		95	70-113			
Surrogate: 2-Methylnonane (EPH/F2-4)	404	µg/L	444		91	60-126			

LCS Dup (B0K2579-BSD2)

Prepared: 2020-11-29, Analyzed: 2020-11-29

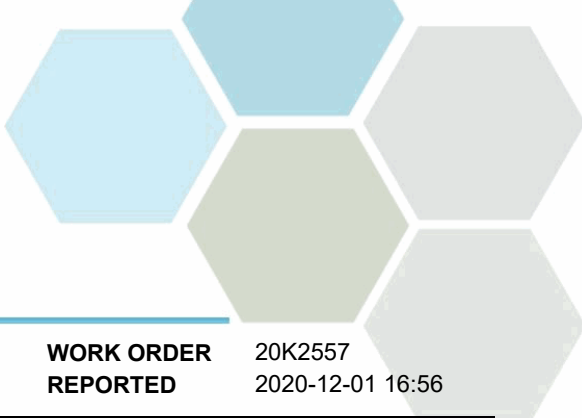
EPHw10-19	13700	250 µg/L	15500		88	70-117	7	20	
EPHw19-32	19200	250 µg/L	22100		87	70-113	8	20	
Surrogate: 2-Methylnonane (EPH/F2-4)	355	µg/L	444		80	60-126			

Dissolved Metals, Batch B0K2444

Blank (B0K2444-BLK1)

Prepared: 2020-11-27, Analyzed: 2020-11-27

Lithium, dissolved	< 0.00010	0.00010 mg/L							
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	< 0.0500	0.0500 mg/L							
Cadmium, dissolved	< 0.000010	0.000010 mg/L							
Calcium, dissolved	< 0.20	0.20 mg/L							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
---------	--------	----------	-------------	---------------	-------	-----------	-------	-----------	-----------

Dissolved Metals, Batch B0K2444, Continued

Blank (B0K2444-BLK1), Continued

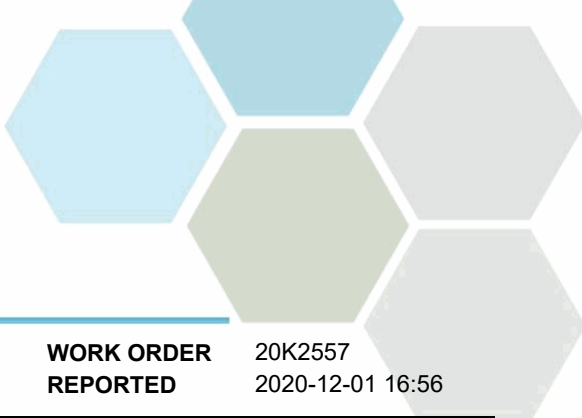
Prepared: 2020-11-27, Analyzed: 2020-11-27

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							
Magnesium, dissolved	< 0.010	0.010 mg/L							
Manganese, dissolved	< 0.00020	0.00020 mg/L							
Molybdenum, dissolved	< 0.00010	0.00010 mg/L							
Nickel, dissolved	< 0.00040	0.00040 mg/L							
Phosphorus, dissolved	< 0.050	0.050 mg/L							
Potassium, dissolved	< 0.10	0.10 mg/L							
Selenium, dissolved	< 0.00050	0.00050 mg/L							
Silicon, dissolved	< 1.0	1.0 mg/L							
Silver, dissolved	< 0.000050	0.000050 mg/L							
Sodium, dissolved	< 0.10	0.10 mg/L							
Strontium, dissolved	< 0.0010	0.0010 mg/L							
Sulfur, dissolved	< 3.0	3.0 mg/L							
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 (B0K2444-BS1)

Prepared: 2020-11-27, Analyzed: 2020-11-27

Lithium, dissolved	0.0211	0.00010 mg/L	0.0200		105	80-120			
Aluminum, dissolved	0.0212	0.0050 mg/L	0.0199		107	80-120			
Antimony, dissolved	0.0212	0.00020 mg/L	0.0200		106	80-120			
Arsenic, dissolved	0.0209	0.00050 mg/L	0.0200		105	80-120			
Barium, dissolved	0.0202	0.0050 mg/L	0.0198		102	80-120			
Beryllium, dissolved	0.0203	0.00010 mg/L	0.0198		103	80-120			
Bismuth, dissolved	0.0212	0.00010 mg/L	0.0200		106	80-120			
Boron, dissolved	< 0.0500	0.0500 mg/L	0.0200		106	80-120			
Cadmium, dissolved	0.0201	0.000010 mg/L	0.0199		101	80-120			
Calcium, dissolved	2.28	0.20 mg/L	2.02		113	80-120			
Chromium, dissolved	0.0208	0.00050 mg/L	0.0198		105	80-120			
Cobalt, dissolved	0.0203	0.00010 mg/L	0.0199		102	80-120			
Copper, dissolved	0.0208	0.00040 mg/L	0.0200		104	80-120			
Iron, dissolved	2.15	0.010 mg/L	2.02		106	80-120			
Lead, dissolved	0.0215	0.00020 mg/L	0.0199		108	80-120			
Magnesium, dissolved	2.17	0.010 mg/L	2.02		107	80-120			
Manganese, dissolved	0.0202	0.00020 mg/L	0.0199		101	80-120			
Molybdenum, dissolved	0.0197	0.00010 mg/L	0.0200		98	80-120			
Nickel, dissolved	0.0210	0.00040 mg/L	0.0200		105	80-120			
Phosphorus, dissolved	2.11	0.050 mg/L	2.00		106	80-120			
Potassium, dissolved	2.01	0.10 mg/L	2.02		99	80-120			
Selenium, dissolved	0.0204	0.00050 mg/L	0.0200		102	80-120			
Silicon, dissolved	1.6	1.0 mg/L	2.00		82	80-120			
Silver, dissolved	0.0196	0.000050 mg/L	0.0200		98	80-120			
Sodium, dissolved	2.07	0.10 mg/L	2.02		103	80-120			
Strontium, dissolved	0.0198	0.0010 mg/L	0.0200		99	80-120			
Sulfur, dissolved	4.7	3.0 mg/L	5.00		93	80-120			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
---------	--------	----------	-------------	---------------	-------	-----------	-------	-----------	-----------

Dissolved Metals, Batch B0K2444, Continued

LCS (B0K2444-BS1), Continued

Prepared: 2020-11-27, Analyzed: 2020-11-27

Tellurium, dissolved	0.0209	0.00050 mg/L	0.0200		105	80-120			
Thallium, dissolved	0.0206	0.000020 mg/L	0.0199		103	80-120			
Thorium, dissolved	0.0202	0.00010 mg/L	0.0200		101	80-120			
Tin, dissolved	0.0211	0.00020 mg/L	0.0200		105	80-120			
Titanium, dissolved	0.0202	0.0050 mg/L	0.0200		101	80-120			
Tungsten, dissolved	0.0215	0.0010 mg/L	0.0200		107	80-120			
Uranium, dissolved	0.0209	0.000020 mg/L	0.0200		105	80-120			
Vanadium, dissolved	0.0208	0.0010 mg/L	0.0200		104	80-120			
Zinc, dissolved	0.0240	0.0040 mg/L	0.0200		120	80-120			
Zirconium, dissolved	0.0203	0.00010 mg/L	0.0200		102	80-120			

Duplicate (B0K2444-DUP1)

Source: 20K2557-02

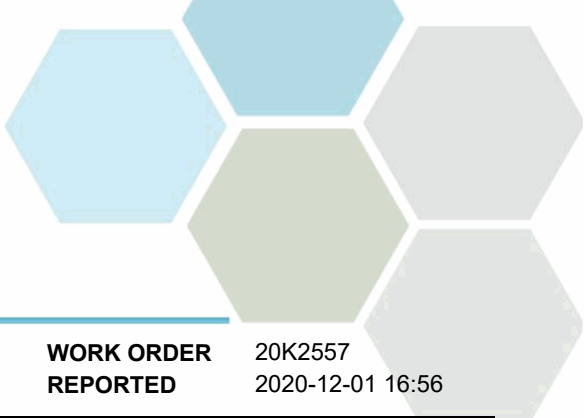
Prepared: 2020-11-27, Analyzed: 2020-11-27

Lithium, dissolved	0.00014	0.00010 mg/L		0.00011				20	
Aluminum, dissolved	< 0.0050	0.0050 mg/L		< 0.0050				20	
Antimony, dissolved	< 0.00020	0.00020 mg/L		< 0.00020				20	
Arsenic, dissolved	< 0.00050	0.00050 mg/L		< 0.00050				20	
Barium, dissolved	0.0194	0.0050 mg/L		0.0196				20	
Beryllium, dissolved	< 0.00010	0.00010 mg/L		< 0.00010				20	
Bismuth, dissolved	< 0.00010	0.00010 mg/L		< 0.00010				20	
Boron, dissolved	< 0.0500	0.0500 mg/L		< 0.0500				20	
Cadmium, dissolved	0.000013	0.000010 mg/L		0.000014				20	
Calcium, dissolved	109	0.20 mg/L		109			< 1	20	
Chromium, dissolved	< 0.00050	0.00050 mg/L		< 0.00050				20	
Cobalt, dissolved	< 0.00010	0.00010 mg/L		< 0.00010				20	
Copper, dissolved	0.00097	0.00040 mg/L		0.00091				20	
Iron, dissolved	< 0.010	0.010 mg/L		< 0.010				20	
Lead, dissolved	< 0.00020	0.00020 mg/L		< 0.00020				20	
Magnesium, dissolved	13.5	0.010 mg/L		13.4			< 1	20	
Manganese, dissolved	0.00666	0.00020 mg/L		0.00659			1	20	
Molybdenum, dissolved	0.00098	0.00010 mg/L		0.00089			9	20	
Nickel, dissolved	< 0.00040	0.00040 mg/L		< 0.00040				20	
Phosphorus, dissolved	< 0.050	0.050 mg/L		< 0.050				20	
Potassium, dissolved	0.92	0.10 mg/L		0.92			< 1	20	
Selenium, dissolved	< 0.00050	0.00050 mg/L		< 0.00050				20	
Silicon, dissolved	5.2	1.0 mg/L		5.3			2	20	
Silver, dissolved	< 0.000050	0.000050 mg/L		< 0.000050				20	
Sodium, dissolved	10.7	0.10 mg/L		10.8			< 1	20	
Strontium, dissolved	0.282	0.0010 mg/L		0.279			< 1	20	
Sulfur, dissolved	57.5	3.0 mg/L		56.1			3	20	
Tellurium, dissolved	< 0.00050	0.00050 mg/L		< 0.00050				20	
Thallium, dissolved	< 0.000020	0.000020 mg/L		< 0.000020				20	
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	0.0041	0.0010 mg/L		0.0040				20	
Uranium, dissolved	0.00156	0.000020 mg/L		0.00155			< 1	20	
Vanadium, dissolved	< 0.0010	0.0010 mg/L		0.0010				20	
Zinc, dissolved	< 0.0040	0.0040 mg/L		< 0.0040				20	
Zirconium, dissolved	< 0.00010	0.00010 mg/L		< 0.00010				20	

Reference (B0K2444-SRM1)

Prepared: 2020-11-27, Analyzed: 2020-11-27

Lithium, dissolved	0.112	0.00010 mg/L	0.100		112	70-130			
Aluminum, dissolved	0.245	0.0050 mg/L	0.235		104	70-130			
Antimony, dissolved	0.0489	0.00020 mg/L	0.0431		113	70-130			
Arsenic, dissolved	0.472	0.00050 mg/L	0.423		112	70-130			
Barium, dissolved	3.14	0.0050 mg/L	3.30		95	70-130			
Beryllium, dissolved	0.227	0.00010 mg/L	0.209		108	70-130			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Dissolved Metals, Batch B0K2444, Continued									
Reference (B0K2444-SRM1), Continued					Prepared: 2020-11-27, Analyzed: 2020-11-27				
Boron, dissolved	1.70	0.0500 mg/L	1.65		103	70-130			
Cadmium, dissolved	0.231	0.000010 mg/L	0.221		105	70-130			
Calcium, dissolved	7.96	0.20 mg/L	7.72		103	70-130			
Chromium, dissolved	0.451	0.00050 mg/L	0.434		104	70-130			
Cobalt, dissolved	0.131	0.00010 mg/L	0.124		106	70-130			
Copper, dissolved	0.865	0.00040 mg/L	0.815		106	70-130			
Iron, dissolved	1.35	0.010 mg/L	1.27		106	70-130			
Lead, dissolved	0.119	0.00020 mg/L	0.110		108	70-130			
Magnesium, dissolved	7.37	0.010 mg/L	6.59		112	70-130			
Manganese, dissolved	0.357	0.00020 mg/L	0.342		104	70-130			
Molybdenum, dissolved	0.417	0.00010 mg/L	0.404		103	70-130			
Nickel, dissolved	0.898	0.00040 mg/L	0.835		108	70-130			
Phosphorus, dissolved	0.562	0.050 mg/L	0.499		113	70-130			
Potassium, dissolved	3.12	0.10 mg/L	2.88		108	70-130			
Selenium, dissolved	0.0355	0.00050 mg/L	0.0324		110	70-130			
Sodium, dissolved	17.8	0.10 mg/L	18.0		99	70-130			
Strontium, dissolved	0.948	0.0010 mg/L	0.935		101	70-130			
Thallium, dissolved	0.0398	0.000020 mg/L	0.0385		103	70-130			
Uranium, dissolved	0.251	0.000020 mg/L	0.258		97	70-130			
Vanadium, dissolved	0.893	0.0010 mg/L	0.873		102	70-130			
Zinc, dissolved	0.924	0.0040 mg/L	0.848		109	70-130			

General Parameters, Batch B0K2220

Blank (B0K2220-BLK1)					Prepared: 2020-11-25, Analyzed: 2020-11-25				
Solids, Total Suspended	< 2.0	2.0 mg/L							
LCS (B0K2220-BS1)					Prepared: 2020-11-25, Analyzed: 2020-11-25				
Solids, Total Suspended	96.0	10.0 mg/L	100		96	85-115			

General Parameters, Batch B0K2245

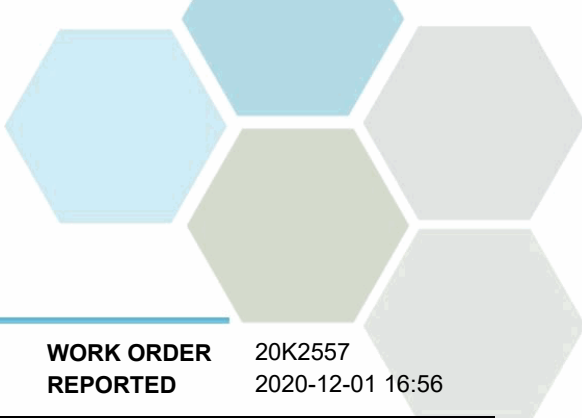
Blank (B0K2245-BLK1)					Prepared: 2020-11-25, Analyzed: 2020-11-25				
Turbidity	< 0.10	0.10 NTU							
LCS (B0K2245-BS1)					Prepared: 2020-11-25, Analyzed: 2020-11-25				
Turbidity	38.6	0.10 NTU	40.0		96	90-110			

General Parameters, Batch B0K2304

Blank (B0K2304-BLK1)					Prepared: 2020-11-26, Analyzed: 2020-11-26				
Solids, Total Dissolved	< 15	15 mg/L							
LCS (B0K2304-BS1)					Prepared: 2020-11-26, Analyzed: 2020-11-26				
Solids, Total Dissolved	224	15 mg/L	240		93	85-115			

General Parameters, Batch B0K2411

Blank (B0K2411-BLK1)					Prepared: 2020-11-27, Analyzed: 2020-11-27				
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							
Conductivity (EC)	< 2.0	2.0 µS/cm							



APPENDIX 2: QUALITY CONTROL RESULTS

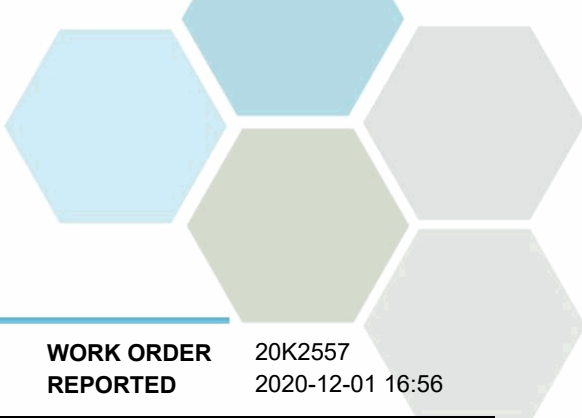
REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B0K2411, Continued									
Blank (B0K2411-BLK2)					Prepared: 2020-11-27, Analyzed: 2020-11-27				
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							
Conductivity (EC)	< 2.0	2.0 µS/cm							
LCS (B0K2411-BS1)					Prepared: 2020-11-27, Analyzed: 2020-11-27				
Alkalinity, Total (as CaCO3)	101	1.0 mg/L	100		101	80-120			
LCS (B0K2411-BS2)					Prepared: 2020-11-27, Analyzed: 2020-11-27				
Alkalinity, Total (as CaCO3)	103	1.0 mg/L	100		103	80-120			
LCS (B0K2411-BS3)					Prepared: 2020-11-27, Analyzed: 2020-11-27				
Conductivity (EC)	1420	2.0 µS/cm	1410		101	95-104			
LCS (B0K2411-BS4)					Prepared: 2020-11-27, Analyzed: 2020-11-27				
Conductivity (EC)	1470	2.0 µS/cm	1410		104	95-104			
Reference (B0K2411-SRM1)					Prepared: 2020-11-27, Analyzed: 2020-11-27				
pH	6.99	0.10 pH units	7.01		100	98-102			
Reference (B0K2411-SRM2)					Prepared: 2020-11-27, Analyzed: 2020-11-27				
pH	6.99	0.10 pH units	7.01		100	98-102			

Polycyclic Aromatic Hydrocarbons (PAH), Batch B0K2498

Blank (B0K2498-BLK1)					Prepared: 2020-11-27, Analyzed: 2020-11-27				
Acenaphthene	< 0.050	0.050 µg/L							
Acenaphthylene	< 0.200	0.200 µg/L							
Acridine	< 0.050	0.050 µg/L							
Anthracene	< 0.010	0.010 µg/L							
Benz(a)anthracene	< 0.010	0.010 µg/L							
Benzo(a)pyrene	< 0.010	0.010 µg/L							
Benzo(b+j)fluoranthene	< 0.050	0.050 µg/L							
Benzo(g,h,i)perylene	< 0.050	0.050 µg/L							
Benzo(k)fluoranthene	< 0.050	0.050 µg/L							
2-Chloronaphthalene	< 0.100	0.100 µg/L							
Chrysene	< 0.050	0.050 µg/L							
Dibenz(a,h)anthracene	< 0.010	0.010 µg/L							
Fluoranthene	< 0.030	0.030 µg/L							
Fluorene	< 0.050	0.050 µg/L							
Indeno(1,2,3-cd)pyrene	< 0.050	0.050 µg/L							
1-Methylnaphthalene	< 0.100	0.100 µg/L							
2-Methylnaphthalene	< 0.100	0.100 µg/L							
Naphthalene	< 0.200	0.200 µg/L							
Phenanthrene	< 0.100	0.100 µg/L							
Pyrene	< 0.020	0.020 µg/L							
Quinoline	< 0.050	0.050 µg/L							
Surrogate: Acridine-d9	0.341	µg/L	0.464		73	50-140			
Surrogate: Naphthalene-d8	4.21	µg/L	4.47		94	50-140			
Surrogate: Perylene-d12	3.83	µg/L	4.47		86	50-140			
LCS (B0K2498-BS1)					Prepared: 2020-11-27, Analyzed: 2020-11-27				
Acenaphthene	3.86	0.050 µg/L	4.44		87	55-137			
Acenaphthylene	4.02	0.200 µg/L	4.44		91	53-140			
Acridine	3.10	0.050 µg/L	4.44		70	50-120			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
---------	--------	----------	-------------	---------------	-------	-----------	-------	-----------	-----------

Polycyclic Aromatic Hydrocarbons (PAH), Batch B0K2498, Continued

LCS (B0K2498-BS1), Continued

Prepared: 2020-11-27, Analyzed: 2020-11-27

Anthracene	4.00	0.010 µg/L	4.44		90	64-130			
Benz(a)anthracene	3.52	0.010 µg/L	4.44		79	57-140			
Benzo(a)pyrene	3.61	0.010 µg/L	4.44		81	63-133			
Benzo(b+j)fluoranthene	6.91	0.050 µg/L	8.89		78	60-129			
Benzo(g,h,i)perylene	3.74	0.050 µg/L	4.44		84	52-139			
Benzo(k)fluoranthene	3.51	0.050 µg/L	4.44		79	50-138			
2-Chloronaphthalene	4.16	0.100 µg/L	4.38		95	50-139			
Chrysene	3.49	0.050 µg/L	4.44		78	59-140			
Dibenz(a,h)anthracene	3.70	0.010 µg/L	4.44		83	53-136			
Fluoranthene	5.10	0.030 µg/L	4.44		115	67-135			
Fluorene	3.97	0.050 µg/L	4.44		89	57-134			
Indeno(1,2,3-cd)pyrene	3.17	0.050 µg/L	4.44		71	52-129			
1-Methylnaphthalene	4.31	0.100 µg/L	4.44		97	50-140			
2-Methylnaphthalene	4.13	0.100 µg/L	4.44		93	50-140			
Naphthalene	3.99	0.200 µg/L	4.44		90	50-140			
Phenanthrene	4.15	0.100 µg/L	4.44		93	61-134			
Pyrene	5.05	0.020 µg/L	4.44		114	66-131			
Quinoline	2.84	0.050 µg/L	4.44		64	50-140			
Surrogate: Acridine-d9	0.368	µg/L	0.464		79	50-140			
Surrogate: Naphthalene-d8	4.45	µg/L	4.47		100	50-140			
Surrogate: Perylene-d12	3.87	µg/L	4.47		87	50-140			

LCS Dup (B0K2498-BS1)

Prepared: 2020-11-27, Analyzed: 2020-11-27

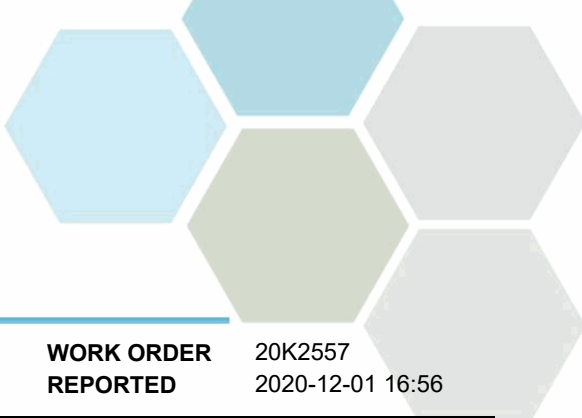
Acenaphthene	4.04	0.050 µg/L	4.44		91	55-137	5	18	
Acenaphthylene	4.23	0.200 µg/L	4.44		95	53-140	5	20	
Acridine	2.95	0.050 µg/L	4.44		66	50-120	5	30	
Anthracene	4.21	0.010 µg/L	4.44		95	64-130	5	15	
Benz(a)anthracene	3.32	0.010 µg/L	4.44		75	57-140	6	25	
Benzo(a)pyrene	3.49	0.010 µg/L	4.44		78	63-133	3	18	
Benzo(b+j)fluoranthene	6.64	0.050 µg/L	8.89		75	60-129	4	17	
Benzo(g,h,i)perylene	3.72	0.050 µg/L	4.44		84	52-139	< 1	22	
Benzo(k)fluoranthene	3.37	0.050 µg/L	4.44		76	50-138	4	26	
2-Chloronaphthalene	4.31	0.100 µg/L	4.38		98	50-139	4	23	
Chrysene	3.29	0.050 µg/L	4.44		74	59-140	6	23	
Dibenz(a,h)anthracene	3.59	0.010 µg/L	4.44		81	53-136	3	21	
Fluoranthene	5.15	0.030 µg/L	4.44		116	67-135	1	18	
Fluorene	4.18	0.050 µg/L	4.44		94	57-134	5	18	
Indeno(1,2,3-cd)pyrene	3.11	0.050 µg/L	4.44		70	52-129	2	21	
1-Methylnaphthalene	4.47	0.100 µg/L	4.44		101	50-140	4	20	
2-Methylnaphthalene	4.32	0.100 µg/L	4.44		97	50-140	4	21	
Naphthalene	4.15	0.200 µg/L	4.44		93	50-140	4	22	
Phenanthrene	4.42	0.100 µg/L	4.44		99	61-134	6	17	
Pyrene	5.20	0.020 µg/L	4.44		117	66-131	3	19	
Quinoline	2.94	0.050 µg/L	4.44		66	50-140	4	14	
Surrogate: Acridine-d9	0.307	µg/L	0.464		66	50-140			
Surrogate: Naphthalene-d8	4.51	µg/L	4.47		101	50-140			
Surrogate: Perylene-d12	3.62	µg/L	4.47		81	50-140			

Polycyclic Aromatic Hydrocarbons (PAH), Batch B0K2542

Blank (B0K2542-BLK1)

Prepared: 2020-11-28, Analyzed: 2020-11-30

Acenaphthene	< 0.050	0.050 µg/L							
Acenaphthylene	< 0.200	0.200 µg/L							
Acridine	< 0.050	0.050 µg/L							
Anthracene	< 0.010	0.010 µg/L							
Benz(a)anthracene	< 0.010	0.010 µg/L							

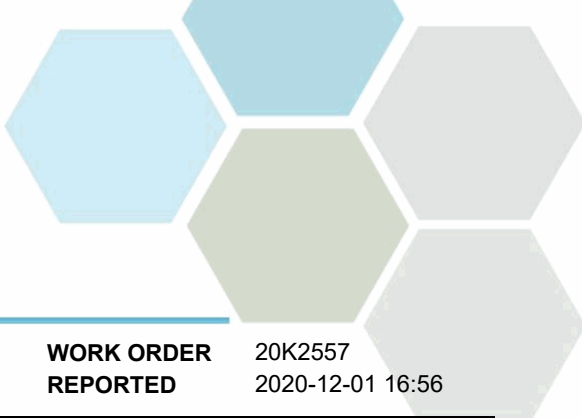


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Polycyclic Aromatic Hydrocarbons (PAH), Batch B0K2542, Continued									
Blank (B0K2542-BLK1), Continued					Prepared: 2020-11-28, Analyzed: 2020-11-30				
Benzo(a)pyrene	< 0.010	0.010 µg/L							
Benzo(b+j)fluoranthene	< 0.050	0.050 µg/L							
Benzo(g,h,i)perylene	< 0.050	0.050 µg/L							
Benzo(k)fluoranthene	< 0.050	0.050 µg/L							
2-Chloronaphthalene	< 0.100	0.100 µg/L							
Chrysene	< 0.050	0.050 µg/L							
Dibenz(a,h)anthracene	< 0.010	0.010 µg/L							
Fluoranthene	< 0.030	0.030 µg/L							
Fluorene	< 0.050	0.050 µg/L							
Indeno(1,2,3-cd)pyrene	< 0.050	0.050 µg/L							
1-Methylnaphthalene	< 0.100	0.100 µg/L							
2-Methylnaphthalene	< 0.100	0.100 µg/L							
Naphthalene	< 0.200	0.200 µg/L							
Phenanthrene	< 0.100	0.100 µg/L							
Pyrene	< 0.020	0.020 µg/L							
Quinoline	< 0.050	0.050 µg/L							
Surrogate: Acridine-d9	0.754	µg/L	0.464		162	50-140			S02
Surrogate: Naphthalene-d8	5.71	µg/L	4.47		128	50-140			
Surrogate: Perylene-d12	4.43	µg/L	4.47		99	50-140			
LCS (B0K2542-BS1)					Prepared: 2020-11-28, Analyzed: 2020-11-28				
Acenaphthene	3.54	0.050 µg/L	4.44		80	55-137			
Acenaphthylene	3.71	0.200 µg/L	4.44		84	53-140			
Acridine	3.61	0.050 µg/L	4.44		81	50-120			
Anthracene	3.93	0.010 µg/L	4.44		88	64-130			
Benz(a)anthracene	3.58	0.010 µg/L	4.44		81	57-140			
Benzo(a)pyrene	3.72	0.010 µg/L	4.44		84	63-133			
Benzo(b+j)fluoranthene	6.73	0.050 µg/L	8.89		76	60-129			
Benzo(g,h,i)perylene	3.92	0.050 µg/L	4.44		88	52-139			
Benzo(k)fluoranthene	3.64	0.050 µg/L	4.44		82	50-138			
2-Chloronaphthalene	3.75	0.100 µg/L	4.38		86	50-139			
Chrysene	3.53	0.050 µg/L	4.44		79	59-140			
Dibenz(a,h)anthracene	3.90	0.010 µg/L	4.44		88	53-136			
Fluoranthene	4.76	0.030 µg/L	4.44		107	67-135			
Fluorene	3.68	0.050 µg/L	4.44		83	57-134			
Indeno(1,2,3-cd)pyrene	3.24	0.050 µg/L	4.44		73	52-129			
1-Methylnaphthalene	3.88	0.100 µg/L	4.44		87	50-140			
2-Methylnaphthalene	3.75	0.100 µg/L	4.44		84	50-140			
Naphthalene	3.69	0.200 µg/L	4.44		83	50-140			
Phenanthrene	4.14	0.100 µg/L	4.44		93	61-134			
Pyrene	5.62	0.020 µg/L	4.44		127	66-131			
Quinoline	2.93	0.050 µg/L	4.44		66	50-140			
Surrogate: Acridine-d9	0.407	µg/L	0.464		88	50-140			
Surrogate: Naphthalene-d8	3.96	µg/L	4.47		89	50-140			
Surrogate: Perylene-d12	3.83	µg/L	4.47		86	50-140			
LCS Dup (B0K2542-BSD1)					Prepared: 2020-11-28, Analyzed: 2020-11-28				
Acenaphthene	3.75	0.050 µg/L	4.44		84	55-137	6	18	
Acenaphthylene	4.00	0.200 µg/L	4.44		90	53-140	7	20	
Acridine	3.51	0.050 µg/L	4.44		79	50-120	3	30	
Anthracene	4.17	0.010 µg/L	4.44		94	64-130	6	15	
Benz(a)anthracene	3.57	0.010 µg/L	4.44		80	57-140	< 1	25	
Benzo(a)pyrene	3.68	0.010 µg/L	4.44		83	63-133	1	18	
Benzo(b+j)fluoranthene	6.99	0.050 µg/L	8.89		79	60-129	4	17	
Benzo(g,h,i)perylene	3.62	0.050 µg/L	4.44		81	52-139	8	22	
Benzo(k)fluoranthene	3.60	0.050 µg/L	4.44		81	50-138	1	26	



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

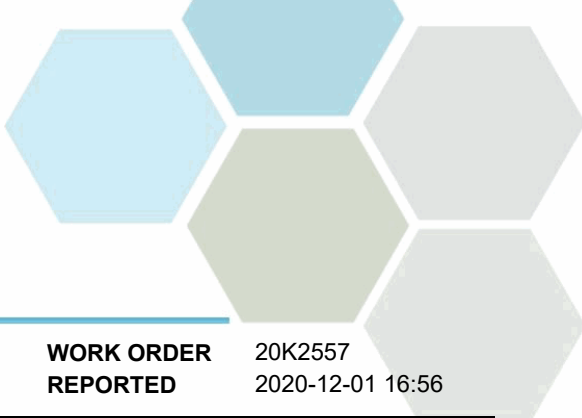
WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Polycyclic Aromatic Hydrocarbons (PAH), Batch B0K2542, Continued									
LCS Dup (B0K2542-BSD1), Continued					Prepared: 2020-11-28, Analyzed: 2020-11-28				
2-Chloronaphthalene	4.17	0.100 µg/L	4.38		95	50-139	11	23	
Chrysene	3.53	0.050 µg/L	4.44		79	59-140	< 1	23	
Dibenz(a,h)anthracene	3.75	0.010 µg/L	4.44		84	53-136	4	21	
Fluoranthene	5.29	0.030 µg/L	4.44		119	67-135	10	18	
Fluorene	3.88	0.050 µg/L	4.44		87	57-134	5	18	
Indeno(1,2,3-cd)pyrene	3.58	0.050 µg/L	4.44		81	52-129	10	21	
1-Methylnaphthalene	4.31	0.100 µg/L	4.44		97	50-140	11	20	
2-Methylnaphthalene	4.24	0.100 µg/L	4.44		95	50-140	12	21	
Naphthalene	4.09	0.200 µg/L	4.44		92	50-140	10	22	
Phenanthrene	4.29	0.100 µg/L	4.44		97	61-134	4	17	
Pyrene	5.23	0.020 µg/L	4.44		118	66-131	7	19	
Quinoline	2.94	0.050 µg/L	4.44		66	50-140	< 1	14	
Surrogate: Acridine-d9	0.388	µg/L	0.464		84	50-140			
Surrogate: Naphthalene-d8	4.47	µg/L	4.47		100	50-140			
Surrogate: Perylene-d12	3.81	µg/L	4.47		85	50-140			

Polycyclic Aromatic Hydrocarbons (PAH), Batch B0K2579

Blank (B0K2579-BLK1)					Prepared: 2020-11-29, Analyzed: 2020-11-30				
Acenaphthene	< 0.050	0.050 µg/L							
Acenaphthylene	< 0.200	0.200 µg/L							
Acridine	< 0.050	0.050 µg/L							
Anthracene	< 0.010	0.010 µg/L							
Benz(a)anthracene	< 0.010	0.010 µg/L							
Benzo(a)pyrene	< 0.010	0.010 µg/L							
Benzo(b+j)fluoranthene	< 0.050	0.050 µg/L							
Benzo(g,h,i)perylene	< 0.050	0.050 µg/L							
Benzo(k)fluoranthene	< 0.050	0.050 µg/L							
2-Chloronaphthalene	< 0.100	0.100 µg/L							
Chrysene	< 0.050	0.050 µg/L							
Dibenz(a,h)anthracene	< 0.010	0.010 µg/L							
Fluoranthene	< 0.030	0.030 µg/L							
Fluorene	< 0.050	0.050 µg/L							
Indeno(1,2,3-cd)pyrene	< 0.050	0.050 µg/L							
1-Methylnaphthalene	< 0.100	0.100 µg/L							
2-Methylnaphthalene	< 0.100	0.100 µg/L							
Naphthalene	< 0.200	0.200 µg/L							
Phenanthrene	< 0.100	0.100 µg/L							
Pyrene	< 0.020	0.020 µg/L							
Quinoline	< 0.050	0.050 µg/L							
Surrogate: Acridine-d9	0.383	µg/L	0.464		82	50-140			
Surrogate: Naphthalene-d8	5.28	µg/L	4.47		118	50-140			
Surrogate: Perylene-d12	4.23	µg/L	4.47		95	50-140			

LCS (B0K2579-BS1)					Prepared: 2020-11-29, Analyzed: 2020-11-29				
Acenaphthene	4.30	0.050 µg/L	4.44		97	55-137			
Acenaphthylene	4.56	0.200 µg/L	4.44		103	53-140			
Acridine	3.83	0.050 µg/L	4.44		86	50-120			
Anthracene	4.46	0.010 µg/L	4.44		100	64-130			
Benz(a)anthracene	3.78	0.010 µg/L	4.44		85	57-140			
Benzo(a)pyrene	3.99	0.010 µg/L	4.44		90	63-133			
Benzo(b+j)fluoranthene	7.69	0.050 µg/L	8.89		86	60-129			
Benzo(g,h,i)perylene	4.21	0.050 µg/L	4.44		95	52-139			
Benzo(k)fluoranthene	3.76	0.050 µg/L	4.44		85	50-138			
2-Chloronaphthalene	4.53	0.100 µg/L	4.38		103	50-139			
Chrysene	3.80	0.050 µg/L	4.44		86	59-140			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
---------	--------	----------	-------------	---------------	-------	-----------	-------	-----------	-----------

Polycyclic Aromatic Hydrocarbons (PAH), Batch B0K2579, Continued

LCS (B0K2579-BS1), Continued

Prepared: 2020-11-29, Analyzed: 2020-11-29

Dibenz(a,h)anthracene	3.99	0.010 µg/L	4.44		90	53-136			
Fluoranthene	5.50	0.030 µg/L	4.44		124	67-135			
Fluorene	4.33	0.050 µg/L	4.44		97	57-134			
Indeno(1,2,3-cd)pyrene	3.99	0.050 µg/L	4.44		90	52-129			
1-Methylnaphthalene	4.76	0.100 µg/L	4.44		107	50-140			
2-Methylnaphthalene	4.63	0.100 µg/L	4.44		104	50-140			
Naphthalene	4.60	0.200 µg/L	4.44		104	50-140			
Phenanthrene	4.65	0.100 µg/L	4.44		105	61-134			
Pyrene	5.53	0.020 µg/L	4.44		124	66-131			
Quinoline	2.95	0.050 µg/L	4.44		66	50-140			
Surrogate: Acridine-d9	0.395	µg/L	0.464		85	50-140			
Surrogate: Naphthalene-d8	4.88	µg/L	4.47		109	50-140			
Surrogate: Perylene-d12	4.07	µg/L	4.47		91	50-140			

LCS Dup (B0K2579-BSD1)

Prepared: 2020-11-29, Analyzed: 2020-11-29

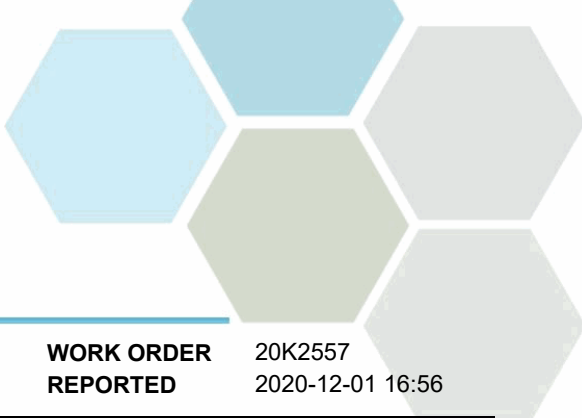
Acenaphthene	3.88	0.050 µg/L	4.44		87	55-137	10	18	
Acenaphthylene	4.08	0.200 µg/L	4.44		92	53-140	11	20	
Acridine	3.51	0.050 µg/L	4.44		79	50-120	9	30	
Anthracene	4.08	0.010 µg/L	4.44		92	64-130	9	15	
Benzo(a)anthracene	3.60	0.010 µg/L	4.44		81	57-140	5	25	
Benzo(a)pyrene	3.73	0.010 µg/L	4.44		84	63-133	7	18	
Benzo(b+j)fluoranthene	7.15	0.050 µg/L	8.89		80	60-129	7	17	
Benzo(g,h,i)perylene	3.77	0.050 µg/L	4.44		85	52-139	11	22	
Benzo(k)fluoranthene	3.65	0.050 µg/L	4.44		82	50-138	3	26	
2-Chloronaphthalene	4.17	0.100 µg/L	4.38		95	50-139	8	23	
Chrysene	3.58	0.050 µg/L	4.44		80	59-140	6	23	
Dibenz(a,h)anthracene	3.70	0.010 µg/L	4.44		83	53-136	8	21	
Fluoranthene	5.19	0.030 µg/L	4.44		117	67-135	6	18	
Fluorene	3.97	0.050 µg/L	4.44		89	57-134	9	18	
Indeno(1,2,3-cd)pyrene	3.32	0.050 µg/L	4.44		75	52-129	19	21	
1-Methylnaphthalene	4.34	0.100 µg/L	4.44		98	50-140	9	20	
2-Methylnaphthalene	4.18	0.100 µg/L	4.44		94	50-140	10	21	
Naphthalene	4.09	0.200 µg/L	4.44		92	50-140	12	22	
Phenanthrene	4.32	0.100 µg/L	4.44		97	61-134	7	17	
Pyrene	5.30	0.020 µg/L	4.44		119	66-131	4	19	
Quinoline	2.96	0.050 µg/L	4.44		67	50-140	< 1	14	
Surrogate: Acridine-d9	0.384	µg/L	0.464		83	50-140			
Surrogate: Naphthalene-d8	4.41	µg/L	4.47		99	50-140			
Surrogate: Perylene-d12	3.84	µg/L	4.47		86	50-140			

Total Metals, Batch B0K2516

Blank (B0K2516-BLK1)

Prepared: 2020-11-27, Analyzed: 2020-11-28

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	< 0.0500	0.0500 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							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
---------	--------	----------	-------------	---------------	-------	-----------	-------	-----------	-----------

Total Metals, Batch B0K2516, Continued

Blank (B0K2516-BLK1), Continued

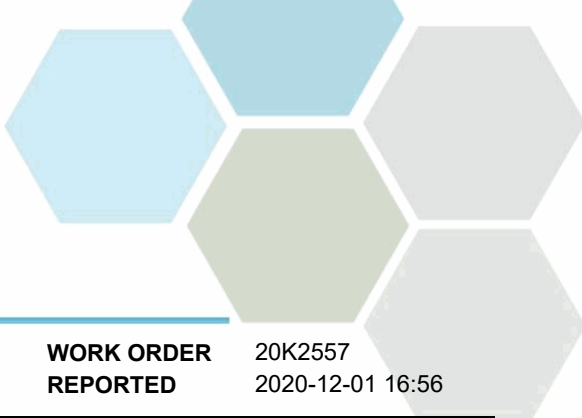
Prepared: 2020-11-27, Analyzed: 2020-11-28

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 (B0K2516-BLK2)

Prepared: 2020-11-27, Analyzed: 2020-11-28

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	< 0.0500	0.0500 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							

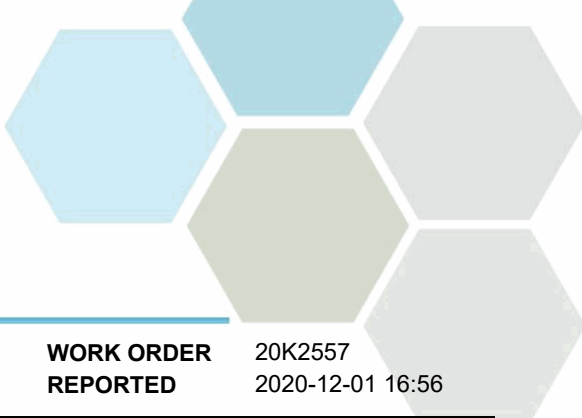


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B0K2516, Continued									
Blank (B0K2516-BLK2), Continued					Prepared: 2020-11-27, Analyzed: 2020-11-28				
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							BLK
Zinc, total	< 0.0040	0.0040 mg/L							
Zirconium, total	< 0.00010	0.00010 mg/L							
Blank (B0K2516-BLK3)					Prepared: 2020-11-27, Analyzed: 2020-11-28				
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	< 0.0500	0.0500 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	0.00024	0.00020 mg/L							BLK
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 (B0K2516-BLK4)					Prepared: 2020-11-27, Analyzed: 2020-11-28				
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	< 0.0500	0.0500 mg/L							
Cadmium, total	< 0.000010	0.000010 mg/L							
Calcium, total	< 0.20	0.20 mg/L							



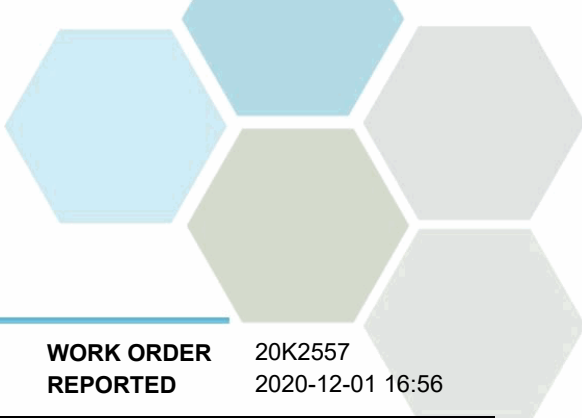
APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B0K2516, Continued									
Blank (B0K2516-BLK4), Continued					Prepared: 2020-11-27, Analyzed: 2020-11-28				
Chromium, total	< 0.00050	0.00050 mg/L							
Cobalt, total	< 0.00010	0.00010 mg/L							
Copper, total	< 0.00040	0.00040 mg/L							
Iron, total	< 0.010	0.010 mg/L							
Lead, total	< 0.00020	0.00020 mg/L							
Lithium, total	< 0.00010	0.00010 mg/L							
Magnesium, total	< 0.010	0.010 mg/L							
Manganese, total	< 0.00020	0.00020 mg/L							
Molybdenum, total	< 0.00010	0.00010 mg/L							
Nickel, total	< 0.00040	0.00040 mg/L							
Phosphorus, total	< 0.050	0.050 mg/L							
Potassium, total	< 0.10	0.10 mg/L							
Selenium, total	< 0.00050	0.00050 mg/L							
Silicon, total	< 1.0	1.0 mg/L							
Silver, total	< 0.000050	0.000050 mg/L							
Sodium, total	< 0.10	0.10 mg/L							
Strontium, total	< 0.0010	0.0010 mg/L							
Sulfur, total	< 3.0	3.0 mg/L							
Tellurium, total	< 0.00050	0.00050 mg/L							
Thallium, total	< 0.000020	0.000020 mg/L							
Thorium, total	< 0.00010	0.00010 mg/L							
Tin, total	< 0.00020	0.00020 mg/L							
Titanium, total	< 0.0050	0.0050 mg/L							
Tungsten, total	< 0.0010	0.0010 mg/L							
Uranium, total	< 0.000020	0.000020 mg/L							
Vanadium, total	< 0.0010	0.0010 mg/L							
Zinc, total	< 0.0040	0.0040 mg/L							
Zirconium, total	< 0.00010	0.00010 mg/L							

LCS (B0K2516-BS1)				Prepared: 2020-11-27, Analyzed: 2020-11-28					
Aluminum, total	0.0206	0.0050 mg/L	0.0199		104	80-120			
Antimony, total	0.0217	0.00020 mg/L	0.0200		109	80-120			
Arsenic, total	0.0206	0.00050 mg/L	0.0200		103	80-120			
Barium, total	0.0188	0.0050 mg/L	0.0198		95	80-120			
Beryllium, total	0.0206	0.00010 mg/L	0.0198		104	80-120			
Bismuth, total	0.0206	0.00010 mg/L	0.0200		103	80-120			
Boron, total	< 0.0500	0.0500 mg/L	0.0200		106	80-120			
Cadmium, total	0.0194	0.000010 mg/L	0.0199		97	80-120			
Calcium, total	2.29	0.20 mg/L	2.02		114	80-120			
Chromium, total	0.0197	0.00050 mg/L	0.0198		100	80-120			
Cobalt, total	0.0195	0.00010 mg/L	0.0199		98	80-120			
Copper, total	0.0202	0.00040 mg/L	0.0200		101	80-120			
Iron, total	1.96	0.010 mg/L	2.02		97	80-120			
Lead, total	0.0204	0.00020 mg/L	0.0199		103	80-120			
Lithium, total	0.0205	0.00010 mg/L	0.0200		103	80-120			
Magnesium, total	2.17	0.010 mg/L	2.02		108	80-120			
Manganese, total	0.0197	0.00020 mg/L	0.0199		99	80-120			
Molybdenum, total	0.0198	0.00010 mg/L	0.0200		99	80-120			
Nickel, total	0.0198	0.00040 mg/L	0.0200		99	80-120			
Phosphorus, total	2.05	0.050 mg/L	2.00		103	80-120			
Potassium, total	2.02	0.10 mg/L	2.02		100	80-120			
Selenium, total	0.0209	0.00050 mg/L	0.0200		105	80-120			
Silicon, total	2.2	1.0 mg/L	2.00		108	80-120			
Silver, total	0.0190	0.000050 mg/L	0.0200		95	80-120			
Sodium, total	2.11	0.10 mg/L	2.02		105	80-120			
Strontium, total	0.0194	0.0010 mg/L	0.0200		97	80-120			



APPENDIX 2: QUALITY CONTROL RESULTS

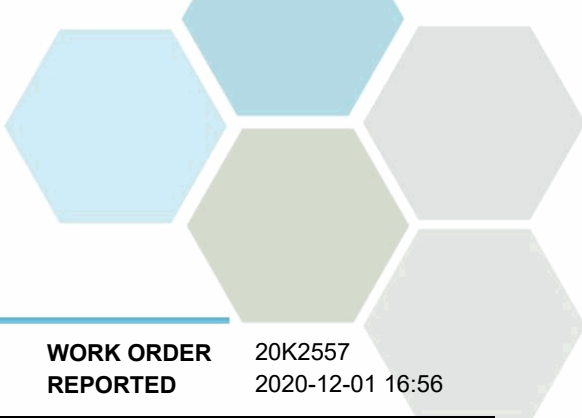
REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B0K2516, Continued									
LCS (B0K2516-BS1), Continued					Prepared: 2020-11-27, Analyzed: 2020-11-28				
Sulfur, total	5.3	3.0 mg/L	5.00		107	80-120			
Tellurium, total	0.0201	0.00050 mg/L	0.0200		100	80-120			
Thallium, total	0.0196	0.000020 mg/L	0.0199		99	80-120			
Thorium, total	0.0198	0.00010 mg/L	0.0200		99	80-120			
Tin, total	0.0206	0.00020 mg/L	0.0200		103	80-120			
Titanium, total	0.0191	0.0050 mg/L	0.0200		95	80-120			
Tungsten, total	0.0208	0.0010 mg/L	0.0200		104	80-120			
Uranium, total	0.0202	0.000020 mg/L	0.0200		101	80-120			
Vanadium, total	0.0193	0.0010 mg/L	0.0200		96	80-120			
Zinc, total	0.0211	0.0040 mg/L	0.0200		106	80-120			
Zirconium, total	0.0204	0.00010 mg/L	0.0200		102	80-120			

LCS (B0K2516-BS2)					Prepared: 2020-11-27, Analyzed: 2020-11-28				
Aluminum, total	0.0223	0.0050 mg/L	0.0199		112	80-120			
Antimony, total	0.0224	0.00020 mg/L	0.0200		112	80-120			
Arsenic, total	0.0209	0.00050 mg/L	0.0200		104	80-120			
Barium, total	0.0211	0.0050 mg/L	0.0198		107	80-120			
Beryllium, total	0.0210	0.00010 mg/L	0.0198		106	80-120			
Bismuth, total	0.0216	0.00010 mg/L	0.0200		108	80-120			
Boron, total	< 0.0500	0.0500 mg/L	0.0200		119	80-120			
Cadmium, total	0.0203	0.000010 mg/L	0.0199		102	80-120			
Calcium, total	2.29	0.20 mg/L	2.02		113	80-120			
Chromium, total	0.0201	0.00050 mg/L	0.0198		101	80-120			
Cobalt, total	0.0198	0.00010 mg/L	0.0199		100	80-120			
Copper, total	0.0202	0.00040 mg/L	0.0200		101	80-120			
Iron, total	1.96	0.010 mg/L	2.02		97	80-120			
Lead, total	0.0215	0.00020 mg/L	0.0199		108	80-120			
Lithium, total	0.0219	0.00010 mg/L	0.0200		109	80-120			
Magnesium, total	2.23	0.010 mg/L	2.02		111	80-120			
Manganese, total	0.0199	0.00020 mg/L	0.0199		100	80-120			
Molybdenum, total	0.0203	0.00010 mg/L	0.0200		101	80-120			
Nickel, total	0.0201	0.00040 mg/L	0.0200		101	80-120			
Phosphorus, total	1.95	0.050 mg/L	2.00		98	80-120			
Potassium, total	2.01	0.10 mg/L	2.02		99	80-120			
Selenium, total	0.0208	0.00050 mg/L	0.0200		104	80-120			
Silicon, total	2.2	1.0 mg/L	2.00		112	80-120			
Silver, total	0.0197	0.000050 mg/L	0.0200		98	80-120			
Sodium, total	2.14	0.10 mg/L	2.02		106	80-120			
Strontium, total	0.0199	0.0010 mg/L	0.0200		100	80-120			
Sulfur, total	5.0	3.0 mg/L	5.00		100	80-120			
Tellurium, total	0.0211	0.00050 mg/L	0.0200		106	80-120			
Thallium, total	0.0207	0.000020 mg/L	0.0199		104	80-120			
Thorium, total	0.0208	0.00010 mg/L	0.0200		104	80-120			
Tin, total	0.0224	0.00020 mg/L	0.0200		112	80-120			
Titanium, total	0.0216	0.0050 mg/L	0.0200		108	80-120			
Tungsten, total	0.0223	0.0010 mg/L	0.0200		112	80-120			
Uranium, total	0.0213	0.000020 mg/L	0.0200		107	80-120			
Vanadium, total	0.0212	0.0010 mg/L	0.0200		106	80-120			
Zinc, total	0.0215	0.0040 mg/L	0.0200		108	80-120			
Zirconium, total	0.0207	0.00010 mg/L	0.0200		103	80-120			

Reference (B0K2516-SRM1)					Prepared: 2020-11-27, Analyzed: 2020-11-28				
Aluminum, total	0.323	0.0050 mg/L	0.299		108	70-130			
Antimony, total	0.0548	0.00020 mg/L	0.0517		106	70-130			
Arsenic, total	0.130	0.00050 mg/L	0.119		109	70-130			
Barium, total	0.790	0.0050 mg/L	0.801		99	70-130			
Beryllium, total	0.0546	0.00010 mg/L	0.0501		109	70-130			

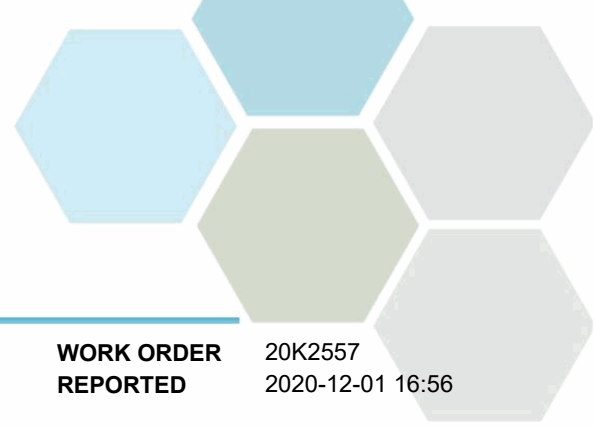


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20K2557
2020-12-01 16:56

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B0K2516, Continued									
Reference (B0K2516-SRM1), Continued					Prepared: 2020-11-27, Analyzed: 2020-11-28				
Boron, total	3.98	0.0500 mg/L	4.11		97	70-130			
Cadmium, total	0.0509	0.000010 mg/L	0.0503		101	70-130			
Calcium, total	10.9	0.20 mg/L	10.7		102	70-130			
Chromium, total	0.256	0.00050 mg/L	0.250		102	70-130			
Cobalt, total	0.0399	0.00010 mg/L	0.0384		104	70-130			
Copper, total	0.505	0.00040 mg/L	0.487		104	70-130			
Iron, total	0.515	0.010 mg/L	0.504		102	70-130			
Lead, total	0.286	0.00020 mg/L	0.278		103	70-130			
Lithium, total	0.440	0.00010 mg/L	0.398		111	70-130			
Magnesium, total	4.15	0.010 mg/L	3.59		116	70-130			
Manganese, total	0.113	0.00020 mg/L	0.111		102	70-130			
Molybdenum, total	0.203	0.00010 mg/L	0.196		104	70-130			
Nickel, total	0.258	0.00040 mg/L	0.248		104	70-130			
Phosphorus, total	0.215	0.050 mg/L	0.213		101	70-130			
Potassium, total	6.38	0.10 mg/L	5.89		108	70-130			
Selenium, total	0.132	0.00050 mg/L	0.120		110	70-130			
Sodium, total	9.72	0.10 mg/L	8.71		112	70-130			
Strontium, total	0.399	0.0010 mg/L	0.393		102	70-130			
Thallium, total	0.0832	0.000020 mg/L	0.0787		106	70-130			
Uranium, total	0.0357	0.000020 mg/L	0.0344		104	70-130			
Vanadium, total	0.396	0.0010 mg/L	0.391		101	70-130			
Zinc, total	2.59	0.0040 mg/L	2.50		104	70-130			
Reference (B0K2516-SRM2)					Prepared: 2020-11-27, Analyzed: 2020-11-28				
Aluminum, total	0.329	0.0050 mg/L	0.299		110	70-130			
Antimony, total	0.0563	0.00020 mg/L	0.0517		109	70-130			
Arsenic, total	0.133	0.00050 mg/L	0.119		112	70-130			
Barium, total	0.811	0.0050 mg/L	0.801		101	70-130			
Beryllium, total	0.0588	0.00010 mg/L	0.0501		117	70-130			
Boron, total	4.29	0.0500 mg/L	4.11		104	70-130			
Cadmium, total	0.0523	0.000010 mg/L	0.0503		104	70-130			
Calcium, total	11.8	0.20 mg/L	10.7		110	70-130			
Chromium, total	0.257	0.00050 mg/L	0.250		103	70-130			
Cobalt, total	0.0395	0.00010 mg/L	0.0384		103	70-130			
Copper, total	0.511	0.00040 mg/L	0.487		105	70-130			
Iron, total	0.526	0.010 mg/L	0.504		104	70-130			
Lead, total	0.309	0.00020 mg/L	0.278		111	70-130			
Lithium, total	0.480	0.00010 mg/L	0.398		120	70-130			
Magnesium, total	4.33	0.010 mg/L	3.59		121	70-130			
Manganese, total	0.115	0.00020 mg/L	0.111		103	70-130			
Molybdenum, total	0.206	0.00010 mg/L	0.196		105	70-130			
Nickel, total	0.259	0.00040 mg/L	0.248		104	70-130			
Phosphorus, total	0.240	0.050 mg/L	0.213		113	70-130			
Potassium, total	6.39	0.10 mg/L	5.89		108	70-130			
Selenium, total	0.136	0.00050 mg/L	0.120		113	70-130			
Sodium, total	10.3	0.10 mg/L	8.71		118	70-130			
Strontium, total	0.406	0.0010 mg/L	0.393		103	70-130			
Thallium, total	0.0892	0.000020 mg/L	0.0787		113	70-130			
Uranium, total	0.0391	0.000020 mg/L	0.0344		114	70-130			
Vanadium, total	0.400	0.0010 mg/L	0.391		102	70-130			
Zinc, total	2.64	0.0040 mg/L	2.50		106	70-130			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO Allterra Construction
PROJECT 17-932

WORK ORDER 20K2557
REPORTED 2020-12-01 16:56

QC Qualifiers:

BLK Analyte concentration in the Method Blank is above the Reporting Limit (RL).
S02 Surrogate recovery outside of control limits. Data accepted based on acceptable recovery of other surrogates.
SPK1 The recovery of this analyte was outside of established control limits. The data was accepted based on performance of other batch QC.

CERTIFICATE OF ANALYSIS

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

ATTENTION Ray Lam

PO NUMBER 17-932

PROJECT 17-932

PROJECT INFO

WORK ORDER 20J0343

RECEIVED / TEMP 2020-10-06 09:00 / 19°C
REPORTED 2020-10-15 16:21

COC NUMBER B87829

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/IEC 17025:2017 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.

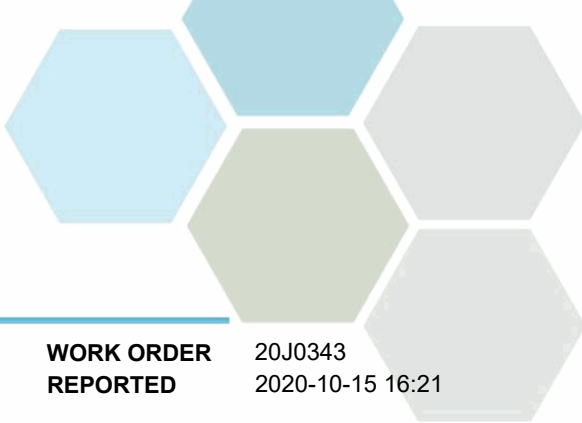
If you have any questions or concerns, please contact me at nyjpp@caro.ca

Authorized By:

Nicole Yipp
Team Lead, Client Service

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

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



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20J0343
2020-10-15 16:21

Analyte	Result	RL	Units	Analyzed	Qualifier
---------	--------	----	-------	----------	-----------

SHA-MW2 (20J0343-01) | Matrix: Water | Sampled: 2020-10-02 14:30

BCMOE Aggregate Hydrocarbons

EPHw10-19	< 250	250	µg/L	2020-10-10	
EPHw19-32	< 250	250	µg/L	2020-10-10	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	117	60-126	%	2020-10-10	

Polycyclic Aromatic Hydrocarbons (PAH)

Acenaphthene	< 0.050	0.050	µg/L	2020-10-11	
Acenaphthylene	< 0.200	0.200	µg/L	2020-10-11	
Acridine	< 0.050	0.050	µg/L	2020-10-11	
Anthracene	< 0.010	0.010	µg/L	2020-10-11	
Benz(a)anthracene	< 0.010	0.010	µg/L	2020-10-11	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2020-10-11	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2020-10-11	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2020-10-11	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2020-10-11	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2020-10-11	
Chrysene	< 0.050	0.050	µg/L	2020-10-11	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2020-10-11	
Fluoranthene	< 0.030	0.030	µg/L	2020-10-11	
Fluorene	< 0.050	0.050	µg/L	2020-10-11	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2020-10-11	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2020-10-11	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2020-10-11	
Naphthalene	< 0.200	0.200	µg/L	2020-10-11	
Phenanthrene	< 0.100	0.100	µg/L	2020-10-11	
Pyrene	< 0.020	0.020	µg/L	2020-10-11	
Quinoline	< 0.050	0.050	µg/L	2020-10-11	
Surrogate: Acridine-d9	101	50-140	%	2020-10-11	
Surrogate: Naphthalene-d8	82	50-140	%	2020-10-11	
Surrogate: Perylene-d12	82	50-140	%	2020-10-11	

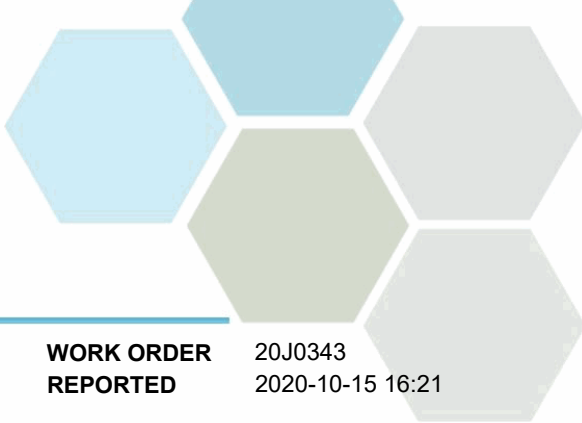
SHA-MW3D (20J0343-02) | Matrix: Water | Sampled: 2020-10-02 14:00

BCMOE Aggregate Hydrocarbons

EPHw10-19	< 250	250	µg/L	2020-10-10	
EPHw19-32	< 250	250	µg/L	2020-10-10	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	< 250	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	113	60-126	%	2020-10-10	

Polycyclic Aromatic Hydrocarbons (PAH)

Acenaphthene	< 0.050	0.050	µg/L	2020-10-11	
--------------	---------	-------	------	------------	--



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20J0343
2020-10-15 16:21

Analyte	Result	RL	Units	Analyzed	Qualifier
---------	--------	----	-------	----------	-----------

SHA-MW3D (20J0343-02) | Matrix: Water | Sampled: 2020-10-02 14:00, Continued

Polycyclic Aromatic Hydrocarbons (PAH), Continued

Acenaphthylene	< 0.200	0.200	µg/L	2020-10-11	
Acridine	< 0.050	0.050	µg/L	2020-10-11	
Anthracene	< 0.014	0.010	µg/L	2020-10-11	RA1
Benz(a)anthracene	< 0.010	0.010	µg/L	2020-10-11	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2020-10-11	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2020-10-11	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2020-10-11	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2020-10-11	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2020-10-11	
Chrysene	< 0.050	0.050	µg/L	2020-10-11	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2020-10-11	
Fluoranthene	< 0.030	0.030	µg/L	2020-10-11	
Fluorene	< 0.050	0.050	µg/L	2020-10-11	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2020-10-11	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2020-10-11	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2020-10-11	
Naphthalene	< 0.200	0.200	µg/L	2020-10-11	
Phenanthrene	< 0.100	0.100	µg/L	2020-10-11	
Pyrene	< 0.020	0.020	µg/L	2020-10-11	
Quinoline	< 0.050	0.050	µg/L	2020-10-11	
Surrogate: Acridine-d9	89	50-140	%	2020-10-11	
Surrogate: Naphthalene-d8	70	50-140	%	2020-10-11	
Surrogate: Perylene-d12	83	50-140	%	2020-10-11	

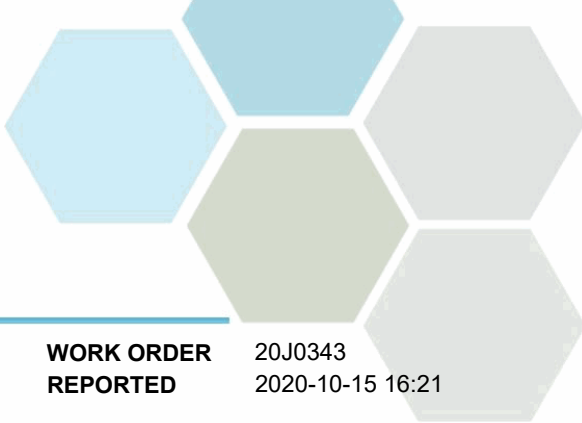
SHA-MW5D (20J0343-03) | Matrix: Water | Sampled: 2020-10-02 12:00

BCMOE Aggregate Hydrocarbons

EPHw10-19	< 250	250	µg/L	2020-10-10	
EPHw19-32	599	250	µg/L	2020-10-10	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	599	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	115	60-126	%	2020-10-10	

Polycyclic Aromatic Hydrocarbons (PAH)

Acenaphthene	< 0.050	0.050	µg/L	2020-10-11	
Acenaphthylene	< 0.200	0.200	µg/L	2020-10-11	
Acridine	< 0.050	0.050	µg/L	2020-10-11	
Anthracene	< 0.022	0.010	µg/L	2020-10-11	RA1
Benz(a)anthracene	< 0.010	0.010	µg/L	2020-10-11	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2020-10-11	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2020-10-11	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2020-10-11	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2020-10-11	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

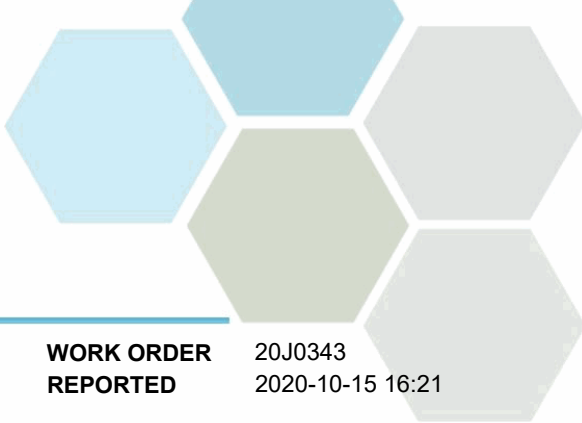
WORK ORDER REPORTED 20J0343
2020-10-15 16:21

Analyte	Result	RL	Units	Analyzed	Qualifier
SHA-MW5D (20J0343-03) Matrix: Water Sampled: 2020-10-02 12:00, Continued					
<i>Polycyclic Aromatic Hydrocarbons (PAH), Continued</i>					
2-Chloronaphthalene	< 0.100	0.100	µg/L	2020-10-11	
Chrysene	< 0.050	0.050	µg/L	2020-10-11	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2020-10-11	
Fluoranthene	0.033	0.030	µg/L	2020-10-11	
Fluorene	< 0.050	0.050	µg/L	2020-10-11	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2020-10-11	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2020-10-11	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2020-10-11	
Naphthalene	< 0.200	0.200	µg/L	2020-10-11	
Phenanthrene	< 0.100	0.100	µg/L	2020-10-11	
Pyrene	0.045	0.020	µg/L	2020-10-11	
Quinoline	< 0.050	0.050	µg/L	2020-10-11	
Surrogate: Acridine-d9	81	50-140	%	2020-10-11	
Surrogate: Naphthalene-d8	81	50-140	%	2020-10-11	
Surrogate: Perylene-d12	94	50-140	%	2020-10-11	

SHA-MW6 (20J0343-04) | Matrix: Water | Sampled: 2020-10-02 13:15

<i>BCMOE Aggregate Hydrocarbons</i>					
EPHw10-19	< 250	250	µg/L	2020-10-11	
EPHw19-32	299	250	µg/L	2020-10-11	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	299	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	111	60-126	%	2020-10-11	

<i>Polycyclic Aromatic Hydrocarbons (PAH)</i>					
Acenaphthene	< 0.050	0.050	µg/L	2020-10-11	
Acenaphthylene	< 0.200	0.200	µg/L	2020-10-11	
Acridine	< 0.068	0.050	µg/L	2020-10-11	RA1
Anthracene	< 0.082	0.010	µg/L	2020-10-11	RA1
Benz(a)anthracene	< 0.010	0.010	µg/L	2020-10-11	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2020-10-11	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2020-10-11	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2020-10-11	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2020-10-11	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2020-10-11	
Chrysene	< 0.050	0.050	µg/L	2020-10-11	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2020-10-11	
Fluoranthene	< 0.030	0.030	µg/L	2020-10-11	
Fluorene	< 0.050	0.050	µg/L	2020-10-11	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2020-10-11	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2020-10-11	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2020-10-11	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20J0343
2020-10-15 16:21

Analyte	Result	RL	Units	Analyzed	Qualifier
---------	--------	----	-------	----------	-----------

SHA-MW6 (20J0343-04) | Matrix: Water | Sampled: 2020-10-02 13:15, Continued

Polycyclic Aromatic Hydrocarbons (PAH), Continued

Naphthalene	< 0.200	0.200	µg/L	2020-10-11	
Phenanthrene	< 0.100	0.100	µg/L	2020-10-11	
Pyrene	< 0.020	0.020	µg/L	2020-10-11	
Quinoline	< 0.050	0.050	µg/L	2020-10-11	
Surrogate: Acridine-d9	76	50-140	%	2020-10-11	
Surrogate: Naphthalene-d8	81	50-140	%	2020-10-11	
Surrogate: Perylene-d12	75	50-140	%	2020-10-11	

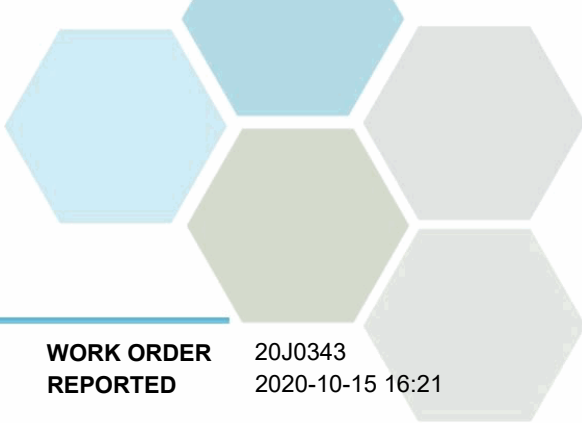
SHA-MW5X (20J0343-05) | Matrix: Water | Sampled: 2020-10-02 12:00

BCMOE Aggregate Hydrocarbons

EPHw10-19	< 250	250	µg/L	2020-10-15	
EPHw19-32	559	250	µg/L	2020-10-15	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	558	250	µg/L	N/A	
Surrogate: 2-Methylnonane (EPH/F2-4)	94	60-126	%	2020-10-15	

Polycyclic Aromatic Hydrocarbons (PAH)

Acenaphthene	< 0.050	0.050	µg/L	2020-10-15	
Acenaphthylene	< 0.200	0.200	µg/L	2020-10-15	
Acridine	< 0.140	0.050	µg/L	2020-10-15	RA1
Anthracene	< 0.010	0.010	µg/L	2020-10-15	
Benz(a)anthracene	< 0.010	0.010	µg/L	2020-10-15	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2020-10-15	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2020-10-15	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2020-10-15	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2020-10-15	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2020-10-15	
Chrysene	< 0.050	0.050	µg/L	2020-10-15	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2020-10-15	
Fluoranthene	0.042	0.030	µg/L	2020-10-15	
Fluorene	< 0.050	0.050	µg/L	2020-10-15	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2020-10-15	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2020-10-15	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2020-10-15	
Naphthalene	< 0.200	0.200	µg/L	2020-10-15	
Phenanthrene	< 0.100	0.100	µg/L	2020-10-15	
Pyrene	0.060	0.020	µg/L	2020-10-15	
Quinoline	< 0.050	0.050	µg/L	2020-10-15	
Surrogate: Acridine-d9	79	50-140	%	2020-10-15	
Surrogate: Naphthalene-d8	96	50-140	%	2020-10-15	
Surrogate: Perylene-d12	89	50-140	%	2020-10-15	



TEST RESULTS

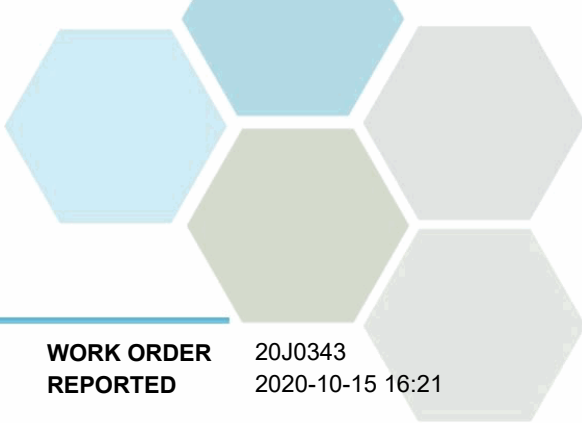
REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20J0343
2020-10-15 16:21

Analyte	Result	RL	Units	Analyzed	Qualifier
SHA-FB (20J0343-06) Matrix: Water Sampled: 2020-10-02 13:00					
BCMOE Aggregate Hydrocarbons					
EPHw10-19	< 250	250	µg/L	2020-10-15	
EPHw19-32	< 250	250	µg/L	2020-10-15	
LEPHw	< 250	250	µg/L	N/A	
HEPHw	< 250	250	µg/L	N/A	
<i>Surrogate: 2-Methylnonane (EPH/F2-4)</i>	94	60-126	%	2020-10-15	
Polycyclic Aromatic Hydrocarbons (PAH)					
Acenaphthene	< 0.050	0.050	µg/L	2020-10-15	
Acenaphthylene	< 0.200	0.200	µg/L	2020-10-15	
Acridine	< 0.050	0.050	µg/L	2020-10-15	
Anthracene	< 0.010	0.010	µg/L	2020-10-15	
Benz(a)anthracene	< 0.010	0.010	µg/L	2020-10-15	
Benzo(a)pyrene	< 0.010	0.010	µg/L	2020-10-15	
Benzo(b+j)fluoranthene	< 0.050	0.050	µg/L	2020-10-15	
Benzo(g,h,i)perylene	< 0.050	0.050	µg/L	2020-10-15	
Benzo(k)fluoranthene	< 0.050	0.050	µg/L	2020-10-15	
2-Chloronaphthalene	< 0.100	0.100	µg/L	2020-10-15	
Chrysene	< 0.050	0.050	µg/L	2020-10-15	
Dibenz(a,h)anthracene	< 0.010	0.010	µg/L	2020-10-15	
Fluoranthene	< 0.030	0.030	µg/L	2020-10-15	
Fluorene	< 0.050	0.050	µg/L	2020-10-15	
Indeno(1,2,3-cd)pyrene	< 0.050	0.050	µg/L	2020-10-15	
1-Methylnaphthalene	< 0.100	0.100	µg/L	2020-10-15	
2-Methylnaphthalene	< 0.100	0.100	µg/L	2020-10-15	
Naphthalene	< 0.200	0.200	µg/L	2020-10-15	
Phenanthrene	< 0.100	0.100	µg/L	2020-10-15	
Pyrene	< 0.020	0.020	µg/L	2020-10-15	
Quinoline	< 0.050	0.050	µg/L	2020-10-15	
<i>Surrogate: Acridine-d9</i>	50	50-140	%	2020-10-15	
<i>Surrogate: Naphthalene-d8</i>	71	50-140	%	2020-10-15	
<i>Surrogate: Perylene-d12</i>	87	50-140	%	2020-10-15	

Sample Qualifiers:

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



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20J0343
2020-10-15 16:21

Analysis Description	Method Ref.	Technique	Accredited	Location
EPH in Water	EPA 3511* / BCMOE EPHw	Hexane MicroExtraction (Base/Neutral) / Gas Chromatography (GC-FID)	✓	Richmond
HEPHw in Water	BCMOE LEPH/HEPH	Calculation		N/A
LEPHw in Water	BCMOE LEPH/HEPH	Calculation		N/A
Polycyclic Aromatic Hydrocarbons in Water	EPA 3511* / EPA 8270D	Hexane MicroExtraction (Base/Neutral) / GC-MSD (SIM)	✓	Richmond

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

Glossary of Terms:

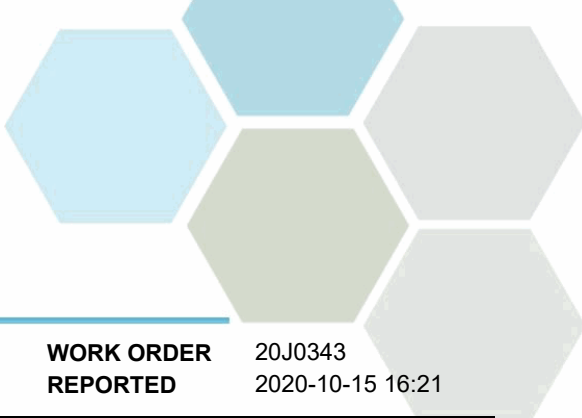
RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
µg/L	Micrograms per litre
BCMOE	British Columbia Environmental Laboratory Manual, British Columbia Ministry of Environment
EPA	United States Environmental Protection Agency Test Methods

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: nyipp@caro.ca

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO Allterra Construction
PROJECT 17-932

WORK ORDER 20J0343
REPORTED 2020-10-15 16:21

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
---------	--------	----------	-------------	---------------	-------	-----------	-------	-----------	-----------

BCMOE Aggregate Hydrocarbons, Batch B0J1009

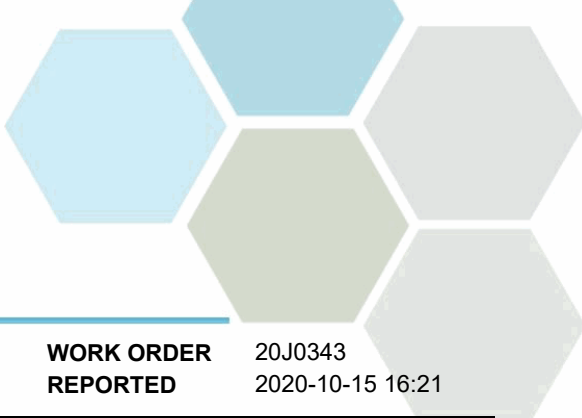
Blank (B0J1009-BLK1)									
Prepared: 2020-10-10, Analyzed: 2020-10-10									
EPHw10-19	< 250	250 µg/L							
EPHw19-32	< 250	250 µg/L							
Surrogate: 2-Methylnonane (EPH/F2-4)	479	µg/L	444		108	60-126			
LCS (B0J1009-BS2)									
Prepared: 2020-10-10, Analyzed: 2020-10-10									
EPHw10-19	15600	250 µg/L	15600		100	70-117			
EPHw19-32	22600	250 µg/L	22200		102	70-113			
Surrogate: 2-Methylnonane (EPH/F2-4)	504	µg/L	444		113	60-126			
LCS Dup (B0J1009-BSD2)									
Prepared: 2020-10-10, Analyzed: 2020-10-10									
EPHw10-19	15200	250 µg/L	15600		97	70-117	3	20	
EPHw19-32	21100	250 µg/L	22200		95	70-113	7	20	
Surrogate: 2-Methylnonane (EPH/F2-4)	497	µg/L	444		112	60-126			

BCMOE Aggregate Hydrocarbons, Batch B0J1278

Blank (B0J1278-BLK1)									
Prepared: 2020-10-14, Analyzed: 2020-10-15									
EPHw10-19	< 250	250 µg/L							
EPHw19-32	< 250	250 µg/L							
Surrogate: 2-Methylnonane (EPH/F2-4)	525	µg/L	444		118	60-126			
LCS (B0J1278-BS2)									
Prepared: 2020-10-14, Analyzed: 2020-10-15									
EPHw10-19	16100	250 µg/L	15600		103	70-117			
EPHw19-32	22000	250 µg/L	22200		99	70-113			
Surrogate: 2-Methylnonane (EPH/F2-4)	475	µg/L	444		107	60-126			
LCS Dup (B0J1278-BSD2)									
Prepared: 2020-10-14, Analyzed: 2020-10-15									
EPHw10-19	15100	250 µg/L	15600		97	70-117	7	20	
EPHw19-32	20900	250 µg/L	22200		94	70-113	5	20	
Surrogate: 2-Methylnonane (EPH/F2-4)	418	µg/L	444		94	60-126			

Polycyclic Aromatic Hydrocarbons (PAH), Batch B0J1009

Blank (B0J1009-BLK1)									
Prepared: 2020-10-10, Analyzed: 2020-10-11									
Acenaphthene	< 0.050	0.050 µg/L							

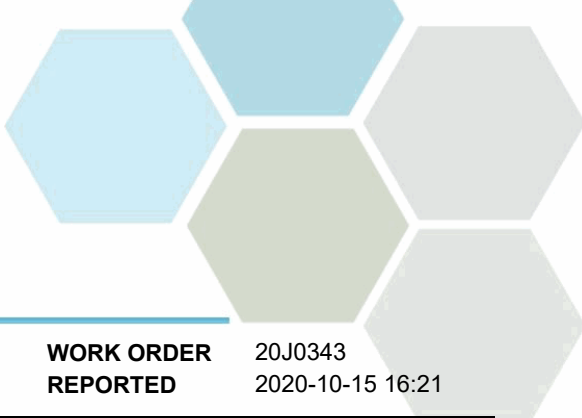


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20J0343
2020-10-15 16:21

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Polycyclic Aromatic Hydrocarbons (PAH), Batch B0J1009, Continued									
Blank (B0J1009-BLK1), Continued					Prepared: 2020-10-10, Analyzed: 2020-10-11				
Acenaphthylene	< 0.200	0.200 µg/L							
Acridine	< 0.050	0.050 µg/L							
Anthracene	< 0.010	0.010 µg/L							
Benzo(a)anthracene	< 0.010	0.010 µg/L							
Benzo(a)pyrene	< 0.010	0.010 µg/L							
Benzo(b+j)fluoranthene	< 0.050	0.050 µg/L							
Benzo(g,h,i)perylene	< 0.050	0.050 µg/L							
Benzo(k)fluoranthene	< 0.050	0.050 µg/L							
2-Chloronaphthalene	< 0.100	0.100 µg/L							
Chrysene	< 0.050	0.050 µg/L							
Dibenz(a,h)anthracene	< 0.010	0.010 µg/L							
Fluoranthene	< 0.030	0.030 µg/L							
Fluorene	< 0.050	0.050 µg/L							
Indeno(1,2,3-cd)pyrene	< 0.050	0.050 µg/L							
1-Methylnaphthalene	< 0.100	0.100 µg/L							
2-Methylnaphthalene	< 0.100	0.100 µg/L							
Naphthalene	< 0.200	0.200 µg/L							
Phenanthrene	< 0.100	0.100 µg/L							
Pyrene	< 0.020	0.020 µg/L							
Quinoline	< 0.050	0.050 µg/L							
Surrogate: Acridine-d9	0.376	µg/L	0.460		82	50-140			
Surrogate: Naphthalene-d8	3.87	µg/L	4.47		87	50-140			
Surrogate: Perylene-d12	4.22	µg/L	4.47		94	50-140			
LCS (B0J1009-BS1)					Prepared: 2020-10-10, Analyzed: 2020-10-10				
Acenaphthene	3.77	0.050 µg/L	4.44		85	55-137			
Acenaphthylene	3.73	0.200 µg/L	4.44		84	53-140			
Acridine	3.11	0.050 µg/L	4.44		70	50-120			
Anthracene	3.96	0.010 µg/L	4.44		89	64-130			
Benzo(a)anthracene	3.94	0.010 µg/L	4.44		89	57-140			
Benzo(a)pyrene	3.72	0.010 µg/L	4.44		84	63-133			
Benzo(b+j)fluoranthene	8.58	0.050 µg/L	8.89		97	60-129			
Benzo(g,h,i)perylene	4.01	0.050 µg/L	4.44		90	52-139			
Benzo(k)fluoranthene	4.30	0.050 µg/L	4.44		97	50-138			
2-Chloronaphthalene	4.01	0.100 µg/L	4.38		92	50-139			
Chrysene	4.14	0.050 µg/L	4.44		93	59-140			
Dibenz(a,h)anthracene	3.76	0.010 µg/L	4.44		85	53-136			
Fluoranthene	3.75	0.030 µg/L	4.44		84	67-135			
Fluorene	3.40	0.050 µg/L	4.44		77	57-134			
Indeno(1,2,3-cd)pyrene	3.12	0.050 µg/L	4.44		70	52-129			
1-Methylnaphthalene	3.79	0.100 µg/L	4.44		85	50-140			
2-Methylnaphthalene	3.52	0.100 µg/L	4.44		79	50-140			
Naphthalene	3.63	0.200 µg/L	4.44		82	50-140			
Phenanthrene	4.09	0.100 µg/L	4.44		92	61-134			
Pyrene	3.74	0.020 µg/L	4.44		84	66-131			
Quinoline	5.47	0.050 µg/L	4.44		123	50-140			
Surrogate: Acridine-d9	0.510	µg/L	0.460		111	50-140			
Surrogate: Naphthalene-d8	3.70	µg/L	4.47		83	50-140			
Surrogate: Perylene-d12	3.30	µg/L	4.47		74	50-140			
LCS Dup (B0J1009-BSD1)					Prepared: 2020-10-10, Analyzed: 2020-10-10				
Acenaphthene	3.86	0.050 µg/L	4.44		87	55-137	2	18	
Acenaphthylene	3.94	0.200 µg/L	4.44		89	53-140	5	20	
Acridine	2.92	0.050 µg/L	4.44		66	50-120	6	30	
Anthracene	3.86	0.010 µg/L	4.44		87	64-130	3	15	
Benzo(a)anthracene	3.87	0.010 µg/L	4.44		87	57-140	2	25	



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

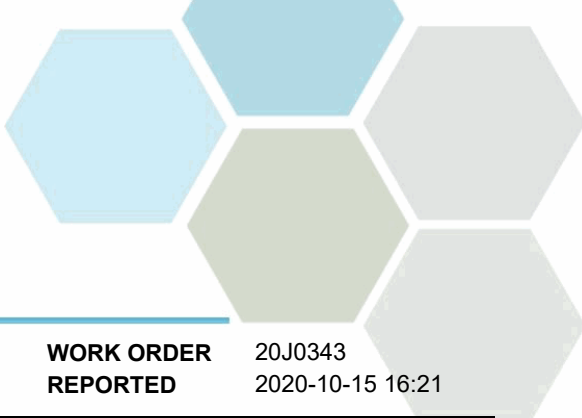
WORK ORDER REPORTED 20J0343
2020-10-15 16:21

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Polycyclic Aromatic Hydrocarbons (PAH), Batch B0J1009, Continued									
LCS Dup (B0J1009-BSD1), Continued					Prepared: 2020-10-10, Analyzed: 2020-10-10				
Benzo(a)pyrene	3.74	0.010 µg/L	4.44		84	63-133	< 1	18	
Benzo(b+j)fluoranthene	8.43	0.050 µg/L	8.89		95	60-129	2	17	
Benzo(g,h,i)perylene	4.01	0.050 µg/L	4.44		90	52-139	< 1	22	
Benzo(k)fluoranthene	4.18	0.050 µg/L	4.44		94	50-138	3	26	
2-Chloronaphthalene	4.07	0.100 µg/L	4.38		93	50-139	1	23	
Chrysene	4.11	0.050 µg/L	4.44		92	59-140	< 1	23	
Dibenz(a,h)anthracene	3.75	0.010 µg/L	4.44		84	53-136	< 1	21	
Fluoranthene	3.66	0.030 µg/L	4.44		82	67-135	2	18	
Fluorene	3.56	0.050 µg/L	4.44		80	57-134	5	18	
Indeno(1,2,3-cd)pyrene	3.53	0.050 µg/L	4.44		80	52-129	12	21	
1-Methylnaphthalene	3.88	0.100 µg/L	4.44		87	50-140	2	20	
2-Methylnaphthalene	3.72	0.100 µg/L	4.44		84	50-140	6	21	
Naphthalene	3.68	0.200 µg/L	4.44		83	50-140	1	22	
Phenanthrene	4.07	0.100 µg/L	4.44		92	61-134	< 1	17	
Pyrene	3.65	0.020 µg/L	4.44		82	66-131	2	19	
Quinoline	5.49	0.050 µg/L	4.44		124	50-140	< 1	14	
Surrogate: Acridine-d9	0.398	µg/L	0.460		86	50-140			
Surrogate: Naphthalene-d8	3.61	µg/L	4.47		81	50-140			
Surrogate: Perylene-d12	3.70	µg/L	4.47		83	50-140			

Polycyclic Aromatic Hydrocarbons (PAH), Batch B0J1278

Blank (B0J1278-BLK1)			Prepared: 2020-10-14, Analyzed: 2020-10-15						
Acenaphthene	< 0.050	0.050 µg/L							
Acenaphthylene	< 0.200	0.200 µg/L							
Acridine	< 0.050	0.050 µg/L							
Anthracene	< 0.010	0.010 µg/L							
Benzo(a)anthracene	< 0.010	0.010 µg/L							
Benzo(a)pyrene	< 0.010	0.010 µg/L							
Benzo(b+j)fluoranthene	< 0.050	0.050 µg/L							
Benzo(g,h,i)perylene	< 0.050	0.050 µg/L							
Benzo(k)fluoranthene	< 0.050	0.050 µg/L							
2-Chloronaphthalene	< 0.100	0.100 µg/L							
Chrysene	< 0.050	0.050 µg/L							
Dibenz(a,h)anthracene	< 0.010	0.010 µg/L							
Fluoranthene	< 0.030	0.030 µg/L							
Fluorene	< 0.050	0.050 µg/L							
Indeno(1,2,3-cd)pyrene	< 0.050	0.050 µg/L							
1-Methylnaphthalene	< 0.100	0.100 µg/L							
2-Methylnaphthalene	< 0.100	0.100 µg/L							
Naphthalene	< 0.200	0.200 µg/L							
Phenanthrene	< 0.100	0.100 µg/L							
Pyrene	< 0.020	0.020 µg/L							
Quinoline	< 0.050	0.050 µg/L							
Surrogate: Acridine-d9	0.292	µg/L	0.460		63	50-140			
Surrogate: Naphthalene-d8	4.96	µg/L	4.47		111	50-140			
Surrogate: Perylene-d12	4.98	µg/L	4.47		111	50-140			

LCS (B0J1278-BS1)			Prepared: 2020-10-14, Analyzed: 2020-10-15						
Acenaphthene	4.82	0.050 µg/L	4.44		109	55-137			
Acenaphthylene	5.10	0.200 µg/L	4.44		115	53-140			
Acridine	4.24	0.050 µg/L	4.44		95	50-120			
Anthracene	4.81	0.010 µg/L	4.44		108	64-130			
Benzo(a)anthracene	4.36	0.010 µg/L	4.44		98	57-140			
Benzo(a)pyrene	3.98	0.010 µg/L	4.44		90	63-133			
Benzo(b+j)fluoranthene	7.73	0.050 µg/L	8.89		87	60-129			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20J0343
2020-10-15 16:21

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Polycyclic Aromatic Hydrocarbons (PAH), Batch B0J1278, Continued									
LCS (B0J1278-BS1), Continued					Prepared: 2020-10-14, Analyzed: 2020-10-15				
Benzo(g,h,i)perylene	4.21	0.050 µg/L	4.44		95	52-139			
Benzo(k)fluoranthene	3.90	0.050 µg/L	4.44		88	50-138			
2-Chloronaphthalene	4.42	0.100 µg/L	4.38		101	50-139			
Chrysene	4.20	0.050 µg/L	4.44		94	59-140			
Dibenz(a,h)anthracene	4.04	0.010 µg/L	4.44		91	53-136			
Fluoranthene	4.27	0.030 µg/L	4.44		96	67-135			
Fluorene	4.93	0.050 µg/L	4.44		111	57-134			
Indeno(1,2,3-cd)pyrene	4.04	0.050 µg/L	4.44		91	52-129			
1-Methylnaphthalene	3.47	0.100 µg/L	4.44		78	50-140			
2-Methylnaphthalene	3.66	0.100 µg/L	4.44		82	50-140			
Naphthalene	3.46	0.200 µg/L	4.44		78	50-140			
Phenanthrene	5.18	0.100 µg/L	4.44		117	61-134			
Pyrene	4.25	0.020 µg/L	4.44		96	66-131			
Quinoline	5.95	0.050 µg/L	4.44		134	50-140			
Surrogate: Acridine-d9	0.400	µg/L	0.460		87	50-140			
Surrogate: Naphthalene-d8	3.60	µg/L	4.47		81	50-140			
Surrogate: Perylene-d12	3.92	µg/L	4.47		88	50-140			
LCS Dup (B0J1278-BSD1)					Prepared: 2020-10-14, Analyzed: 2020-10-15				
Acenaphthene	5.59	0.050 µg/L	4.44		126	55-137	15	18	
Acenaphthylene	5.87	0.200 µg/L	4.44		132	53-140	14	20	
Acridine	3.74	0.050 µg/L	4.44		84	50-120	13	30	
Anthracene	4.19	0.010 µg/L	4.44		94	64-130	14	15	
Benz(a)anthracene	4.47	0.010 µg/L	4.44		101	57-140	3	25	
Benzo(a)pyrene	4.09	0.010 µg/L	4.44		92	63-133	3	18	
Benzo(b+j)fluoranthene	8.26	0.050 µg/L	8.89		93	60-129	7	17	
Benzo(g,h,i)perylene	4.33	0.050 µg/L	4.44		97	52-139	3	22	
Benzo(k)fluoranthene	4.06	0.050 µg/L	4.44		91	50-138	4	26	
2-Chloronaphthalene	5.56	0.100 µg/L	4.38		127	50-139	23	23	
Chrysene	4.30	0.050 µg/L	4.44		97	59-140	2	23	
Dibenz(a,h)anthracene	4.06	0.010 µg/L	4.44		91	53-136	< 1	21	
Fluoranthene	4.85	0.030 µg/L	4.44		109	67-135	13	18	
Fluorene	5.53	0.050 µg/L	4.44		124	57-134	11	18	
Indeno(1,2,3-cd)pyrene	4.16	0.050 µg/L	4.44		94	52-129	3	21	
1-Methylnaphthalene	5.07	0.100 µg/L	4.44		114	50-140	37	20	RPD
2-Methylnaphthalene	4.39	0.100 µg/L	4.44		99	50-140	18	21	
Naphthalene	4.03	0.200 µg/L	4.44		91	50-140	15	22	
Phenanthrene	4.56	0.100 µg/L	4.44		103	61-134	13	17	
Pyrene	4.80	0.020 µg/L	4.44		108	66-131	12	19	
Quinoline	6.03	0.050 µg/L	4.44		136	50-140	1	14	
Surrogate: Acridine-d9	0.382	µg/L	0.460		83	50-140			
Surrogate: Naphthalene-d8	4.16	µg/L	4.47		93	50-140			
Surrogate: Perylene-d12	4.03	µg/L	4.47		90	50-140			

QC Qualifiers:

RPD Relative percent difference (RPD) of duplicate analysis are outside of control limits for unknown reason(s).

#110-
#102-
17225
#108-



6

CHAIN OF CUSTODY RECORD

COC# B87829 PAGE 1 OF 1
CARO BC COC, Rev 2019-01

REPORT TO:
COMPANY: Allterra Construction LTD.
ADDRESS: 2158 Millstream
 Victoria BC V9B6H4
CONTACT: Raymond Lam
TEL/FAX:
DELIVERY METHOD: EMAIL ONLINE OTHER*
DATA FORMAT: EXCEL WATERTRAX ESdat
 EQUIS BC EMS OTHER*
EMAIL 1: raymond@allterraconstruction.com
EMAIL 2: raymond@allterraconstruction.com
EMAIL 3:

INVOICE TO: SAME AS REPORT TO
COMPANY:
ADDRESS:
CONTACT:
TEL/FAX:
DELIVERY METHOD: EMAIL ONLINE OTHER*
EMAIL 1:
EMAIL 2:
EMAIL 3:
PO #: 17-932

RELINQUISHED BY: DATE: Oct 2 2020
RECEIVED BY: 120, PWO DATE: 10/26
 TIME: TIME: 9:00
TURNAROUND TIME REQUESTED:
 Routine: (5-7 Days)
 Rush: 1 Day* 2 Day* 3 Day*
 Other*
REGULATORY APPLICATION: Show on Report
 Canadian Drinking Water Quality BC WQG BC HWR
 BC CSR Soil: WL AL PL RL-LD RL-HD CL IL
 BC CSR Water: AW IW LW DW
 CCME: Other:
PROJECT NUMBER / INFO: 17-932
 A: Biohazard D: Asbestos G: Strong Odour
 B: Cyanide E: Heavy Metals H: High Contamination
 C: PCBs F: Flammable I: Other (please specify*)

** If you would like to sign up for ClientConnect and/or EnviroChain, CARO's online service offerings, please check here:

CLIENT SAMPLE ID:	MATRIX:				CONTAINER QTY	SAMPLING:		COMMENTS:			
	DRINKING WATER	OTHER WATER	SOIL	OTHER		DATE YYYY-MM-DD	TIME HH:MM	CHLORINATED	FILTERED	PRESERVED	(e.g. flow/volume media ID/notes)
3HA - MW 2	X					2020-10-02	14:30			X	
- MW 3D	X						14:00			X	
- MW 5D	X						12:00			X	
- MW 6	X						13:15			X	
- MW 5X	X						12:00				
- FB	X						13:00				

ANALYSES REQUESTED:

ANALYSIS	REQUESTED
BTEX	<input type="checkbox"/>
VOC	<input type="checkbox"/>
EPH	<input checked="" type="checkbox"/>
PAH	<input checked="" type="checkbox"/>
PHENOLS Chlorinated	<input type="checkbox"/>
PHENOLS Non-Chlor.	<input type="checkbox"/>
PCB	<input type="checkbox"/>
GLYCOLS	<input type="checkbox"/>
HAA	<input type="checkbox"/>
THM	<input type="checkbox"/>
PESTICIDES	<input type="checkbox"/>
ACID HERBICIDES	<input type="checkbox"/>
METALS - WATER TOTAL	<input type="checkbox"/>
Hg	<input type="checkbox"/>
METALS - WATER DISSOLVED	<input type="checkbox"/>
Hg	<input type="checkbox"/>
METALS - SOIL (SALM)	<input type="checkbox"/>
inc. pH	<input type="checkbox"/>
pH	<input type="checkbox"/>
EC	<input type="checkbox"/>
ALK	<input type="checkbox"/>
ANIONS	<input type="checkbox"/>
TSS	<input type="checkbox"/>
VSS	<input type="checkbox"/>
TDS	<input type="checkbox"/>
BOD	<input type="checkbox"/>
COD	<input type="checkbox"/>
TOG	<input type="checkbox"/>
MOG	<input type="checkbox"/>
TN	<input type="checkbox"/>
INH3	<input type="checkbox"/>
TKN	<input type="checkbox"/>
FECAL COLIFORMS	<input type="checkbox"/>
HPC	<input type="checkbox"/>
TOTAL COLIFORMS	<input type="checkbox"/>
E. coli	<input type="checkbox"/>
ESSENTIAL DRINKING WATER PACKAGE	<input type="checkbox"/>
ASBESTOS	<input type="checkbox"/>

POSSIBLE SAMPLE HAZARD CODE(S)

SHIPPING INSTRUCTIONS: Return Cooler(s)
 Supplies Needed:

SAMPLE RETENTION:
 30 Days (default)
 60 Days 90 Days
 Other (surcharges will apply):

*** OTHER INSTRUCTIONS:**

SAMPLE RECEIPT CONDITION:
 COOLER 1 (°C): 19.0 ICE: Y X N
 COOLER 2 (°C):



CAI
#110-4
#102-3
17225
#10B-4

ANALYTICAL SERVICES
Caring About Results, Obviously.



* 2 0 J 0 3 4 3 *

46

2K9
5C3
1H7
4X4

CHAIN OF CUSTODY RECORD

COC# **B 87829** PAGE 1 OF 1

CARO BC COC, Rev 2019-01

REPORT TO:
COMPANY: Allterra Construction LTD.
ADDRESS: 2158 Millstream
Victoria BC V9B6H4
CONTACT: Raymond Lam
TEL/FAX:
DELIVERY METHOD: EMAIL ONLINE OTHER*
DATA FORMAT: EXCEL WATERTRAX ESdat
EQUIS BC EMS OTHER*
EMAIL 1: Raymond@allterraconstruction.com
EMAIL 2: Raymond@allterraconstruction.com
EMAIL 3:

INVOICE TO:
COMPANY: SAME AS REPORT TO
ADDRESS:
CONTACT:
TEL/FAX:
DELIVERY METHOD: EMAIL ONLINE OTHER*
EMAIL 1:
EMAIL 2:
EMAIL 3:
PO #: 17-932

RELINQUISHED BY: DATE: Oct 2 2020 RECEIVED BY: KD, PWO DATE: 10/7/20
TIME: TIME: 9:00
TURNAROUND TIME REQUESTED:
Routine: (5-7 Days)
Rush: 1 Day* 2 Day* 3 Day*
Other*
REGULATORY APPLICATION:
Canadian Drinking Water Quality BC WQG BC HWR
BC CSR Soil: WL AL PL RL-LD RL-HD CL IL
BC CSR Water: AW IW LW DW
CCME: Other:
A: Biohazard D: Asbestos G: Strong Odour
B: Cyanide E: Heavy Metals H: High Contamination
C: PCBs F: Flammable I: Other (please specify)

PROJECT NUMBER / INFO: 17-932

ANALYSES REQUESTED:

SAMPLED BY:

CLIENT SAMPLE ID:	MATRIX:				CONTAINER QTY	SAMPLING:		COMMENTS:			
	DRINKING WATER	OTHER WATER	SOIL	OTHER		DATE	TIME	CHLORINATED	FILTERED	PRESERVED	
SHA - MW 2	X					2020-10-02	14:30			X	
- MW 3D	X						14:00			X	
- MW 5D	X						12:00			X	
- MW 6	X						13:15			X	
- MW 5X	X						12:00				
- FB	X						13:00				

BTEX	VPH	PHCFI	VOC	VPH	PHCFI	EPH	PAH	L/HEPH	PHENOLS Chlorinated	Non-Chlor.	PCB	GLYCOLS	HAA	THM	PESTICIDES	ACID HERBICIDES	Hg	METALS - WATER TOTAL	Hg	METALS - WATER DISSOLVED	Hg	METALS - SOIL (SALM)	inc pH	pH	EC	ALK	ANIONS	TSS	VSS	TDS	BOD	COD	TOG	MOG	TN	NH3	TKN	FECAL COLIFORMS	HPC	TOTAL COLIFORMS	E.coli	ESSENTIAL DRINKING WATER PACKAGE	ASBESTOS	HOLD	POSSIBLE SAMPLE HAZARD CODE(S)					
						X	X	X																																										
						X	X	X																																										

SHIPPING INSTRUCTIONS: Return Cooler(s)
Supplies Needed:

SAMPLE RETENTION:
30 Days (default)
60 Days 90 Days
Other (surcharges will apply):

OTHER INSTRUCTIONS:
**added analysis requested Oct 7th*

SAMPLE RECEIPT CONDITION:
COOLER 1 (°C): 14.0 ICE: N
COOLER 2 (°C):



CERTIFICATE OF ANALYSIS

REPORTED TO	Allterra Construction 2158 Millstream Road Victoria, BC V9B 6H4	WORK ORDER	0093249
ATTENTION	Ray Lam	RECEIVED / TEMP REPORTED	2020-09-30 10:00 / 19°C 2020-10-07 14:15
PO NUMBER	17-932	COC NUMBER	B75135
PROJECT	17-932		
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/IEC 17025:2017 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.

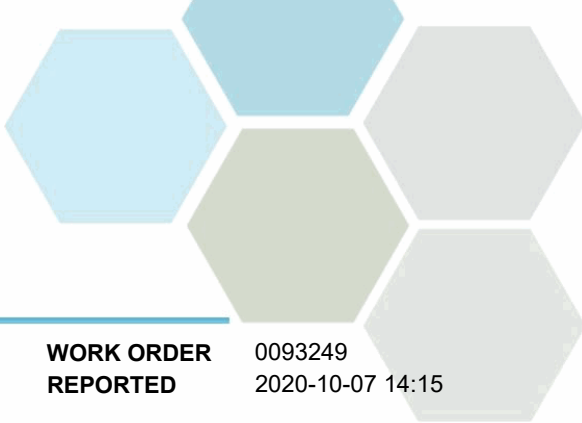
If you have any questions or concerns, please contact me at nyjpp@caro.ca

Authorized By:

Nicole Yipp
Team Lead, Client Service

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

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

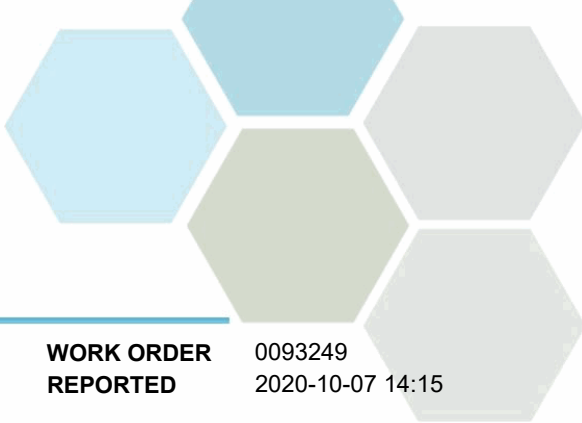


TEST RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 0093249
2020-10-07 14:15

Analyte	Result	RL	Units	Analyzed	Qualifier
SW-1 (0093249-01) Matrix: Water Sampled: 2020-09-29 14:51					
Anions					
Chloride	11.5	0.10	mg/L	2020-10-01	
Fluoride	0.11	0.10	mg/L	2020-10-01	
Nitrate (as N)	0.431	0.010	mg/L	2020-10-01	
Nitrite (as N)	< 0.010	0.010	mg/L	2020-10-01	
Sulfate	132	1.0	mg/L	2020-10-01	
Calculated Parameters					
Hardness, Total (as CaCO3)	246	0.500	mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	110	1.0	mg/L	2020-10-05	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2020-10-05	
Alkalinity, Bicarbonate (as CaCO3)	110	1.0	mg/L	2020-10-05	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2020-10-05	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2020-10-05	
Conductivity (EC)	497	2.0	µS/cm	2020-10-05	
pH	7.80	0.10	pH units	2020-10-05	HT2
Solids, Total Dissolved	340	15	mg/L	2020-10-05	
Solids, Total Suspended	< 2.0	2.0	mg/L	2020-10-06	
Turbidity	0.27	0.10	NTU	2020-10-01	
Total Metals					
Aluminum, total	0.0318	0.0050	mg/L	2020-10-06	
Antimony, total	< 0.00020	0.00020	mg/L	2020-10-06	
Arsenic, total	< 0.00050	0.00050	mg/L	2020-10-06	
Barium, total	0.0157	0.0050	mg/L	2020-10-06	
Beryllium, total	< 0.00010	0.00010	mg/L	2020-10-06	
Bismuth, total	< 0.00010	0.00010	mg/L	2020-10-06	
Boron, total	0.0554	0.0500	mg/L	2020-10-06	
Cadmium, total	< 0.000010	0.000010	mg/L	2020-10-06	
Calcium, total	82.5	0.20	mg/L	2020-10-06	
Chromium, total	< 0.00050	0.00050	mg/L	2020-10-06	
Cobalt, total	< 0.00010	0.00010	mg/L	2020-10-06	
Copper, total	0.00181	0.00040	mg/L	2020-10-06	
Iron, total	0.019	0.010	mg/L	2020-10-06	
Lead, total	< 0.00020	0.00020	mg/L	2020-10-06	
Lithium, total	0.00020	0.00010	mg/L	2020-10-06	
Magnesium, total	9.67	0.010	mg/L	2020-10-06	
Manganese, total	0.00234	0.00020	mg/L	2020-10-06	
Molybdenum, total	0.0105	0.00010	mg/L	2020-10-06	
Nickel, total	0.00057	0.00040	mg/L	2020-10-06	
Phosphorus, total	< 0.050	0.050	mg/L	2020-10-06	
Potassium, total	0.80	0.10	mg/L	2020-10-06	
Selenium, total	< 0.00050	0.00050	mg/L	2020-10-06	



TEST RESULTS

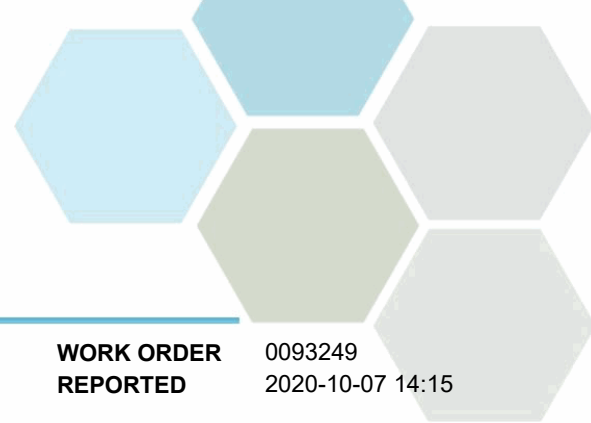
REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 0093249
2020-10-07 14:15

Analyte	Result	RL	Units	Analyzed	Qualifier
SW-1 (0093249-01) Matrix: Water Sampled: 2020-09-29 14:51, Continued					
<i>Total Metals, Continued</i>					
Silicon, total	6.1	1.0	mg/L	2020-10-06	
Silver, total	< 0.000050	0.000050	mg/L	2020-10-06	
Sodium, total	7.87	0.10	mg/L	2020-10-06	
Strontium, total	0.237	0.0010	mg/L	2020-10-06	
Sulfur, total	44.4	3.0	mg/L	2020-10-06	
Tellurium, total	< 0.00050	0.00050	mg/L	2020-10-06	
Thallium, total	< 0.000020	0.000020	mg/L	2020-10-06	
Thorium, total	< 0.00010	0.00010	mg/L	2020-10-06	
Tin, total	< 0.00020	0.00020	mg/L	2020-10-06	
Titanium, total	< 0.0050	0.0050	mg/L	2020-10-06	
Tungsten, total	< 0.0010	0.0010	mg/L	2020-10-06	
Uranium, total	0.00138	0.000020	mg/L	2020-10-06	
Vanadium, total	< 0.0010	0.0010	mg/L	2020-10-06	
Zinc, total	< 0.0040	0.0040	mg/L	2020-10-06	
Zirconium, total	0.00080	0.00010	mg/L	2020-10-06	

Sample Qualifiers:

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



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 0093249
2020-10-07 14:15

Analysis Description	Method Ref.	Technique	Accredited	Location
Alkalinity in Water	SM 2320 B* (2017)	Titration with H2SO4	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Conductivity in Water	SM 2510 B (2017)	Conductivity Meter	✓	Kelowna
Hardness in Water	SM 2340 B* (2017)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	N/A
pH in Water	SM 4500-H+ B (2017)	Electrometry	✓	Kelowna
Solids, Total Dissolved in Water	SM 2540 C* (2017)	Gravimetry (Dried at 103-105C)	✓	Kelowna
Solids, Total Suspended in Water	SM 2540 D* (2017)	Gravimetry (Dried at 103-105C)	✓	Kelowna
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 (2017)	Nephelometry	✓	Kelowna

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

Glossary of Terms:

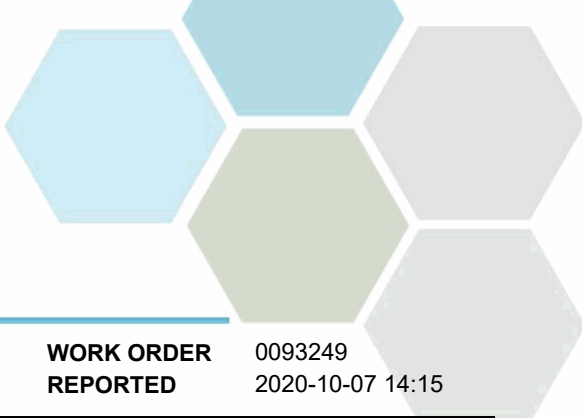
RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
mg/L	Milligrams per litre
NTU	Nephelometric Turbidity Units
pH units	pH < 7 = acidic, pH > 7 = basic
µS/cm	Microsiemens per centimetre
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association

General Comments:

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

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: nyipp@caro.ca

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

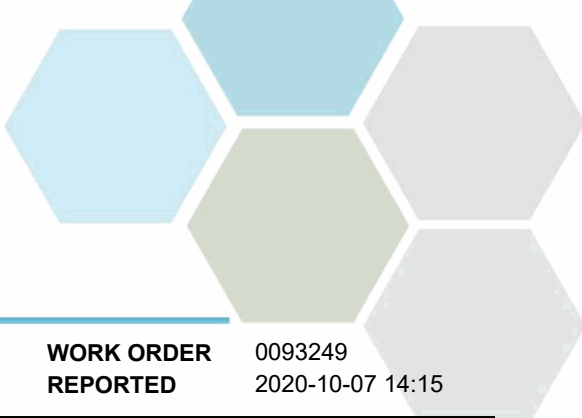
WORK ORDER REPORTED 0093249
2020-10-07 14:15

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 B0J0026									
Blank (B0J0026-BLK1)			Prepared: 2020-10-01, Analyzed: 2020-10-01						
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 (B0J0026-BLK2)			Prepared: 2020-10-01, Analyzed: 2020-10-01						
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 (B0J0026-BLK3)			Prepared: 2020-10-01, Analyzed: 2020-10-01						
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 (B0J0026-BS1)			Prepared: 2020-10-01, Analyzed: 2020-10-01						
Chloride	16.0	0.10 mg/L	16.0		100	90-110			
Fluoride	3.96	0.10 mg/L	4.00		99	88-108			
Nitrate (as N)	3.93	0.010 mg/L	4.00		98	90-110			
Nitrite (as N)	1.86	0.010 mg/L	2.00		93	85-115			
Sulfate	16.1	1.0 mg/L	16.0		101	90-110			
LCS (B0J0026-BS2)			Prepared: 2020-10-01, Analyzed: 2020-10-01						
Chloride	16.0	0.10 mg/L	16.0		100	90-110			
Fluoride	3.91	0.10 mg/L	4.00		98	88-108			
Nitrate (as N)	3.91	0.010 mg/L	4.00		98	90-110			
Nitrite (as N)	1.83	0.010 mg/L	2.00		92	85-115			
Sulfate	16.1	1.0 mg/L	16.0		101	90-110			
LCS (B0J0026-BS3)			Prepared: 2020-10-01, Analyzed: 2020-10-01						
Chloride	16.0	0.10 mg/L	16.0		100	90-110			
Fluoride	3.98	0.10 mg/L	4.00		99	88-108			

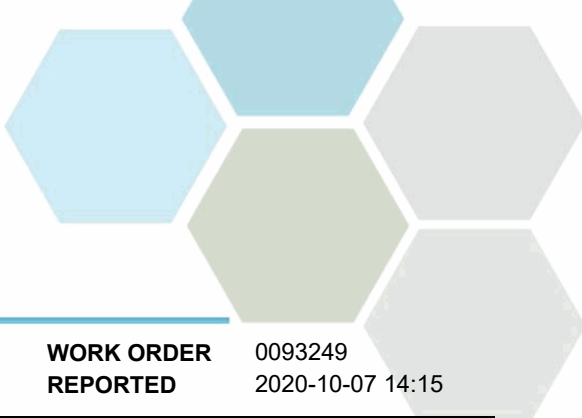


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 0093249
2020-10-07 14:15

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Anions, Batch B0J0026, Continued									
LCS (B0J0026-BS3), Continued					Prepared: 2020-10-01, Analyzed: 2020-10-01				
Nitrate (as N)	3.95	0.010 mg/L	4.00		99	90-110			
Nitrite (as N)	1.86	0.010 mg/L	2.00		93	85-115			
Sulfate	16.1	1.0 mg/L	16.0		100	90-110			
General Parameters, Batch B0J0051									
Blank (B0J0051-BLK1)					Prepared: 2020-10-01, Analyzed: 2020-10-01				
Turbidity	< 0.10	0.10 NTU							
Blank (B0J0051-BLK2)					Prepared: 2020-10-01, Analyzed: 2020-10-01				
Turbidity	< 0.10	0.10 NTU							
LCS (B0J0051-BS1)					Prepared: 2020-10-01, Analyzed: 2020-10-01				
Turbidity	38.5	0.10 NTU	40.0		96	90-110			
LCS (B0J0051-BS2)					Prepared: 2020-10-01, Analyzed: 2020-10-01				
Turbidity	38.8	0.10 NTU	40.0		97	90-110			
General Parameters, Batch B0J0346									
Blank (B0J0346-BLK1)					Prepared: 2020-10-05, Analyzed: 2020-10-05				
Solids, Total Dissolved	< 15	15 mg/L							
LCS (B0J0346-BS1)					Prepared: 2020-10-05, Analyzed: 2020-10-05				
Solids, Total Dissolved	239	15 mg/L	240		100	85-115			
General Parameters, Batch B0J0348									
Blank (B0J0348-BLK1)					Prepared: 2020-10-06, Analyzed: 2020-10-06				
Solids, Total Suspended	< 2.0	2.0 mg/L							
Blank (B0J0348-BLK2)					Prepared: 2020-10-06, Analyzed: 2020-10-06				
Solids, Total Suspended	< 2.0	2.0 mg/L							
LCS (B0J0348-BS1)					Prepared: 2020-10-06, Analyzed: 2020-10-06				
Solids, Total Suspended	104	10.0 mg/L	100		104	85-115			
LCS (B0J0348-BS2)					Prepared: 2020-10-06, Analyzed: 2020-10-06				
Solids, Total Suspended	97.0	10.0 mg/L	100		97	85-115			
General Parameters, Batch B0J0427									
Blank (B0J0427-BLK1)					Prepared: 2020-10-05, Analyzed: 2020-10-05				
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							
Conductivity (EC)	< 2.0	2.0 µS/cm							
Blank (B0J0427-BLK2)					Prepared: 2020-10-05, Analyzed: 2020-10-05				
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							



APPENDIX 2: QUALITY CONTROL RESULTS

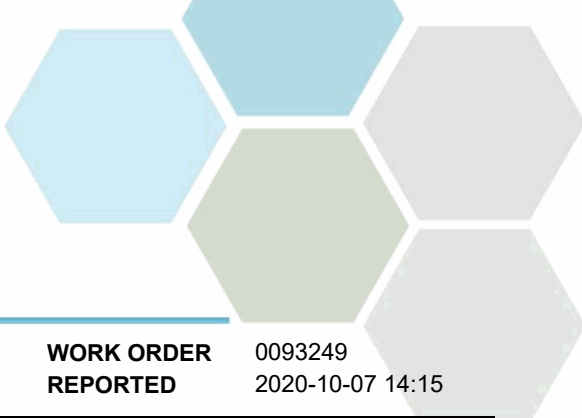
REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 0093249
2020-10-07 14:15

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B0J0427, Continued									
Blank (B0J0427-BLK2), Continued			Prepared: 2020-10-05, Analyzed: 2020-10-05						
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0 mg/L							
Conductivity (EC)	< 2.0	2.0 µS/cm							
LCS (B0J0427-BS1)			Prepared: 2020-10-05, Analyzed: 2020-10-05						
Alkalinity, Total (as CaCO3)	96.6	1.0 mg/L	100		97	80-120			
LCS (B0J0427-BS2)			Prepared: 2020-10-05, Analyzed: 2020-10-05						
Alkalinity, Total (as CaCO3)	96.8	1.0 mg/L	100		97	80-120			
LCS (B0J0427-BS3)			Prepared: 2020-10-05, Analyzed: 2020-10-05						
Conductivity (EC)	1420	2.0 µS/cm	1410		101	95-104			
LCS (B0J0427-BS4)			Prepared: 2020-10-05, Analyzed: 2020-10-05						
Conductivity (EC)	1430	2.0 µS/cm	1410		102	95-104			
Reference (B0J0427-SRM1)			Prepared: 2020-10-05, Analyzed: 2020-10-05						
pH	6.99	0.10 pH units	7.01		100	98-102			
Reference (B0J0427-SRM2)			Prepared: 2020-10-05, Analyzed: 2020-10-05						
pH	6.99	0.10 pH units	7.01		100	98-102			

Total Metals, Batch B0J0415

Blank (B0J0415-BLK1)			Prepared: 2020-10-05, Analyzed: 2020-10-06						
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	< 0.0500	0.0500 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							

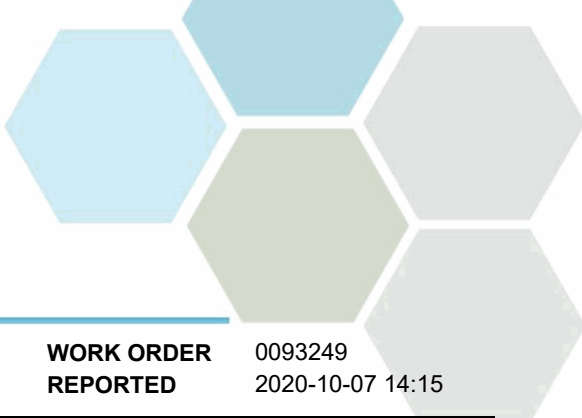


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 0093249
2020-10-07 14:15

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B0J0415, Continued									
Blank (B0J0415-BLK1), Continued					Prepared: 2020-10-05, Analyzed: 2020-10-06				
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 (B0J0415-BS1)					Prepared: 2020-10-05, Analyzed: 2020-10-06				
Aluminum, total	0.0236	0.0050 mg/L	0.0199		119	80-120			
Antimony, total	0.0237	0.00020 mg/L	0.0200		118	80-120			
Arsenic, total	0.0237	0.00050 mg/L	0.0200		119	80-120			
Barium, total	0.0218	0.0050 mg/L	0.0198		110	80-120			
Beryllium, total	0.0206	0.00010 mg/L	0.0198		104	80-120			
Bismuth, total	0.0217	0.00010 mg/L	0.0200		108	80-120			
Boron, total	< 0.0500	0.0500 mg/L	0.0200		80	80-120			
Cadmium, total	0.0208	0.000010 mg/L	0.0199		104	80-120			
Calcium, total	2.38	0.20 mg/L	2.02		118	80-120			
Chromium, total	0.0228	0.00050 mg/L	0.0198		115	80-120			
Cobalt, total	0.0220	0.00010 mg/L	0.0199		110	80-120			
Copper, total	0.0222	0.00040 mg/L	0.0200		111	80-120			
Iron, total	2.22	0.010 mg/L	2.02		110	80-120			
Lead, total	0.0211	0.00020 mg/L	0.0199		106	80-120			
Lithium, total	0.0204	0.00010 mg/L	0.0200		102	80-120			
Magnesium, total	2.00	0.010 mg/L	2.02		99	80-120			
Manganese, total	0.0205	0.00020 mg/L	0.0199		103	80-120			
Molybdenum, total	0.0212	0.00010 mg/L	0.0200		106	80-120			
Nickel, total	0.0222	0.00040 mg/L	0.0200		111	80-120			
Phosphorus, total	2.13	0.050 mg/L	2.00		107	80-120			
Potassium, total	2.05	0.10 mg/L	2.02		101	80-120			
Selenium, total	0.0177	0.00050 mg/L	0.0200		89	80-120			
Silicon, total	2.1	1.0 mg/L	2.00		104	80-120			
Silver, total	0.0201	0.000050 mg/L	0.0200		100	80-120			
Sodium, total	1.96	0.10 mg/L	2.02		97	80-120			
Strontium, total	0.0224	0.0010 mg/L	0.0200		112	80-120			
Sulfur, total	5.2	3.0 mg/L	5.00		103	80-120			
Tellurium, total	0.0207	0.00050 mg/L	0.0200		104	80-120			
Thallium, total	0.0217	0.000020 mg/L	0.0199		109	80-120			
Thorium, total	0.0208	0.00010 mg/L	0.0200		104	80-120			
Tin, total	0.0216	0.00020 mg/L	0.0200		108	80-120			
Titanium, total	0.0222	0.0050 mg/L	0.0200		111	80-120			
Tungsten, total	0.0213	0.0010 mg/L	0.0200		107	80-120			
Uranium, total	0.0206	0.000020 mg/L	0.0200		103	80-120			
Vanadium, total	0.0227	0.0010 mg/L	0.0200		113	80-120			
Zinc, total	0.0226	0.0040 mg/L	0.0200		113	80-120			
Zirconium, total	0.0215	0.00010 mg/L	0.0200		108	80-120			
Reference (B0J0415-SRM1)					Prepared: 2020-10-05, Analyzed: 2020-10-06				
Aluminum, total	0.314	0.0050 mg/L	0.299		105	70-130			
Antimony, total	0.0577	0.00020 mg/L	0.0517		112	70-130			
Arsenic, total	0.138	0.00050 mg/L	0.119		116	70-130			
Barium, total	0.833	0.0050 mg/L	0.801		104	70-130			
Beryllium, total	0.0530	0.00010 mg/L	0.0501		106	70-130			
Boron, total	3.36	0.0500 mg/L	4.11		82	70-130			
Cadmium, total	0.0490	0.000010 mg/L	0.0503		97	70-130			
Calcium, total	10.9	0.20 mg/L	10.7		102	70-130			
Chromium, total	0.273	0.00050 mg/L	0.250		109	70-130			
Cobalt, total	0.0411	0.00010 mg/L	0.0384		107	70-130			
Copper, total	0.519	0.00040 mg/L	0.487		107	70-130			
Iron, total	0.555	0.010 mg/L	0.504		110	70-130			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 0093249
2020-10-07 14:15

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B0J0415, Continued									
Reference (B0J0415-SRM1), Continued					Prepared: 2020-10-05, Analyzed: 2020-10-06				
Lead, total	0.291	0.00020 mg/L	0.278		105	70-130			
Lithium, total	0.403	0.00010 mg/L	0.398		101	70-130			
Magnesium, total	3.49	0.010 mg/L	3.59		97	70-130			
Manganese, total	0.107	0.00020 mg/L	0.111		97	70-130			
Molybdenum, total	0.207	0.00010 mg/L	0.196		106	70-130			
Nickel, total	0.268	0.00040 mg/L	0.248		108	70-130			
Phosphorus, total	0.259	0.050 mg/L	0.213		122	70-130			
Potassium, total	6.04	0.10 mg/L	5.89		103	70-130			
Selenium, total	0.108	0.00050 mg/L	0.120		90	70-130			
Sodium, total	8.29	0.10 mg/L	8.71		95	70-130			
Strontium, total	0.428	0.0010 mg/L	0.393		109	70-130			
Thallium, total	0.0848	0.000020 mg/L	0.0787		108	70-130			
Uranium, total	0.0353	0.000020 mg/L	0.0344		103	70-130			
Vanadium, total	0.433	0.0010 mg/L	0.391		111	70-130			
Zinc, total	2.63	0.0040 mg/L	2.50		105	70-130			



CERTIFICATE OF ANALYSIS

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

ATTENTION Ray Lam

PO NUMBER 17-932

PROJECT 17-932

PROJECT INFO

WORK ORDER 20J1821

RECEIVED / TEMP 2020-10-20 13:30 / 12°C

REPORTED 2020-10-27 16:38

COC NUMBER B75051

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/IEC 17025:2017 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.

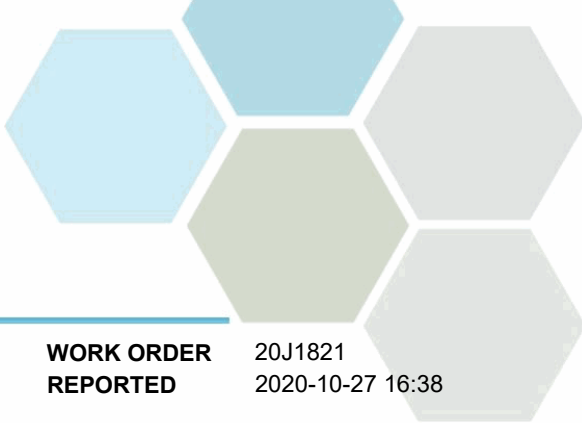
If you have any questions or concerns, please contact me at nyjpp@caro.ca

Authorized By:

Nicole Yipp
Team Lead, Client Service

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

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

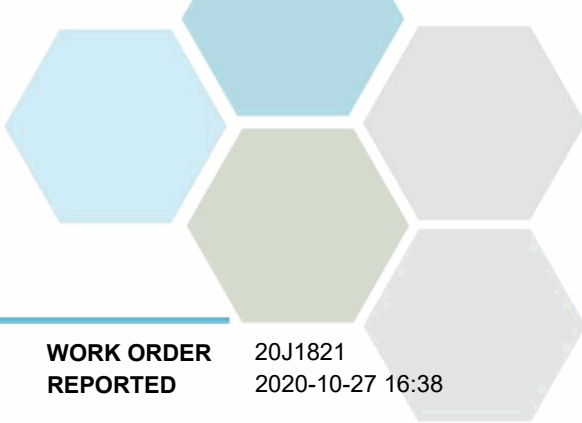


TEST RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20J1821
2020-10-27 16:38

Analyte	Result	RL	Units	Analyzed	Qualifier
SW-1 (20J1821-01) Matrix: Water Sampled: 2020-10-19 14:00					
Anions					
Chloride	14.0	0.10	mg/L	2020-10-22	
Fluoride	< 0.10	0.10	mg/L	2020-10-22	
Nitrate+Nitrite (as N)	0.610	0.0050	mg/L	2020-10-23	
Nitrate (as N)	0.512	0.010	mg/L	2020-10-22	
Nitrite (as N)	< 0.010	0.010	mg/L	2020-10-22	
Sulfate	102	1.0	mg/L	2020-10-22	
Calculated Parameters					
Hardness, Total (as CaCO3)	206	0.500	mg/L	N/A	
Nitrogen, Total	0.794	0.0500	mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	97.5	1.0	mg/L	2020-10-24	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2020-10-24	
Alkalinity, Bicarbonate (as CaCO3)	97.5	1.0	mg/L	2020-10-24	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2020-10-24	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2020-10-24	
Conductivity (EC)	450	2.0	µS/cm	2020-10-24	
Nitrogen, Total Kjeldahl	0.184	0.050	mg/L	2020-10-23	
pH	7.62	0.10	pH units	2020-10-24	HT2
Solids, Total Dissolved	325	15	mg/L	2020-10-23	
Solids, Total Suspended	< 2.0	2.0	mg/L	2020-10-23	
Turbidity	0.44	0.10	NTU	2020-10-22	
Total Metals					
Aluminum, total	0.0188	0.0050	mg/L	2020-10-27	
Antimony, total	< 0.00020	0.00020	mg/L	2020-10-27	
Arsenic, total	< 0.00050	0.00050	mg/L	2020-10-27	
Barium, total	0.0125	0.0050	mg/L	2020-10-27	
Beryllium, total	< 0.00010	0.00010	mg/L	2020-10-27	
Bismuth, total	< 0.00010	0.00010	mg/L	2020-10-27	
Boron, total	< 0.0500	0.0500	mg/L	2020-10-27	
Cadmium, total	< 0.000010	0.000010	mg/L	2020-10-27	
Calcium, total	66.8	0.20	mg/L	2020-10-27	
Chromium, total	< 0.00050	0.00050	mg/L	2020-10-27	
Cobalt, total	< 0.00010	0.00010	mg/L	2020-10-27	
Copper, total	0.00175	0.00040	mg/L	2020-10-27	
Iron, total	0.014	0.010	mg/L	2020-10-27	
Lead, total	< 0.00020	0.00020	mg/L	2020-10-27	
Lithium, total	0.00013	0.00010	mg/L	2020-10-27	
Magnesium, total	9.51	0.010	mg/L	2020-10-27	
Manganese, total	0.00184	0.00020	mg/L	2020-10-27	
Molybdenum, total	0.00094	0.00010	mg/L	2020-10-27	
Nickel, total	0.00072	0.00040	mg/L	2020-10-27	



TEST RESULTS

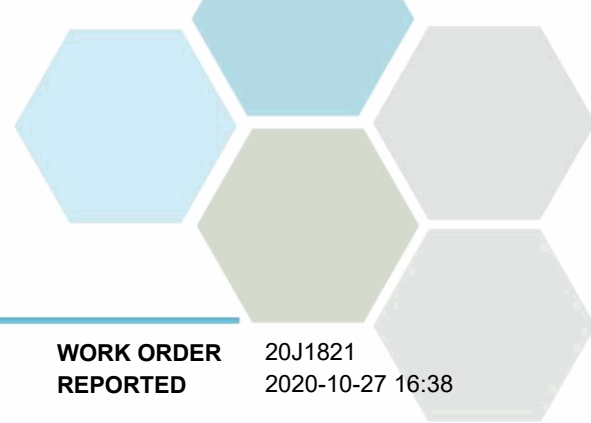
REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20J1821
2020-10-27 16:38

Analyte	Result	RL	Units	Analyzed	Qualifier
SW-1 (20J1821-01) Matrix: Water Sampled: 2020-10-19 14:00, Continued					
<i>Total Metals, Continued</i>					
Phosphorus, total	< 0.050	0.050	mg/L	2020-10-27	
Potassium, total	0.79	0.10	mg/L	2020-10-27	
Selenium, total	< 0.00050	0.00050	mg/L	2020-10-27	
Silicon, total	6.6	1.0	mg/L	2020-10-27	
Silver, total	< 0.000050	0.000050	mg/L	2020-10-27	
Sodium, total	9.48	0.10	mg/L	2020-10-27	
Strontium, total	0.186	0.0010	mg/L	2020-10-27	
Sulfur, total	41.0	3.0	mg/L	2020-10-27	
Tellurium, total	< 0.00050	0.00050	mg/L	2020-10-27	
Thallium, total	< 0.000020	0.000020	mg/L	2020-10-27	
Thorium, total	< 0.00010	0.00010	mg/L	2020-10-27	
Tin, total	< 0.00020	0.00020	mg/L	2020-10-27	
Titanium, total	< 0.0050	0.0050	mg/L	2020-10-27	
Tungsten, total	< 0.0010	0.0010	mg/L	2020-10-27	
Uranium, total	0.00126	0.000020	mg/L	2020-10-27	
Vanadium, total	0.0017	0.0010	mg/L	2020-10-27	
Zinc, total	< 0.0040	0.0040	mg/L	2020-10-27	
Zirconium, total	< 0.00010	0.00010	mg/L	2020-10-27	

Sample Qualifiers:

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



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20J1821
2020-10-27 16:38

Analysis Description	Method Ref.	Technique	Accredited	Location
Alkalinity in Water	SM 2320 B* (2017)	Titration with H2SO4	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Conductivity in Water	SM 2510 B (2017)	Conductivity Meter	✓	Kelowna
Hardness in Water	SM 2340 B* (2017)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	N/A
Nitrate+Nitrite in Water	SM 4500-NO3- F (2017)	Automated Colorimetry (Cadmium Reduction)	✓	Kelowna
Nitrogen, Total Kjeldahl in Water	SM 4500-Norg D* (2017)	Block Digestion and Flow Injection Analysis	✓	Kelowna
pH in Water	SM 4500-H+ B (2017)	Electrometry	✓	Kelowna
Solids, Total Dissolved in Water	SM 2540 C* (2017)	Gravimetry (Dried at 103-105C)	✓	Kelowna
Solids, Total Suspended in Water	SM 2540 D* (2017)	Gravimetry (Dried at 103-105C)	✓	Kelowna
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 (2017)	Nephelometry	✓	Kelowna

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

Glossary of Terms:

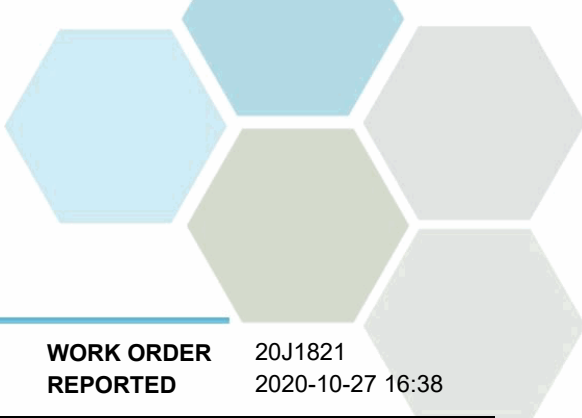
RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
mg/L	Milligrams per litre
NTU	Nephelometric Turbidity Units
pH units	pH < 7 = acidic, pH > 7 = basic
µS/cm	Microsiemens per centimetre
EPA	United States Environmental Protection Agency Test Methods
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association

General Comments:

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

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: nyipp@caro.ca

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

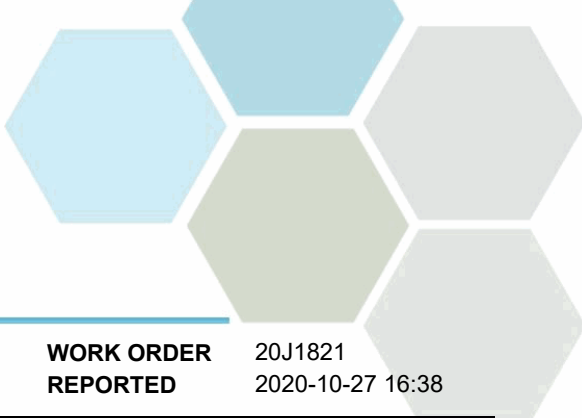
WORK ORDER REPORTED 20J1821
2020-10-27 16:38

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 B0J1983									
Blank (B0J1983-BLK1)			Prepared: 2020-10-22, Analyzed: 2020-10-22						
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 (B0J1983-BLK2)			Prepared: 2020-10-22, Analyzed: 2020-10-22						
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 (B0J1983-BLK3)			Prepared: 2020-10-22, Analyzed: 2020-10-22						
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 (B0J1983-BLK4)			Prepared: 2020-10-22, Analyzed: 2020-10-22						
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 (B0J1983-BS1)			Prepared: 2020-10-22, Analyzed: 2020-10-22						
Chloride	16.1	0.10 mg/L	16.0		100	90-110			
Fluoride	4.15	0.10 mg/L	4.00		104	88-108			
Nitrate (as N)	3.62	0.010 mg/L	4.00		90	90-110			
Nitrite (as N)	1.80	0.010 mg/L	2.00		90	85-115			
Sulfate	15.9	1.0 mg/L	16.0		99	90-110			
LCS (B0J1983-BS2)			Prepared: 2020-10-22, Analyzed: 2020-10-22						
Chloride	16.0	0.10 mg/L	16.0		100	90-110			
Fluoride	4.01	0.10 mg/L	4.00		100	88-108			



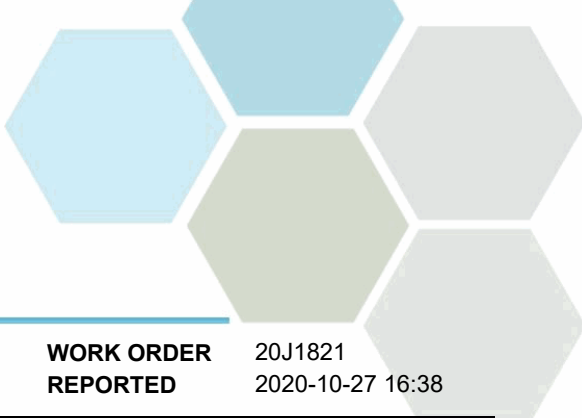
APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20J1821
2020-10-27 16:38

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Anions, Batch B0J1983, Continued									
LCS (B0J1983-BS2), Continued					Prepared: 2020-10-22, Analyzed: 2020-10-22				
Nitrate (as N)	3.98	0.010 mg/L	4.00		99	90-110			
Nitrite (as N)	2.02	0.010 mg/L	2.00		101	85-115			
Sulfate	16.0	1.0 mg/L	16.0		100	90-110			
LCS (B0J1983-BS3)					Prepared: 2020-10-22, Analyzed: 2020-10-22				
Chloride	16.0	0.10 mg/L	16.0		100	90-110			
Fluoride	4.02	0.10 mg/L	4.00		100	88-108			
Nitrate (as N)	3.81	0.010 mg/L	4.00		95	90-110			
Nitrite (as N)	1.83	0.010 mg/L	2.00		91	85-115			
Sulfate	15.9	1.0 mg/L	16.0		99	90-110			
LCS (B0J1983-BS4)					Prepared: 2020-10-22, Analyzed: 2020-10-22				
Chloride	16.0	0.10 mg/L	16.0		100	90-110			
Fluoride	4.02	0.10 mg/L	4.00		101	88-108			
Nitrate (as N)	3.81	0.010 mg/L	4.00		95	90-110			
Nitrite (as N)	2.07	0.010 mg/L	2.00		104	85-115			
Sulfate	15.9	1.0 mg/L	16.0		99	90-110			
Anions, Batch B0J2155									
Blank (B0J2155-BLK1)					Prepared: 2020-10-23, Analyzed: 2020-10-23				
Nitrate+Nitrite (as N)	< 0.0050	0.0050 mg/L							
LCS (B0J2155-BS1)					Prepared: 2020-10-23, Analyzed: 2020-10-23				
Nitrate+Nitrite (as N)	0.515	0.0050 mg/L	0.500		103	91-108			
General Parameters, Batch B0J2002									
Blank (B0J2002-BLK1)					Prepared: 2020-10-22, Analyzed: 2020-10-22				
Turbidity	< 0.10	0.10 NTU							
Blank (B0J2002-BLK2)					Prepared: 2020-10-22, Analyzed: 2020-10-22				
Turbidity	< 0.10	0.10 NTU							
LCS (B0J2002-BS1)					Prepared: 2020-10-22, Analyzed: 2020-10-22				
Turbidity	37.6	0.10 NTU	40.0		94	90-110			
LCS (B0J2002-BS2)					Prepared: 2020-10-22, Analyzed: 2020-10-22				
Turbidity	38.7	0.10 NTU	40.0		97	90-110			
General Parameters, Batch B0J2039									
Blank (B0J2039-BLK1)					Prepared: 2020-10-23, Analyzed: 2020-10-23				
Solids, Total Suspended	< 2.0	2.0 mg/L							
Blank (B0J2039-BLK2)					Prepared: 2020-10-23, Analyzed: 2020-10-23				
Solids, Total Suspended	< 2.0	2.0 mg/L							
LCS (B0J2039-BS1)					Prepared: 2020-10-23, Analyzed: 2020-10-23				
Solids, Total Suspended	89.0	10.0 mg/L	100		89	85-115			
LCS (B0J2039-BS2)					Prepared: 2020-10-23, Analyzed: 2020-10-23				
Solids, Total Suspended	95.0	10.0 mg/L	100		95	85-115			

General Parameters, Batch B0J2082

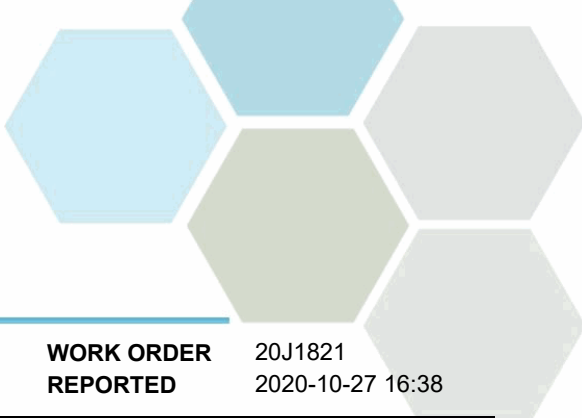


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20J1821
2020-10-27 16:38

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B0J2082, Continued									
Blank (B0J2082-BLK1)			Prepared: 2020-10-22, Analyzed: 2020-10-23						
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
Blank (B0J2082-BLK2)			Prepared: 2020-10-22, Analyzed: 2020-10-23						
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
LCS (B0J2082-BS1)			Prepared: 2020-10-22, Analyzed: 2020-10-23						
Nitrogen, Total Kjeldahl	1.06	0.050 mg/L	1.00		106	85-115			
LCS (B0J2082-BS2)			Prepared: 2020-10-22, Analyzed: 2020-10-23						
Nitrogen, Total Kjeldahl	1.05	0.050 mg/L	1.00		105	85-115			
General Parameters, Batch B0J2146									
Blank (B0J2146-BLK1)			Prepared: 2020-10-23, Analyzed: 2020-10-23						
Solids, Total Dissolved	< 15	15 mg/L							
LCS (B0J2146-BS1)			Prepared: 2020-10-23, Analyzed: 2020-10-23						
Solids, Total Dissolved	226	15 mg/L	240		94	85-115			
General Parameters, Batch B0J2244									
Blank (B0J2244-BLK1)			Prepared: 2020-10-24, Analyzed: 2020-10-24						
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							
Conductivity (EC)	< 2.0	2.0 µS/cm							
Blank (B0J2244-BLK2)			Prepared: 2020-10-24, Analyzed: 2020-10-24						
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							
Conductivity (EC)	< 2.0	2.0 µS/cm							
Blank (B0J2244-BLK3)			Prepared: 2020-10-24, Analyzed: 2020-10-24						
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							
Conductivity (EC)	< 2.0	2.0 µS/cm							
LCS (B0J2244-BS1)			Prepared: 2020-10-24, Analyzed: 2020-10-24						
Alkalinity, Total (as CaCO3)	98.5	1.0 mg/L	100		99	80-120			
LCS (B0J2244-BS2)			Prepared: 2020-10-24, Analyzed: 2020-10-24						
Alkalinity, Total (as CaCO3)	99.0	1.0 mg/L	100		99	80-120			
LCS (B0J2244-BS3)			Prepared: 2020-10-24, Analyzed: 2020-10-24						
Alkalinity, Total (as CaCO3)	98.6	1.0 mg/L	100		99	80-120			
LCS (B0J2244-BS4)			Prepared: 2020-10-24, Analyzed: 2020-10-24						
Conductivity (EC)	1400	2.0 µS/cm	1410		99	95-104			



APPENDIX 2: QUALITY CONTROL RESULTS

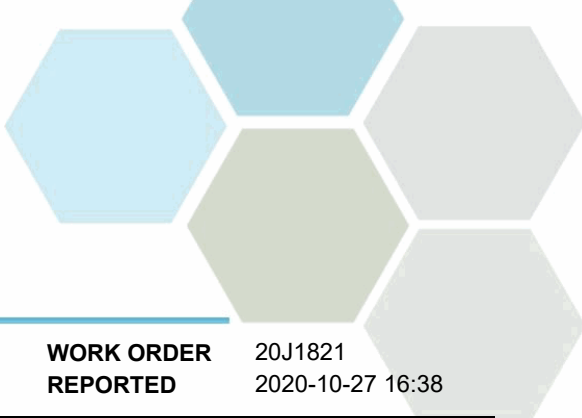
REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20J1821
2020-10-27 16:38

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B0J2244, Continued									
LCS (B0J2244-BS5)			Prepared: 2020-10-24, Analyzed: 2020-10-24						
Conductivity (EC)	1460	2.0 µS/cm	1410		103	95-104			
LCS (B0J2244-BS6)			Prepared: 2020-10-24, Analyzed: 2020-10-24						
Conductivity (EC)	1490	2.0 µS/cm	1410		106	95-104			
Reference (B0J2244-SRM1)			Prepared: 2020-10-24, Analyzed: 2020-10-24						
pH	6.99	0.10 pH units	7.01		100	98-102			
Reference (B0J2244-SRM2)			Prepared: 2020-10-24, Analyzed: 2020-10-24						
pH	6.99	0.10 pH units	7.01		100	98-102			
Reference (B0J2244-SRM3)			Prepared: 2020-10-24, Analyzed: 2020-10-24						
pH	6.99	0.10 pH units	7.01		100	98-102			

Total Metals, Batch B0J2017

Blank (B0J2017-BLK1)			Prepared: 2020-10-22, Analyzed: 2020-10-27						
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	< 0.0500	0.0500 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							



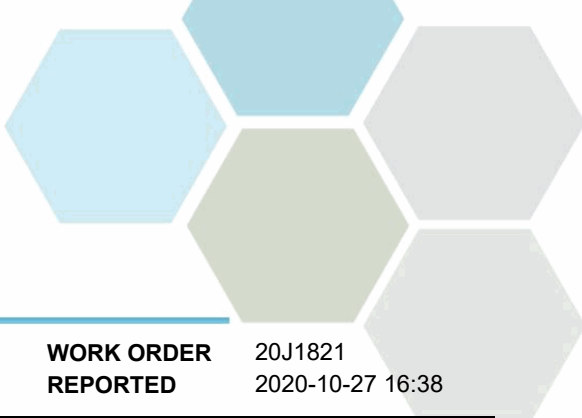
APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20J1821
2020-10-27 16:38

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B0J2017, Continued									
LCS (B0J2017-BS1)					Prepared: 2020-10-22, Analyzed: 2020-10-27				
Aluminum, total	0.0215	0.0050 mg/L	0.0199		108	80-120			
Antimony, total	0.0231	0.00020 mg/L	0.0200		116	80-120			
Arsenic, total	0.0203	0.00050 mg/L	0.0200		102	80-120			
Barium, total	0.0204	0.0050 mg/L	0.0198		103	80-120			
Beryllium, total	0.0220	0.00010 mg/L	0.0198		111	80-120			
Bismuth, total	0.0207	0.00010 mg/L	0.0200		103	80-120			
Boron, total	< 0.0500	0.0500 mg/L	0.0200		118	80-120			
Cadmium, total	0.0206	0.000010 mg/L	0.0199		103	80-120			
Calcium, total	2.02	0.20 mg/L	2.02		100	80-120			
Chromium, total	0.0195	0.00050 mg/L	0.0198		99	80-120			
Cobalt, total	0.0202	0.00010 mg/L	0.0199		102	80-120			
Copper, total	0.0205	0.00040 mg/L	0.0200		103	80-120			
Iron, total	1.92	0.010 mg/L	2.02		95	80-120			
Lead, total	0.0203	0.00020 mg/L	0.0199		102	80-120			
Lithium, total	0.0229	0.00010 mg/L	0.0200		114	80-120			
Magnesium, total	2.07	0.010 mg/L	2.02		103	80-120			
Manganese, total	0.0198	0.00020 mg/L	0.0199		99	80-120			
Molybdenum, total	0.0201	0.00010 mg/L	0.0200		101	80-120			
Nickel, total	0.0204	0.00040 mg/L	0.0200		102	80-120			
Phosphorus, total	2.01	0.050 mg/L	2.00		101	80-120			
Potassium, total	1.89	0.10 mg/L	2.02		94	80-120			
Selenium, total	0.0201	0.00050 mg/L	0.0200		101	80-120			
Silicon, total	2.4	1.0 mg/L	2.00		119	80-120			
Silver, total	0.0201	0.000050 mg/L	0.0200		100	80-120			
Sodium, total	1.97	0.10 mg/L	2.02		98	80-120			
Strontium, total	0.0195	0.0010 mg/L	0.0200		97	80-120			
Sulfur, total	4.9	3.0 mg/L	5.00		97	80-120			
Tellurium, total	0.0200	0.00050 mg/L	0.0200		100	80-120			
Thallium, total	0.0203	0.000020 mg/L	0.0199		102	80-120			
Thorium, total	0.0200	0.00010 mg/L	0.0200		100	80-120			
Tin, total	0.0215	0.00020 mg/L	0.0200		107	80-120			
Titanium, total	0.0216	0.0050 mg/L	0.0200		108	80-120			
Tungsten, total	0.0208	0.0010 mg/L	0.0200		104	80-120			
Uranium, total	0.0203	0.000020 mg/L	0.0200		102	80-120			
Vanadium, total	0.0208	0.0010 mg/L	0.0200		104	80-120			
Zinc, total	0.0224	0.0040 mg/L	0.0200		112	80-120			
Zirconium, total	0.0202	0.00010 mg/L	0.0200		101	80-120			

Reference (B0J2017-SRM1)					Prepared: 2020-10-22, Analyzed: 2020-10-27				
Aluminum, total	0.362	0.0050 mg/L	0.299		121	70-130			
Antimony, total	0.0569	0.00020 mg/L	0.0517		110	70-130			
Arsenic, total	0.125	0.00050 mg/L	0.119		105	70-130			
Barium, total	0.790	0.0050 mg/L	0.801		99	70-130			
Beryllium, total	0.0584	0.00010 mg/L	0.0501		117	70-130			
Boron, total	4.61	0.0500 mg/L	4.11		112	70-130			
Cadmium, total	0.0513	0.000010 mg/L	0.0503		102	70-130			
Calcium, total	9.88	0.20 mg/L	10.7		92	70-130			
Chromium, total	0.244	0.00050 mg/L	0.250		98	70-130			
Cobalt, total	0.0391	0.00010 mg/L	0.0384		102	70-130			
Copper, total	0.495	0.00040 mg/L	0.487		102	70-130			
Iron, total	0.485	0.010 mg/L	0.504		96	70-130			
Lead, total	0.292	0.00020 mg/L	0.278		105	70-130			
Lithium, total	0.470	0.00010 mg/L	0.398		118	70-130			
Magnesium, total	3.88	0.010 mg/L	3.59		108	70-130			
Manganese, total	0.111	0.00020 mg/L	0.111		100	70-130			
Molybdenum, total	0.202	0.00010 mg/L	0.196		103	70-130			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20J1821
2020-10-27 16:38

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B0J2017, Continued									
Reference (B0J2017-SRM1), Continued					Prepared: 2020-10-22, Analyzed: 2020-10-27				
Nickel, total	0.256	0.00040 mg/L	0.248		103	70-130			
Phosphorus, total	0.228	0.050 mg/L	0.213		107	70-130			
Potassium, total	5.93	0.10 mg/L	5.89		101	70-130			
Selenium, total	0.131	0.00050 mg/L	0.120		110	70-130			
Sodium, total	9.30	0.10 mg/L	8.71		107	70-130			
Strontium, total	0.387	0.0010 mg/L	0.393		98	70-130			
Thallium, total	0.0837	0.000020 mg/L	0.0787		106	70-130			
Uranium, total	0.0352	0.000020 mg/L	0.0344		102	70-130			
Vanadium, total	0.389	0.0010 mg/L	0.391		99	70-130			
Zinc, total	2.71	0.0040 mg/L	2.50		108	70-130			

CERTIFICATE OF ANALYSIS

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

ATTENTION Ray Lam

PO NUMBER 17-932

PROJECT 17-932

PROJECT INFO

WORK ORDER 20L1813

RECEIVED / TEMP 2020-12-16 12:00 / 7°C

REPORTED 2020-12-22 16:13

COC NUMBER B75052

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/IEC 17025:2017 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.

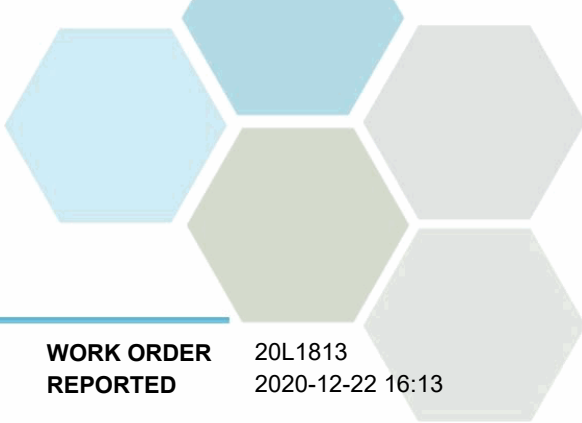
If you have any questions or concerns, please contact me at nyjpp@caro.ca

Authorized By:

Nicole Yipp
Team Lead, Client Service

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

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

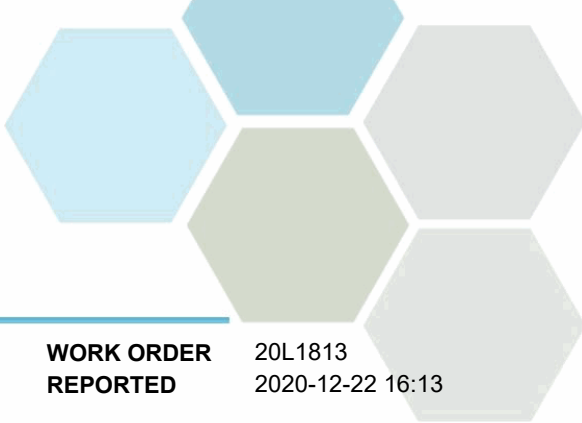


TEST RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20L1813
2020-12-22 16:13

Analyte	Result	RL	Units	Analyzed	Qualifier
SW-1 (20L1813-01) Matrix: Water Sampled: 2020-12-15 15:00					
Anions					
Chloride	8.60	0.10	mg/L	2020-12-18	
Fluoride	< 0.10	0.10	mg/L	2020-12-18	
Nitrate+Nitrite (as N)	0.500	0.0050	mg/L	2020-12-21	
Nitrate (as N)	0.545	0.010	mg/L	2020-12-18	
Nitrite (as N)	< 0.010	0.010	mg/L	2020-12-18	
Sulfate	69.7	1.0	mg/L	2020-12-18	
Calculated Parameters					
Hardness, Total (as CaCO3)	188	0.500	mg/L	N/A	
Nitrogen, Total	0.622	0.0500	mg/L	N/A	
General Parameters					
Alkalinity, Total (as CaCO3)	118	1.0	mg/L	2020-12-21	
Alkalinity, Phenolphthalein (as CaCO3)	< 1.0	1.0	mg/L	2020-12-21	
Alkalinity, Bicarbonate (as CaCO3)	118	1.0	mg/L	2020-12-21	
Alkalinity, Carbonate (as CaCO3)	< 1.0	1.0	mg/L	2020-12-21	
Alkalinity, Hydroxide (as CaCO3)	< 1.0	1.0	mg/L	2020-12-21	
Ammonia, Total (as N)	< 0.050	0.050	mg/L	2020-12-18	
Conductivity (EC)	360	2.0	µS/cm	2020-12-21	
Nitrogen, Total Kjeldahl	0.122	0.050	mg/L	2020-12-21	
pH	7.89	0.10	pH units	2020-12-21	HT2
Solids, Total Dissolved	214	15	mg/L	2020-12-21	
Solids, Total Suspended	< 2.0	2.0	mg/L	2020-12-20	
Turbidity	0.54	0.10	NTU	2020-12-19	HT1
Total Metals					
Aluminum, total	0.0331	0.0050	mg/L	2020-12-21	
Antimony, total	0.00021	0.00020	mg/L	2020-12-21	
Arsenic, total	< 0.00050	0.00050	mg/L	2020-12-21	
Barium, total	0.0097	0.0050	mg/L	2020-12-21	
Beryllium, total	< 0.00010	0.00010	mg/L	2020-12-21	
Bismuth, total	< 0.00010	0.00010	mg/L	2020-12-21	
Boron, total	< 0.0500	0.0500	mg/L	2020-12-21	
Cadmium, total	< 0.000010	0.000010	mg/L	2020-12-21	
Calcium, total	61.0	0.20	mg/L	2020-12-21	
Chromium, total	< 0.00050	0.00050	mg/L	2020-12-21	
Cobalt, total	< 0.00010	0.00010	mg/L	2020-12-21	
Copper, total	0.00499	0.00040	mg/L	2020-12-21	
Iron, total	0.024	0.010	mg/L	2020-12-21	
Lead, total	0.00029	0.00020	mg/L	2020-12-21	
Lithium, total	0.00013	0.00010	mg/L	2020-12-21	
Magnesium, total	8.61	0.010	mg/L	2020-12-21	
Manganese, total	0.00138	0.00020	mg/L	2020-12-21	
Molybdenum, total	0.00070	0.00010	mg/L	2020-12-21	



TEST RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

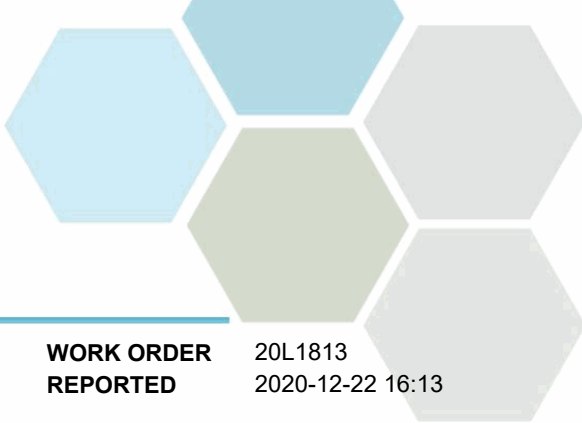
WORK ORDER REPORTED 20L1813
2020-12-22 16:13

Analyte	Result	RL	Units	Analyzed	Qualifier
SW-1 (20L1813-01) Matrix: Water Sampled: 2020-12-15 15:00, Continued					
<i>Total Metals, Continued</i>					
Nickel, total	0.00059	0.00040	mg/L	2020-12-21	
Phosphorus, total	< 0.050	0.050	mg/L	2020-12-21	
Potassium, total	0.70	0.10	mg/L	2020-12-21	
Selenium, total	< 0.00050	0.00050	mg/L	2020-12-21	
Silicon, total	5.8	1.0	mg/L	2020-12-21	
Silver, total	< 0.000050	0.000050	mg/L	2020-12-21	
Sodium, total	8.57	0.10	mg/L	2020-12-21	
Strontium, total	0.158	0.0010	mg/L	2020-12-21	
Sulfur, total	21.7	3.0	mg/L	2020-12-21	
Tellurium, total	< 0.00050	0.00050	mg/L	2020-12-21	
Thallium, total	< 0.000020	0.000020	mg/L	2020-12-21	
Thorium, total	< 0.00010	0.00010	mg/L	2020-12-21	
Tin, total	< 0.00020	0.00020	mg/L	2020-12-21	
Titanium, total	< 0.0050	0.0050	mg/L	2020-12-21	
Tungsten, total	< 0.0010	0.0010	mg/L	2020-12-21	
Uranium, total	0.00103	0.000020	mg/L	2020-12-21	
Vanadium, total	0.0012	0.0010	mg/L	2020-12-21	
Zinc, total	0.0044	0.0040	mg/L	2020-12-21	
Zirconium, total	< 0.00010	0.00010	mg/L	2020-12-21	

Sample Qualifiers:

HT1 The sample was prepared and/or analyzed past the recommended holding time.

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



APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO PROJECT Allterra Construction
17-932

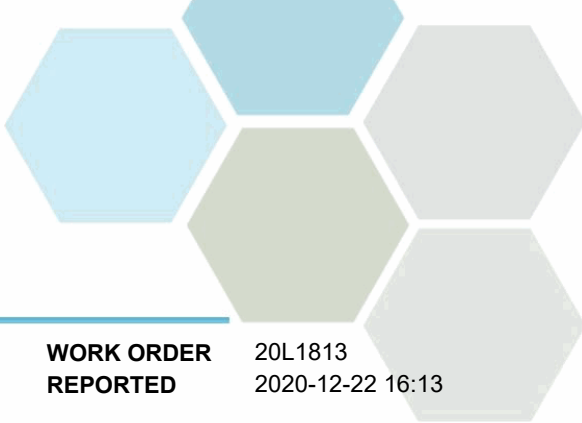
WORK ORDER REPORTED 20L1813
2020-12-22 16:13

Analysis Description	Method Ref.	Technique	Accredited	Location
Alkalinity in Water	SM 2320 B* (2017)	Titration with H2SO4	✓	Kelowna
Ammonia, Total in Water	SM 4500-NH3 G* (2017)	Automated Colorimetry (Phenate)	✓	Kelowna
Anions in Water	SM 4110 B (2017)	Ion Chromatography	✓	Kelowna
Conductivity in Water	SM 2510 B (2017)	Conductivity Meter	✓	Kelowna
Hardness in Water	SM 2340 B* (2017)	Calculation: 2.497 [total Ca] + 4.118 [total Mg] (Est)	✓	N/A
Nitrate+Nitrite in Water	SM 4500-NO3- F (2017)	Automated Colorimetry (Cadmium Reduction)	✓	Kelowna
Nitrogen, Total Kjeldahl in Water	SM 4500-Norg D* (2017)	Block Digestion and Flow Injection Analysis	✓	Kelowna
pH in Water	SM 4500-H+ B (2017)	Electrometry	✓	Kelowna
Solids, Total Dissolved in Water	SM 2540 C* (2017)	Gravimetry (Dried at 103-105C)	✓	Kelowna
Solids, Total Suspended in Water	SM 2540 D* (2017)	Gravimetry (Dried at 103-105C)	✓	Kelowna
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 (2017)	Nephelometry	✓	Kelowna

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

Glossary of Terms:

RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
mg/L	Milligrams per litre
NTU	Nephelometric Turbidity Units
pH units	pH < 7 = acidic, pH > 7 = basic
µS/cm	Microsiemens per centimetre
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 17-932

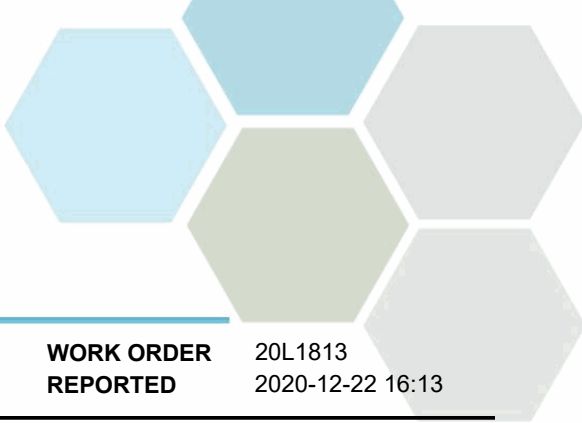
WORK ORDER 20L1813
REPORTED 2020-12-22 16:13

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 or once samples expire, whichever comes first. Longer hold is possible if 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: nyipp@caro.ca

Please note any regulatory guidelines applied to this report are added as a convenience to the client, at their request, to help provide some initial context to analytical results obtained. Although CARO makes every effort to ensure accuracy of the associated regulatory guideline(s) applied, the guidelines applied cannot be assumed to be correct due to a variety of factors and as such CARO Analytical Services assumes no liability or responsibility for the use of those guidelines to make any decisions. The original source of the regulation should be verified and a review of the guideline(s) should be validated as correct in order to make any decisions arising from the comparison of the analytical data obtained to the relevant regulatory guideline for one's particular circumstances. Further, CARO Analytical Services assumes no liability or responsibility for any loss attributed from the use of these guidelines in any way.



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

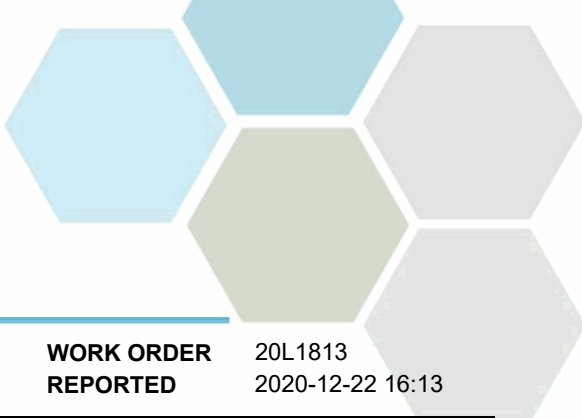
WORK ORDER REPORTED 20L1813
2020-12-22 16:13

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 B0L1679									
Blank (B0L1679-BLK1)			Prepared: 2020-12-18, Analyzed: 2020-12-18						
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 (B0L1679-BLK2)			Prepared: 2020-12-18, Analyzed: 2020-12-18						
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 (B0L1679-BS1)			Prepared: 2020-12-18, Analyzed: 2020-12-18						
Chloride	16.1	0.10 mg/L	16.0		101	90-110			
Fluoride	4.06	0.10 mg/L	4.00		102	88-108			
Nitrate (as N)	4.00	0.010 mg/L	4.00		100	90-110			
Nitrite (as N)	2.01	0.010 mg/L	2.00		100	85-115			
Sulfate	16.1	1.0 mg/L	16.0		101	90-110			
LCS (B0L1679-BS2)			Prepared: 2020-12-18, Analyzed: 2020-12-18						
Chloride	16.0	0.10 mg/L	16.0		100	90-110			
Fluoride	4.10	0.10 mg/L	4.00		103	88-108			
Nitrate (as N)	4.01	0.010 mg/L	4.00		100	90-110			
Nitrite (as N)	2.03	0.010 mg/L	2.00		101	85-115			
Sulfate	15.9	1.0 mg/L	16.0		100	90-110			
Anions, Batch B0L1929									
Blank (B0L1929-BLK1)			Prepared: 2020-12-21, Analyzed: 2020-12-21						
Nitrate+Nitrite (as N)	< 0.0050	0.0050 mg/L							
LCS (B0L1929-BS1)			Prepared: 2020-12-21, Analyzed: 2020-12-21						
Nitrate+Nitrite (as N)	0.486	0.0050 mg/L	0.500		97	91-108			

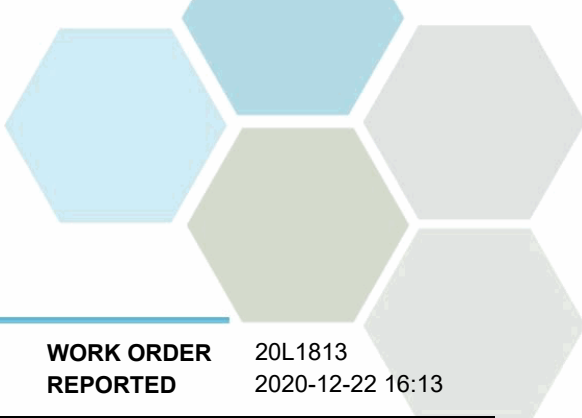


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20L1813
2020-12-22 16:13

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Anions, Batch B0L1929, Continued									
Duplicate (B0L1929-DUP1)		Source: 20L1813-01		Prepared: 2020-12-21, Analyzed: 2020-12-21					
Nitrate+Nitrite (as N)	0.502	0.0050 mg/L		0.500			< 1	10	
Matrix Spike (B0L1929-MS1)		Source: 20L1813-01		Prepared: 2020-12-21, Analyzed: 2020-12-21					
Nitrate+Nitrite (as N)	0.598	0.0050 mg/L	0.125	0.500	78	80-120			MS2
General Parameters, Batch B0L1724									
Blank (B0L1724-BLK1)				Prepared: 2020-12-18, Analyzed: 2020-12-18					
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B0L1724-BLK2)				Prepared: 2020-12-18, Analyzed: 2020-12-18					
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
Blank (B0L1724-BLK3)				Prepared: 2020-12-18, Analyzed: 2020-12-18					
Ammonia, Total (as N)	< 0.050	0.050 mg/L							
LCS (B0L1724-BS1)				Prepared: 2020-12-18, Analyzed: 2020-12-18					
Ammonia, Total (as N)	0.957	0.050 mg/L	1.00		96	90-115			
LCS (B0L1724-BS2)				Prepared: 2020-12-18, Analyzed: 2020-12-18					
Ammonia, Total (as N)	0.972	0.050 mg/L	1.00		97	90-115			
LCS (B0L1724-BS3)				Prepared: 2020-12-18, Analyzed: 2020-12-18					
Ammonia, Total (as N)	0.938	0.050 mg/L	1.00		94	90-115			
Duplicate (B0L1724-DUP3)		Source: 20L1813-01		Prepared: 2020-12-18, Analyzed: 2020-12-18					
Ammonia, Total (as N)	< 0.050	0.050 mg/L		< 0.050					15
Matrix Spike (B0L1724-MS3)		Source: 20L1813-01		Prepared: 2020-12-18, Analyzed: 2020-12-18					
Ammonia, Total (as N)	0.300	0.050 mg/L	0.250	< 0.050	107	75-125			
General Parameters, Batch B0L1860									
Blank (B0L1860-BLK1)				Prepared: 2020-12-19, Analyzed: 2020-12-19					
Turbidity	< 0.10	0.10 NTU							
Blank (B0L1860-BLK2)				Prepared: 2020-12-19, Analyzed: 2020-12-19					
Turbidity	< 0.10	0.10 NTU							
LCS (B0L1860-BS1)				Prepared: 2020-12-19, Analyzed: 2020-12-19					
Turbidity	37.4	0.10 NTU	40.0		94	90-110			
LCS (B0L1860-BS2)				Prepared: 2020-12-19, Analyzed: 2020-12-19					
Turbidity	37.2	0.10 NTU	40.0		93	90-110			
General Parameters, Batch B0L1884									
Blank (B0L1884-BLK1)				Prepared: 2020-12-20, Analyzed: 2020-12-20					
Solids, Total Suspended	< 2.0	2.0 mg/L							
Blank (B0L1884-BLK2)				Prepared: 2020-12-20, Analyzed: 2020-12-20					
Solids, Total Suspended	< 2.0	2.0 mg/L							
LCS (B0L1884-BS1)				Prepared: 2020-12-20, Analyzed: 2020-12-20					
Solids, Total Suspended	90.0	10.0 mg/L	100		90	85-115			

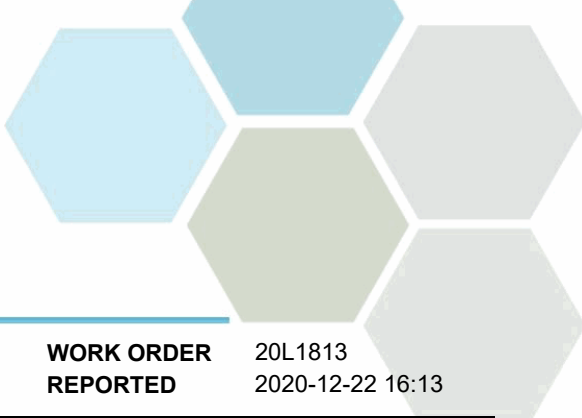


APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20L1813
2020-12-22 16:13

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B0L1884, Continued									
LCS (B0L1884-BS2)			Prepared: 2020-12-20, Analyzed: 2020-12-20						
Solids, Total Suspended	90.0	10.0 mg/L	100		90	85-115			
General Parameters, Batch B0L1886									
Blank (B0L1886-BLK1)			Prepared: 2020-12-20, Analyzed: 2020-12-21						
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
Blank (B0L1886-BLK2)			Prepared: 2020-12-20, Analyzed: 2020-12-21						
Nitrogen, Total Kjeldahl	< 0.050	0.050 mg/L							
LCS (B0L1886-BS1)			Prepared: 2020-12-20, Analyzed: 2020-12-21						
Nitrogen, Total Kjeldahl	1.11	0.050 mg/L	1.00		111	85-115			
LCS (B0L1886-BS2)			Prepared: 2020-12-20, Analyzed: 2020-12-21						
Nitrogen, Total Kjeldahl	1.09	0.050 mg/L	1.00		109	85-115			
General Parameters, Batch B0L1925									
Blank (B0L1925-BLK1)			Prepared: 2020-12-21, Analyzed: 2020-12-21						
Solids, Total Dissolved	< 15	15 mg/L							
LCS (B0L1925-BS1)			Prepared: 2020-12-21, Analyzed: 2020-12-21						
Solids, Total Dissolved	< 15	15 mg/L	240			85-115			
General Parameters, Batch B0L1979									
Blank (B0L1979-BLK1)			Prepared: 2020-12-21, Analyzed: 2020-12-21						
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							
Conductivity (EC)	< 2.0	2.0 µS/cm							
Blank (B0L1979-BLK2)			Prepared: 2020-12-21, Analyzed: 2020-12-21						
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							
Conductivity (EC)	< 2.0	2.0 µS/cm							
Blank (B0L1979-BLK3)			Prepared: 2020-12-21, Analyzed: 2020-12-21						
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							
Conductivity (EC)	< 2.0	2.0 µS/cm							
LCS (B0L1979-BS1)			Prepared: 2020-12-21, Analyzed: 2020-12-21						
Alkalinity, Total (as CaCO3)	102	1.0 mg/L	100		102	80-120			
LCS (B0L1979-BS2)			Prepared: 2020-12-21, Analyzed: 2020-12-21						
Alkalinity, Total (as CaCO3)	103	1.0 mg/L	100		103	80-120			



APPENDIX 2: QUALITY CONTROL RESULTS

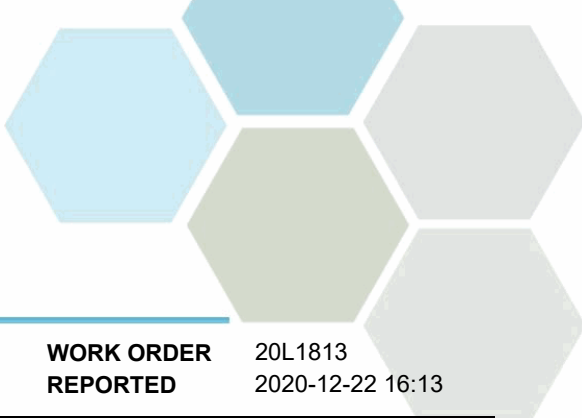
REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20L1813
2020-12-22 16:13

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
General Parameters, Batch B0L1979, Continued									
LCS (B0L1979-BS3)			Prepared: 2020-12-21, Analyzed: 2020-12-21						
Alkalinity, Total (as CaCO3)	102	1.0 mg/L	100		102	80-120			
LCS (B0L1979-BS4)			Prepared: 2020-12-21, Analyzed: 2020-12-21						
Conductivity (EC)	1410	2.0 µS/cm	1410		100	95-104			
LCS (B0L1979-BS5)			Prepared: 2020-12-21, Analyzed: 2020-12-21						
Conductivity (EC)	1400	2.0 µS/cm	1410		99	95-104			
LCS (B0L1979-BS6)			Prepared: 2020-12-21, Analyzed: 2020-12-21						
Conductivity (EC)	1380	2.0 µS/cm	1410		98	95-104			
Reference (B0L1979-SRM1)			Prepared: 2020-12-21, Analyzed: 2020-12-21						
pH	6.98	0.10 pH units	7.01		100	98-102			
Reference (B0L1979-SRM2)			Prepared: 2020-12-21, Analyzed: 2020-12-21						
pH	6.98	0.10 pH units	7.01		100	98-102			
Reference (B0L1979-SRM3)			Prepared: 2020-12-21, Analyzed: 2020-12-21						
pH	6.98	0.10 pH units	7.01		100	98-102			

Total Metals, Batch B0L1903

Blank (B0L1903-BLK1)			Prepared: 2020-12-20, Analyzed: 2020-12-21						
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	< 0.0500	0.0500 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							



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20L1813
2020-12-22 16:13

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
---------	--------	----------	-------------	---------------	-------	-----------	-------	-----------	-----------

Total Metals, Batch B0L1903, Continued

Blank (B0L1903-BLK1), Continued

Prepared: 2020-12-20, Analyzed: 2020-12-21

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 (B0L1903-BS1)

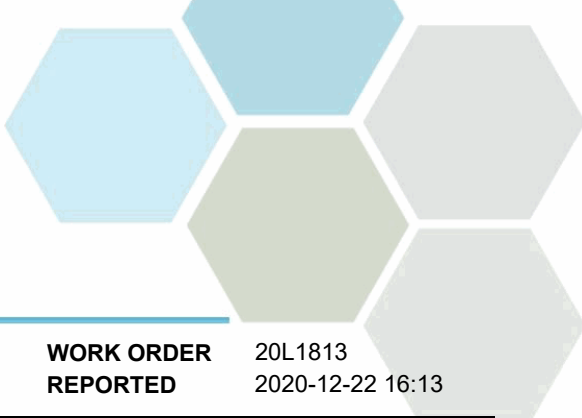
Prepared: 2020-12-20, Analyzed: 2020-12-21

Aluminum, total	0.0220	0.0050 mg/L	0.0199		111	80-120			
Antimony, total	0.0227	0.00020 mg/L	0.0200		114	80-120			
Arsenic, total	0.0219	0.00050 mg/L	0.0200		109	80-120			
Barium, total	0.0214	0.0050 mg/L	0.0198		108	80-120			
Beryllium, total	0.0208	0.00010 mg/L	0.0198		105	80-120			
Bismuth, total	0.0221	0.00010 mg/L	0.0200		111	80-120			
Boron, total	< 0.0500	0.0500 mg/L	0.0200		120	80-120			
Cadmium, total	0.0211	0.000010 mg/L	0.0199		106	80-120			
Calcium, total	2.26	0.20 mg/L	2.02		112	80-120			
Chromium, total	0.0197	0.00050 mg/L	0.0198		100	80-120			
Cobalt, total	0.0203	0.00010 mg/L	0.0199		102	80-120			
Copper, total	0.0204	0.00040 mg/L	0.0200		102	80-120			
Iron, total	2.03	0.010 mg/L	2.02		100	80-120			
Lead, total	0.0237	0.00020 mg/L	0.0199		119	80-120			
Lithium, total	0.0213	0.00010 mg/L	0.0200		107	80-120			
Magnesium, total	2.20	0.010 mg/L	2.02		109	80-120			
Manganese, total	0.0191	0.00020 mg/L	0.0199		96	80-120			
Molybdenum, total	0.0206	0.00010 mg/L	0.0200		103	80-120			
Nickel, total	0.0203	0.00040 mg/L	0.0200		102	80-120			
Phosphorus, total	2.01	0.050 mg/L	2.00		100	80-120			
Potassium, total	2.03	0.10 mg/L	2.02		100	80-120			
Selenium, total	0.0202	0.00050 mg/L	0.0200		101	80-120			
Silicon, total	2.1	1.0 mg/L	2.00		107	80-120			
Silver, total	0.0211	0.000050 mg/L	0.0200		106	80-120			
Sodium, total	2.20	0.10 mg/L	2.02		109	80-120			
Strontium, total	0.0204	0.0010 mg/L	0.0200		102	80-120			
Sulfur, total	4.3	3.0 mg/L	5.00		86	80-120			
Tellurium, total	0.0240	0.00050 mg/L	0.0200		120	80-120			
Thallium, total	0.0216	0.000020 mg/L	0.0199		108	80-120			
Thorium, total	0.0214	0.00010 mg/L	0.0200		107	80-120			
Tin, total	0.0215	0.00020 mg/L	0.0200		108	80-120			
Titanium, total	0.0160	0.0050 mg/L	0.0200		80	80-120			
Tungsten, total	0.0213	0.0010 mg/L	0.0200		106	80-120			
Uranium, total	0.0216	0.000020 mg/L	0.0200		108	80-120			
Vanadium, total	0.0215	0.0010 mg/L	0.0200		108	80-120			
Zinc, total	0.0223	0.0040 mg/L	0.0200		112	80-120			
Zirconium, total	0.0208	0.00010 mg/L	0.0200		104	80-120			

Reference (B0L1903-SRM1)

Prepared: 2020-12-20, Analyzed: 2020-12-21

Aluminum, total	0.298	0.0050 mg/L	0.299		100	70-130			
Antimony, total	0.0556	0.00020 mg/L	0.0517		108	70-130			
Arsenic, total	0.133	0.00050 mg/L	0.119		111	70-130			
Barium, total	0.839	0.0050 mg/L	0.801		105	70-130			
Beryllium, total	0.0501	0.00010 mg/L	0.0501		100	70-130			
Boron, total	3.91	0.0500 mg/L	4.11		95	70-130			
Cadmium, total	0.0531	0.000010 mg/L	0.0503		106	70-130			
Calcium, total	10.9	0.20 mg/L	10.7		102	70-130			
Chromium, total	0.252	0.00050 mg/L	0.250		101	70-130			
Cobalt, total	0.0393	0.00010 mg/L	0.0384		102	70-130			
Copper, total	0.505	0.00040 mg/L	0.487		104	70-130			
Iron, total	0.523	0.010 mg/L	0.504		104	70-130			
Lead, total	0.321	0.00020 mg/L	0.278		116	70-130			



APPENDIX 2: QUALITY CONTROL RESULTS

REPORTED TO PROJECT Allterra Construction
17-932

WORK ORDER REPORTED 20L1813
2020-12-22 16:13

Analyte	Result	RL Units	Spike Level	Source Result	% REC	REC Limit	% RPD	RPD Limit	Qualifier
Total Metals, Batch B0L1903, Continued									
Reference (B0L1903-SRM1), Continued					Prepared: 2020-12-20, Analyzed: 2020-12-21				
Lithium, total	0.412	0.00010 mg/L	0.398		104	70-130			
Magnesium, total	4.03	0.010 mg/L	3.59		112	70-130			
Manganese, total	0.103	0.00020 mg/L	0.111		93	70-130			
Molybdenum, total	0.205	0.00010 mg/L	0.196		104	70-130			
Nickel, total	0.252	0.00040 mg/L	0.248		102	70-130			
Phosphorus, total	0.218	0.050 mg/L	0.213		102	70-130			
Potassium, total	6.18	0.10 mg/L	5.89		105	70-130			
Selenium, total	0.126	0.00050 mg/L	0.120		105	70-130			
Sodium, total	9.63	0.10 mg/L	8.71		111	70-130			
Strontium, total	0.406	0.0010 mg/L	0.393		103	70-130			
Thallium, total	0.0826	0.000020 mg/L	0.0787		105	70-130			
Uranium, total	0.0356	0.000020 mg/L	0.0344		103	70-130			
Vanadium, total	0.391	0.0010 mg/L	0.391		100	70-130			
Zinc, total	2.58	0.0040 mg/L	2.50		103	70-130			

QC Qualifiers:

MS2 The native sample concentration is greater than the spike concentration, hence the matrix spike limits do not apply.



CARO.ca 1-888-311-8846

CARO BC COC, Rev 2019-0

#110-4011 Viking Way, Richmond, BC V6V 2K9
#102-3677 Highway 97N, Kelowna, BC V1X 5C3
17225 109 Avenue NW, Edmonton, AB T5S 1H7
#108-4475 Wayburne Drive, Burnaby, BC V5G 4X4

CHAIN OF CUSTODY RECORD COC# B 75052 PAGE 1 OF 12

ANALYTICAL SERVICES
Caring About Results, Obviously.

RELINQUISHED BY: Sean B. DATE: 12/15 TIME: 1:10
RECEIVED BY: MAX. EXPRESS TC DATE: 12/15 TIME: 12:00

REPORT TO:

COMPANY: Allterra Construction Ltd.

ADDRESS: 2158 Millstream

Victoria BC

CONTACT: Raymond Lam

TEL/FAX:

DELIVERY METHOD: EMAIL [X] ONLINE [] OTHER* []

DATA FORMAT: EXCEL [X] WATERTRAX [] ESdat []

EMAIL 1: Stabulice Islandengineering.com

EMAIL 2: raymond@allterraconstruction.ca

EMAIL 3: cw@ifeespeeringhansen.com

INVOICE TO: SAME AS REPORT TO [X]

COMPANY:



* 2 0 L 1 8 1 3 *

DELIVERY METHOD: EMAIL [] ONLINE [] OTHER* []

EMAIL 1:

EMAIL 2:

EMAIL 3:

PO #: 17-932

TURNAROUND TIME REQUESTED:
Routine: (5-7 Days) [X]
Rush: 1 Day* [] 2 Day* [] 3 Day* []
Other*

REGULATORY APPLICATION:
Canadian Drinking Water Quality [] BC WQG [] BC HWR []
BC CSR Soil: WL [] AL [] PL [] RL-LD [] RL-HD [] CL []
BC CSR Water: AW [] IW [] LW [] DW []

*Contact Lab To Confirm. Surcharge May Apply

CCME: Other:

PROJECT NUMBER / INFO:

A: Biohazard D: Asbestos G: Strong Odour
B: Cyanide E: Heavy Metals H: High Contamination
C: PCBs F: Flammable I: Other (please specify*)

17-932

ANALYSES REQUESTED:

Table with columns for various chemical and biological analyses including PHC F1, VOC, EPH, PAH, PCB, PESTICIDES, METALS, pH, TSS, BOD, TN, FECAL COLIFORMS, etc. Includes handwritten 'X' marks for selected tests.

SAMPLED BY: SB

Table with columns for CLIENT SAMPLE ID, MATRIX (DRINKING WATER, OTHER WATER, SOIL, OTHER), CONTAINER QTY, DATE, TIME, CHLORINATED, FILTERED, PRESERVED, COMMENTS.

Table with columns for ANALYSES REQUESTED (BTEX, VOC, EPH, PAH, PHENOLS, PCB, PESTICIDES, METALS, METALS - SOIL, pH, TSS, BOD, TN, FECAL COLIFORMS, TOTAL COLIFORMS, ESSENTIAL DRINKING WATER PACKAGE, ASBESTOS, Hardness, Turbidity, HOLD).

SHIPPING INSTRUCTIONS: Return Cooler(s) []
Supplies Needed:

SAMPLE RETENTION:
30 Days (default) []
60 Days [] 90 Days []
Other (surcharges will apply):

* OTHER INSTRUCTIONS:
If you would like to talk to a real live Scientist about your project requirements, please check here: []

SAMPLE RECEIPT CONDITION:
COOLER 1 (°C): 6.8 ICE: Y [X] N []
COOLER 2 (°C): ICE: Y [] N []
COOLER 3 (°C): ICE: Y [] N []
CUSTODY SEALS INTACT: NA [] Y [] N []

Page 12 of 12